

# TWENTY YEARS OF RESEARCH INTO THE HEALTH IMPACTS OF NATIVE-THEMED MASCOTS: A SCOPING REVIEW

Sierra Watt, MA, Ian Record, PhD, and Yvette Roubideaux, MD, MPH

*Abstract: Despite their recent high-profile removal by a handful of professional sports teams, Native-themed mascots continue to be a mainstay of professional, college, and youth athletics. To determine the extent of the literature on the health impacts on American Indians and Alaska Natives (AI/ANs) as a result of Native-themed mascots, we conducted a scoping review of primary research articles, utilizing the National Institute on Minority Health and Health Disparities (NIMHD) research framework as a guide to define health impacts broadly to include impacts on determinants of health and health disparities. Three databases were utilized, MEDLINE/PubMed, PsycINFO, and JSTOR, to identify the peer-reviewed literature for a twenty-year period that studied the health impacts of Native-themed mascots. We found 26 articles and books in the peer-reviewed literature and additional gray literature during the time period of 1999-2019. To better identify the relationship between Native-themed mascots and health impacts, we reviewed the articles by their focus on three groups: AI/ANs generally, AI/AN youth, and those that studied all races/ethnicities. The majority of research included in this review illustrates overall negative impacts of Native-themed mascots on health and its determinants that influence health and health disparities. Public health efforts should include review and replacement of harmful Native-themed mascots in professional and academic sports to avoid negative health impacts on AI/AN adults and youth.*

## INTRODUCTION

Native-themed mascots, including team names, images and logos, and related fan and game-day rituals, continue to be a controversial mainstay of professional, college, and youth athletics. Prominent examples include Kansas City Chiefs and the former Washington R-dskins in the National Football League (NFL); Atlanta Braves and the former the Cleveland Indians in Major League Baseball (MLB); the Chicago Blackhawks in the National Hockey League (NHL);

the University of Illinois Fighting Illini and the Florida State University Seminoles at the collegiate level; and numerous elementary and secondary school mascots across the country (National Congress of American Indians, 2022; Munguia, 2014; MascotDB.com, n.d.). However, the impact of these mascots on health disparities of American Indians and Alaska Natives (AI/ANs), as well as to the broader public, has not been subject to the type of review in this paper, despite increased media attention to the issue.

Terminology on race/ethnicity varies significantly within the existing literature, but the majority of work on this topic uses the term “Native American.” However, the federal government utilizes the term “American Indian/Alaska Native,” and that term is preferred in policy discussions. In this review, we will primarily use AI/AN, unless citing a specific use of the term “Native American” by authors, to best reflect their intent, for instance, when using the term “Native American” to refer to self-identified polling or study respondents. When referencing an article author(s)’ use of the term “Native American,” we have placed the term in quotations marks to indicate that we are reflecting the choice of the article author(s). When using the term “Native American,” we are referring to AI/ANs within the United States, unless otherwise stated. In addition, due to the definition of the word “r-dskin” as an offensive slur we will refer to its usage as a team name as r-dskin, unless directly quoting an article author(s)’ usage (Merriam-Webster, n.d.). This usage will be identified with quotation marks, as well.

### **Background**

Recent years have brought significant—and long thought improbable—changes to the landscape of Native-themed mascots. Two of the most prominent professional teams to make use of Native-themed mascots have chosen to retire them: the Washington NFL team and the Cleveland MLB team (Morris, 2021). After the death of George Floyd and subsequent racial justice protests across the country, the Washington NFL team faced pressure from team sponsors and shareholders to change their name and logo (Carpenter, 2020). In July 2020, the team stated they would go by the Washington Football Team and the next year, on July 12, 2021, announced that the new name and logo will have no “linkage to Native American imagery or iconography” (Giorgis, 2020; Whitt, 2021; KickingWoman, 2021). The team announced their new name, the “Commanders,” on February 2, 2022 (Shook, 2022). Cleveland had previously discontinued use of their Native-themed mascot and logo, “Chief Wahoo,” a caricature of an American Indian chief with a red face and stereotypical features in 2018, amid growing pressure from advocacy groups (Hoynes, 2018). After

Washington's discontinuation of their team name and increased visibility around the issue of Native-themed mascots, Cleveland announced their decision to retire their own Native-themed team name in 2020, and announced their new team name, the "Guardians," on July 23, 2021 (Lewis, 2020; Lewis, 2021; Pruitt-Young, 2021). These moves highlight a shift in predominant public discourse and opinion around the issue of Native-themed mascots.

The question of public support for these mascots has continued throughout the years in a volley of polling conducted by both supporters and opponents. Most prominently, the *Washington Post* conducted polling in 2016 showing limited numbers found the Washington R-dskins name to be "Offensive," (9%), while 90% of self-reported "Native Americans" stated that the name "Does not bother" them; they also found that 73% answered "Not disrespectful" to the question "In general, do you feel the word 'Redskin' is disrespectful of Native Americans, or not?" (Woodrow Cox et al., 2016). In 2019, the research firm Wolverineye also conducted polling with 500 self-identified "Native Americans" asking the question, "When thinking about the team name Redskins, do you feel...?" and providing a list of positive, negative, and neutral emotions to select; the top selected emotion was "Proud" (Vargas, 2019). In addition, they found that 68% stated they were "not offended" by the name (Vargas, 2019; Baum, n.d.). Similarly, in 2004, the National Annenberg Election Survey found of the 768 self-identified "Native Americans" that 90% stated the team name "does not bother" them, while 9% found the name "offensive" (Annenberg Public Policy Center, 2004; Annenberg Public Policy Center, 2013).

These polls build on a longstanding legacy of sports teams and sports-centric entities conducting opinion polling on the issue. In 2002, *Sports Illustrated* released the results of a poll conducted by the Peter Harris Group including 351 self-identified "Native Americans" who reported both living on and off reservations (Woo, 2002; Price, 2002). The poll had been the subject of significant discourse over the decision to not release detailed methodology information, but summaries of the results have been produced in multiple publications since the poll's release (King et al., 2002). When asked if "professional teams should stop using Indian nicknames, mascots or symbols," 83% of the self-identified "Native Americans" in the poll said no, while 72% of self-identified "Native Americans" who reported living off of a reservation and 57% of those who reported living on a reservation stated that they "do not object" to the Washington R-dskins team name (Woo, 2002). In addition, the poll also asked, "should high school and college teams stop using Indian nicknames," and 81% of self-identified "Native Americans" said no (Price, 2002). Finally, when asked if the Washington R-dskins should change their name, only 29% of self-identified

“Native Americans” and 40% of self-identified “Native Americans” who reported living on reservations agreed (Price, 2002). These results and the additional polls that followed over the years were used by the media to paint a picture of the debate over Native-themed mascots as one largely fought by a small handful of opponents who are detached from the broader AI/AN populace.

Other public opinion polling has identified the ways in which these polls failed to capture a holistic picture of AI/ANs throughout the country. Mascot opponents and advocacy organizations have noted respondents to these polls are self-identified “Native Americans” and have used this information to question the validity of the responses. For instance, in the 2016 *Washington Post* polling, only 44% of respondents were able to identify a tribal enrollment or affiliation (Clement & Guskin, 2016; Keeler, 2016). Others have noted that in areas of the country with higher concentrations of AI/ANs, it would not be unlikely for non-AI/AN respondents to state their race as AI/AN to shift survey results (King et al., 2002; Black & Billings, 2019). Surveys have largely been conducted online and/or by phone, and AI/ANs, particularly those living on reservations, having limited access to broadband and telephone (Herrick et al., 2019).

Researchers have noted the challenges to surveying AI/ANs, and mascot opponents have sought to address these concerns through their own series of public opinion polls and surveys. These surveys often find starkly different results when utilizing survey methods developed specifically to include AI/AN respondents. After recruiting AI/AN respondents who identified as having a tribal affiliation at community cultural events, such as powwows, Fenelon found that 67.3% considered the Washington NFL team name to be “racist,” while 20.4% said it was “not racist;” in contrast, 32.8% of White respondents considered the name “racist” while 41.4% did not (Fenelon, 2016). These results were comparable to his earlier 1995 survey on the Cleveland MLB team name (Fenelon, 1997). Similarly, the news media outlet with a large AI/AN readership, *Indian Country Today*, conducted a poll that found 81% responded “Offensive,” while 10% answered “Honor” when asked “Do Indian mascots predominantly honor or are they predominantly offensive to Natives.” When the poll asked, “Do you believe the use of Indian mascots at non-Indian schools, colleges and universities should be in violation of anti-discrimination laws,” 75% responded “Yes” and 20% responded “No” (*Indian Country Today*, 2001). The survey also asked, “Do Indian mascots create a ‘hostile educational environment’ for Native students,” and 73% responded “Yes,” while 17% responded “No” (*Indian Country Today*, 2001). However, for the *Indian Country Today* survey, the racial/ethnic background of respondents was not reported.

Most recently, Fryberg et al. (2020) surveyed 1,021 self-identified “Native Americans” and, while noting that variance among the participants occurred, found that 49% of respondents found the Redskins mascot offensive across a series of questions such as “I find the term ‘Redskins’ offensive” and “It bothers me when fans of the rival team for the Redskins use insults about Native American culture.” In addition, 46% were offended by Native-themed mascots in general using a series of questions, such as “I think using Native American mascots is harmful to Native Americans,” and “I find it offensive when sports fans wear chief headdresses at sport events.” Also, 65% reported that they found the “tomahawk chop” fan and game-day ritual to be offensive (Recker, 2020).

Legally, Native-themed mascots for professional teams exist without constraint at the state and local level. Likewise, collegiate, secondary, and elementary schools operate freely with a few exceptions (Young, 2021). Initially, activists in opposition to the mascots put forward legal challenges to their trademarking, culminating in *Blackhorse v. Pro-Football, Inc.* and the cancellation of the trademark of the Washington Redskins NFL team name due to its “disparaging” nature in both 1999 and 2014 (Silversmith, 2019). Ultimately, the appeal of the decision moved through the court system, with the U.S. Supreme Court ruling on the issue through a related case, *Matal v. Tam*; the case was withdrawn, and the trademark reinstated in 2018 (Silversmith, 2019). States and municipalities have begun to take action individually to mandate elementary and secondary schools to discontinue the use of “race-based” mascots, including in California, Colorado, Connecticut, Maine, Nevada, Oregon, and Washington, either as outright bans or as discouragement through tying such names to school funding (Young, 2021; Wilson, 2021; Ryan, 2020; Murphy, 2012; NCAI, 2021b). However, many states are leaving the issue for local decision makers and school boards.

Beyond opinions and legality, medical practitioners and academic researchers have also weighed in on the issue. The American Psychological Association (APA) recommends discontinuing the use of Native-themed mascots (2005) due to negative impacts on AI/AN youth, as have the American Sociological Association (2007), American Counseling Association (2001), and Society of Indian Psychologists (1999 & 2015). The National Education Association and the National Indian Education Association have also opposed Native-themed mascots. The research findings on the impacts from these mascots have been more mixed, but scholarship into the issue continues to grow across a variety of disciplines. At present, there has not been a formal synthesis of peer-reviewed research on the impact of Native-themed mascots on AI/AN health and its determinants, though both

the National Congress of American Indians “Proud to Be” source list (NCAI, 2021a) and Freidman’s report (2013) offer collections of key research.

### **AIMS AND METHODS**

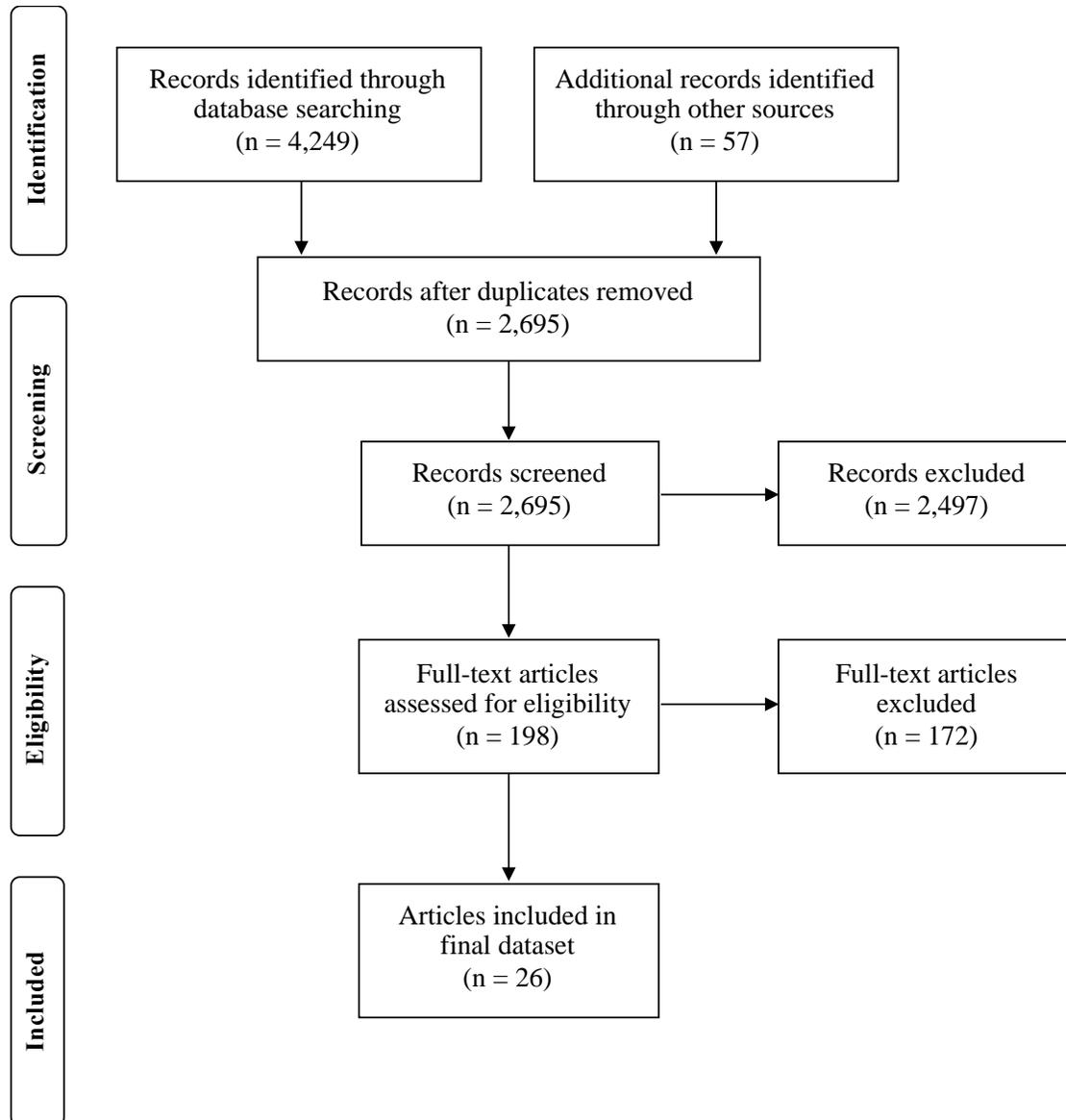
The aims of this scoping review are as follows: (1) determine the extent of the literature on the health impacts stemming from Native-themed mascot usage, including team names, images, and logos, and fan and game-day rituals on AI/ANs in general, the general population, and on AI/AN youth; (2) trace the body of literature on the issue across multiple, disparate fields, including but not limited to health, psychology, sociology, communications, sports studies, and American Indian studies; (3) track the research methods utilized; (4) identify if the research is peer-reviewed or not; (5) note which racial/ethnic groups and age groups have been examined and any differences in health and its determinants by race/ethnicity and age; and (6) identify gaps in existing literature for future study.

These criteria serve to map the current body of literature for future expansion. Supporters of Native-themed mascots state that only a loud but small minority actively reject mascots and write frequently on the topic; this review evaluates that claim. The broad range of fields, extent of peer-reviewed status, participant demographics, and research outcomes in this scoping review aim to provide a more holistic picture of the state of the literature on the impacts on health and health determinants stemming from Native-themed mascots and highlight existing gaps. Opponents to Native-themed mascots frequently cite the impacts to AI/AN people and AI/AN youth; this review aims to better assess that assertion in a systematic manner, by focusing specifically on AI/AN populations, in particular youth, as well as the public health impact on non-AI/ANs. This review is also important because at present, the state of the peer-reviewed research literature on the topic has not been evaluated through this type of review on health and its determinants.

Following the Arksey and O’Malley (2005) guidelines, while both scoping and systematic reviews share many aspects, this scoping review aims to identify a broad range of literature, rather than to conclusively answer a single question as with systematic reviews. Both scoping and systematic reviews follow transparent, rigorous, and reproducible search methods; scoping reviews seek to further clarify definitions and literature typologies, whereas systematic reviews are more narrowly focused (Arksey & O’Malley, 2005). Scoping reviews are frequently used to identify various research methodologies. For this topic, research into health and its determinants widely varies and necessitates further organization to provide clear direction for future research.

Finally, this scoping review does not speak to the quality of the research included in the final dataset beyond peer-reviewed status and, instead, identifies areas for expansion. The article collection process was informed by the PRISMA (Figure 1) guidelines for review reporting, which offers guidance to reviewing literature in a systematic manner (Moher et al., 2009).

**Figure 1. Preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram summarizing search process to identify and screen articles on Native-themed mascots from 1999 to 2019**



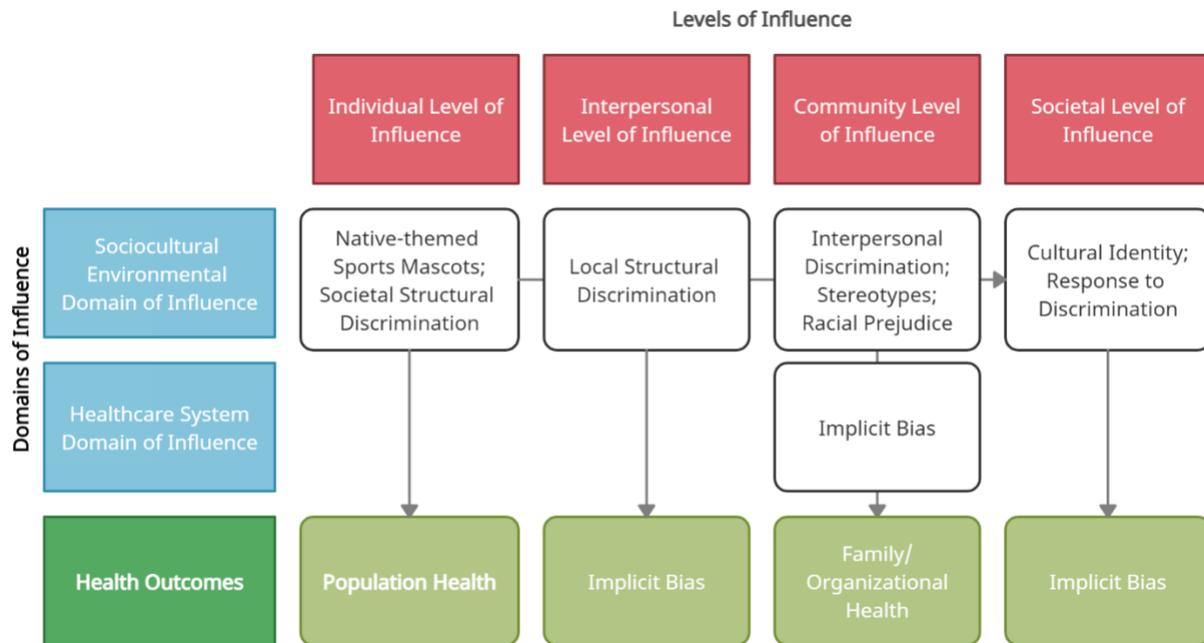
### Theoretical Frame

This review utilizes the National Institute on Minority Health and Health Disparities (NIMHD) research framework and, in particular, the framework as adapted by Spero M. Manson

for AI/AN Nations (NIMHD, 2017; Manson, n.d.). Derived from the socioecological model, the framework highlights the interactions between domains of influence and levels of influence that result in health determinants and health impacts (disparities) at the individual, family/organizational, community, and population levels. The determinants of health stemming from these domains and levels contribute to minority health disparities across localized and population-level scales. We utilize this framework due to its ability to highlight the ways in which intersectionality impacts minority groups, in this context AI/ANs, in a variety of ways across life course and population size. Specifically, Native-themed mascots, identified by Manson as a societal level of influence, can contribute to the overall sociocultural environment of AI/ANs across levels of influence, potentially leading to a variety of health impacts through health determinants, including but not limited to: prejudice and stereotypes (*sociocultural environmental domain/interpersonal level*), various forms of discrimination (*sociocultural environmental domain/community, interpersonal, and societal levels*), implicit bias (*health care system domain/interpersonal level*), and impacts on one's cultural identity (*sociocultural environmental domain/individual level*). These and others can all impact the health of AI/ANs individually and communally. We aim to look not only at population-level health and its determinants, but also the ways in which violence can be perpetuated at individual, familial, and community levels. While Manson identifies Native-themed mascots as falling within the *sociocultural environmental domain* at the *societal level*, minority health disparities are co-constituted and an iterative process, reflected in the ways in which one determinant (Native-themed mascots) can inform separate determinants (i.e., implicit bias, racial prejudice, stereotyping, etc.).

We argue that the co-constituted relationship between cells within the framework contribute to health disparities through determinants across levels. We posit that Native-themed mascots contribute to other health determinant factors across domains and levels within the framework (Figure 2). In this way, Native-themed mascots contribute to other determinants of health, including stereotyping, racism, prejudice, and bias, all of which contribute to minority health disparities within AI/ANs at multiple health outcome levels. When we mention the health impacts of Native-themed mascots in this paper, we define health impacts broadly to include impacts related to health and its determinants as defined by the NIMHD framework and modification by Dr. Spero Manson.

**Figure 2. Conceptual framework of Native-themed mascots as a health determinant and their impact on other health determinants across domains and levels of influence, adapted from Manson's Adaptation of the NIMHD Research Framework for American Indians and Alaska Native Nations**



### Study Selection Criteria

English-language articles were drawn from a 20-year period ranging from 1999 to 2019. Eligible articles focused on primary, rather than secondary, research, and had to outline specific health impacts or health determinants. The selected articles focused specifically on the issue of Native-themed mascots, including team names, images and logos, and related fan and game-day rituals, rather than mascots generally. Legal, pedagogical, and non-empirical articles were excluded from the final dataset, as were case studies. This scoping review is not concerned with legal arguments surrounding the debate over Native-themed mascots, but rather tangible health outcomes from the decision to utilize these mascots in professional and academic sports settings. Likewise, pedagogical decisions surrounding the mascot debate are not of interest in this review; instead, gathering the health determinants, particularly on AI/AN youth, is the goal of this review, to better evaluate the claim that Native-themed mascots negatively impact AI/ANs and the development of AI/AN youth. While pedagogical, education, and communication theorizing is useful to practitioners, for the purpose of this scoping review, they were not included. A book that covered original research, specifically a content analysis and survey of 1,073 respondents on Native-themed

mascot names, logos, and fan and game-day rituals, was also included. In addition, some works included individual studies that focused on Native-themed mascots, as well as work that focused on non-Native-themed mascots. For instance, some articles focused on other race-based mascots, as well as mascots beyond those race-based (such as animal-based mascots). If an article did not specifically focus on or include Native-themed mascots, it was determined to be not relevant to our aims and was excluded. While better understanding the way in which mascots broadly impact the public is of tangential interest, this review is specifically limited to Native-themed mascots.

### **Data Sources**

Articles were drawn from MEDLINE/PubMed, PsycINFO, and JSTOR academic databases. In addition, a search of Google Scholar was conducted to identify critical gray literature and additional research studies. Both the NCAI “Proud to Be” source list (2021a) and the Freidman report (2013) were combed for additional gray literature not already identified.

The search terms “American Indian mascot(s)” and “Native American mascot(s)” were used for a total of four individual queries to identify relevant articles. The articles were initially screened for applicability; after which, the full text of 198 articles was analyzed to form the final 26 articles that comprise this dataset.

### **Data Collection and Synthesis**

From the final dataset, the following criteria were extracted from the full text of the articles:

- Author(s), year of publication, name of publication, journal, or outlet;
- Field of research and peer-reviewed status;
- Type of research methods conducted and number of participants;
- Race/ethnicity and age of participants;
- Research outcomes related to health determinants as defined by the NIMHD research framework of Native-themed mascots;
- Health impacts and differences in health determinants by race/ethnicity and age;
- Native-themed mascot image/logo and whether the mascot is more a realistic depiction or caricature, and/or Native-themed mascot name, and/or Native-themed mascot fan and game-day ritual, if listed.

Due to much of the research taking place primarily on college campuses, many with small numbers of research participants, tracking the size of the study group was important to identify the

generalizability of results and the areas for research to be expanded and replicated in the future. The data from the compiled dataset did not include studies which had been previously published to prevent duplication. The most recent publication or the publication with peer-reviewed status was chosen to represent the study. As an example, some research studies were conducted as part of a thesis or dissertation, and if the results were subsequently published in a scholarly journal, the journal article was chosen for inclusion.

To best address the argument by mascot opponents that Native-themed mascots impact real-world AI/AN individuals, the general public, and most critically, AI/AN youth, the results of the scoping review are divided into three typologies: studies on AI/AN children, studies on AI/AN adults only, and studies on adults of multiple racial/ethnic backgrounds. No studies were eligible for inclusion that examined the impact on non-AI/AN children. The results draw commonalities within the typologies, while acknowledging outlier publications.

## RESULTS

This review screened a total of 4,306 citations initially, with a total of 2,695 after duplicates were removed. Of those, 2,497 were removed due to a lack of specific research on health outcomes, direct focus on Native-themed mascots, and/or content that was legal, pedagogical, historical, or theoretical in nature. The full text of the remaining 198 articles was analyzed to determine applicability. Another 172 were removed, leaving 26 articles, texts, and research within a book publication to comprise the dataset for the scoping review (Figure 1). Within the 26 articles, 41 individual tests or studies were conducted within those articles that focused on Native-themed mascots (Appendix: Table A1). Studies that did not specifically focus on Native-themed mascots were excluded from the analysis; specifically, Burke (2006), which included one study out of two conducted in the work that looked at implicit bias *not* specific to Native-themed mascots, was excluded due to lack of applicability. These studies were divided among three typologies due to variance of groups tested throughout multiple tests contained within a single article and our aim to identify health determinants specific to AI/ANs and AI/AN youth specifically in order to address the claim that Native-themed mascots have a detrimental impact on these groups.

### **American Indian Children and Native-themed Mascots**

While numerous authors have written on their concern about the impact of Native-themed mascots on the health and well-being of children (O’Keefe & Greenfield, 2019; Hofmann, 2006;

Delacruz, 2003), and in particular AI/AN children, only one article to date has tested that premise. Fryberg et al. (2008) conducted three tests (Table 1) on American Indian children attending schools on reservation lands in the southwestern United States and the impacts of Native-themed mascots on their mental health (Fryberg, 2002). These studies focused specifically on Native-themed mascots as images. For the first study, researchers found that among 48 American Indian high school students, both the Chief Wahoo mascot and Pocahontas elicited positive associations. This result notes that not all mascots are necessarily seen as negative. However, the authors wanted to know if even positively associated mascots would still have related negative impacts on self-esteem, so they undertook additional studies.

For the second study and third study, groups of 71 and 150 American Indian high school students at two different reservations were primed in the same manner as the first study, with images of Chief Wahoo and Pocahontas and a list of stereotypically negative outcomes related to American Indians, or with a control, and then asked to evaluate questions about themselves or their communities. The results show that while the mascot and Pocahontas again resulted in positive word associations, they also resulted in lower reported self-esteem, even more so than the negative outcomes prime. This article's three studies highlight the need for both additional research specific to AI/AN children, but also to the need to test non-AI/AN children as it relates to health determinants stemming from Native-themed mascots. The impacts to self-esteem and belief in one's community link to the health determinant of cultural identity (*sociocultural environmental domain/individual level*), which is particularly concerning when impacting minority youth, including AI/AN youth.

### **American Indian/Alaska Native Adults and Native-themed Mascots**

For research that focuses solely on AI/AN adults, five authors have conducted work specific to the health determinants stemming from Native-themed mascots on AI/AN people, as well as a Canadian First Nations community. Among these works, the fields vary, spanning education, psychology, sociology, and American Indian studies. However, the methods primarily involved interviews, and the sizes of the studies were small, with only a single study, Fryberg et al. (2008), including over 100 participants. This likely stems from the challenge of finding and recruiting AI/AN participants. A common concern with public opinion polling is the reliability of self-identification and the challenge to recruiting AI/AN participants, who make up a smaller percentage of the population and often live in remote areas with limited connectivity; these factors challenge the validity of telephone and online polling and surveys (Herrick et al, 2019). As a result,

some authors have directly attempted to recruit from events and areas where AI/ANs are more likely to be located, including cultural events such as powwows (Jacobs, 2014). Three of the five studies were conducted with undergraduate students, while the other two studies focused on adults recruited from community events. The articles included focus on mascots as team names, images and logos, and as fan and game-day rituals (Table 1). As exhibited in Table 1, studies within the articles on AI/AN respondents included numerous Native-themed mascot names and images, as well as rituals, within their study methods.

Findings focused on discrimination and stereotypes stemming from Native-themed mascots, primarily constituting findings centered on *sociocultural environmental domain*, across all levels of influence within the NIMHD research framework. Among the studies that took place on college campuses, respondents noted that Native-themed mascots hampered their ability to learn and grow (Castagno & Lee, 2007), lowered their belief in their ability to achieve future success (Fryberg et al., 2008), and activated stereotypes thought to dehumanize and contribute to disproportionate rates of youth suicide in the “Native” population (Robertson, 2015). Those studies drawing from community events reported findings that contradict the findings from college campuses. Among some respondents from a First Nations community in Canada, Robidoux found Native-themed mascots were considered to be useful as “any representation” when the media generally failed to depict any representations of AI/AN or Canadian First Nations peoples (2006). Even these stereotypical images were appreciated by respondents. Other work, which recruited participants from community events in the Cleveland area who lived or had lived on or near their respective reservation, found that participants were more likely to actively participate in mascot removal activism, as well as express their disapproval for Native-themed mascots (Jacobs, 2014). Jacobs also found that participants shared “draining” physical and mental health impacts from mascot opposition, including being subjected to physical abuse and verbal aggression, such as spitting and profanity directed at them. Participants noted that opponents of Native-themed mascots who were themselves AI/AN were often the focus of aggression, rather than non-AI/AN protestors, including being the target of AI/AN stereotypes around poverty and joblessness. The majority of the works utilized interview methods, with respondents highlighting mascot rituals, including “redface,” specifically the wearing of headdresses and face paint, on the part of fans (Jacobs, 2014; Robertson, 2015); Native-themed war chants (Jacobs, 2014); Native-themed pantomime, as in a performer playing “Indian” by dancing or riding a horse in Native-themed costume (Jacobs, 2014; Castagno & Lee, 2007); and Native-themed fan songs (Jacobs, 2014). These works show the variety of views but support the general consensus

that Native-themed mascots contribute to stereotyping and discrimination of AI/ANs and contribute to negative health determinants building on those stereotypes, undermining AI/ANs general health and well-being (Jacobs, 2014; Castagno & Lee, 2007).

**Table 1**  
***Characteristics of studies within articles that examine American Indian/Alaska Native respondents and Native-themed mascots: 1999-2019***

<b>Characteristic</b>	<b>Category</b>	<b>No.</b>	<b>(%)</b>
<b>Total Studies</b>		8	(100)*
<b>Participant Age</b>	Children	3	(37.5)
	Adults	5	(62.5)
<b>Publication Date</b>	1999-2004	0	(0)
	2005-2009	6	(75)
	2010-2014	1	(12.5)
	2015-2019	1	(12.5)
<b>Field of Research</b>	Psychology	4	(50)
	American Indian Studies	1	(12.5)
	Education	1	(12.5)
	Sociology	2	(25)
<b>Peer-Reviewed Status</b>	Peer-Reviewed	8	(100)
	Not Peer-Reviewed	0	(0)
<b>Research Methods</b>	Experiment	4	(50)
	Interview	4	(50)
<b>Number of Participants</b>	Fewer Than 10	1	(12.5)
	10-50	4	(50)
	51-100	1	(12.5)
	101-500	2	(25)
<b>Mascot Names and Image Examined</b>	Blackhawks	1	(12.5)
	Chief Illiniwek	2	(25)
	Chief Wahoo	6	(75)
	Haskell Mascot	1	(12.5)
	R-dskins	1	(12.5)
	Unspecified	1	(12.5)
<b>Fan and Game-Day Rituals</b>	Redface	2	(25)
	War Chant	1	(12.5)
	Tomahawk Chop	0	(0)
	Native-themed Pantomime	2	(25)
	Native-themed Songs	1	(12.5)

\* Some publications had more than one study within them, and the number of studies in some categories in the table may be greater than the total number of publications, for instance, with multiple studies covering multiple mascots, the percentages will not sum to 100%.

### All Races/Ethnicities and Native-themed Mascots

In 33 additional studies, participants were drawn from various racial/ethnic groups (Table 2). Of those, 26 studies were undertaken in the field of psychology. Likewise, 22 of the studies were experimental in nature. The next highest method was survey, with a total of five. All but one study had a primarily White group of participants, but the majority of studies included other races/ethnicities as well, including some self-identified “Native Americans.” Once again, the majority of studies were undertaken on college campuses and utilized students for recruitment purposes. In addition, most of the studies had over 100 participants, when participant number was included/applicable. Table 2 shows an overview of the study size, field of research, as well as topics covered. Within a single study, at times multiple fields, names, images, and rituals were covered, as well as multiple racial/ethnic groups included.

**Table 2**  
*Characteristics of studies within articles that examine all races/ethnicities and Native-themed mascots: 1999-2019*

<b>Characteristic</b>	<b>Category</b>	<b>No.</b>	<b>(%)</b>
<b>Total Studies</b>		33	(100)*
<b>Publication Date</b>	1999-2004	0	(0)
	2005-2009	6	(18.2)
	2010-2014	12	(36.4)
	2015-2019	15	(45.5)
<b>Field of Research</b>	Psychology	26	(78.8)
	American Indian Studies	2	(6.1)
	Communications	2	(6.1)
	Sports Studies	3	(9.1)
	Sociology	2	(6.1)
<b>Peer-Reviewed Status</b>	Peer-Reviewed	23	(69.7)
	Not Peer-Reviewed	10	(30.3)
<b>Research Methods</b>	Experiment	22	(66.7)
	Survey	5	(15.2)
	Content Analysis	3	(9.1)
	Interview	1	(3.0)
	Participant Observation	2	(6.1)
<b>Number of Participants</b>	Fewer Than 10	0	(0)
	10-50	6	(18.2)
	51-100	6	(18.2)

**continued on next page**

**Table 2 Continued**  
**Characteristics of studies within articles that examine all races/ethnicities and Native-themed mascots: 1999-2019**

<b>Characteristic</b>	<b>Category</b>	<b>No.</b>	<b>(%)</b>
<b>Number of Participants (cont.)</b>	101-500	16	(48.5)
	501-1,000	1	(3.0)
	Over 1,000	3	(9.1)
	N/A	1	(3.0)
<b>Mascot Names and Images Examined</b>	Braves	6	(18.2)
	Chiefs	5	(15.2)
	Chief Illiniwek	5	(15.2)
	Chief Wahoo	5	(15.2)
	Fighting Sioux	10	(30.3)
	Indians	7	(21.2)
	R-dskins	10	(30.3)
	Warriors	5	(15.2)
	Various	6	(18.2)
	Unspecified	6	(18.2)
<b>Fan and Game-Day Rituals</b>	Redface	1	(3.0)
	War Chant	3	(9.1)
	Tomahawk Chop	3	(9.1)
	Native-themed Pantomime	2	(6.1)
	Native-themed Songs	1	(3.0)
<b>Racial/Ethnic Groups of Participants</b>	White	22	(66.7)
	Black	14	(42.4)
	Hispanic/Latino	13	(39.4)
	Asian-American	12	(36.4)
	AI/AN or "Native American"	10	(30.3)
	Other	7	(21.2)
	Multiracial	7	(21.2)
	Middle Eastern	2	(6.1)
	Race Unknown/Unidentified	2	(6.1)
	Pacific Islander	1	(3.0)
	Minority	1	(3.0)
	Non-Native	2	(6.1)
	N/A	10	(30.3)

\* Some publications had more than one study within them, and the number of studies in some categories in the table may be greater than the total number of publications, for instance, with multiple studies covering multiple mascots, the percentages will not sum to 100%.

The works focused on Native-themed mascots as team names, images and logos, and as fan and game-day rituals. Ten of the studies utilized both realistic- and caricature-type mascots. Existing research suggests that there may be a difference in impacts of Native-themed mascots based on the extent to which the depiction is more stylized and stereotypical (Fryberg et al., 2008). The majority of articles included the Fighting Sioux and R-dskins monikers, both with ten. However, among the other studies, many included numerous mascot examples within a single study, while others did not specify a specific mascot image that was studied. In terms of rituals, one study included instances of fan redface (Lyne, 2019), three included the use of Native-themed war chants and the swiping hand gesture (i.e., the “tomahawk chop,” used to refer to violent action) (Billings & Black, 2018; Lyne, 2019; Steinfeldt et al., 2012), two included Native-themed pantomime (Billings & Black, 2018; Lyne, 2019), and one included Native-themed song singing (Billings & Black, 2018). While for this category studies included a wide range of races/ethnicities, ten of the studies from eight of the articles had self-identified “Native American” participants (Bresnahan & Flowers, 2008; LaRocque et al., 2011; Steinfeldt et al., 2012; Cross, 2018; Burkley et al., 2017; Williams, 2007; Sanchez, 2013; Kraus et al., 2019).

The substantive results primarily highlight concerns about the relationship between Native-themed mascots and subsequent stereotyping of AI/AN people (*sociocultural environmental domain/interpersonal level*). Angle et al. (2017) found mascots activated implicit stereotypes that American Indians are “warlike,” while in the second study found that positive stereotyping required additional priming to elicit. Burkley et al. (2017) found that when primed with a Native-themed mascot, participants with more prejudiced views (*sociocultural environmental domain/interpersonal level*) were more likely to stereotype a “Native American” target as aggressive. In addition, some authors found that Native-themed mascots were tied to implicit bias (*health care system domain/interpersonal level*) directed toward actual “Native American” people (Burke, 2006). These examples illustrate the challenge for disentangling these Native-themed mascots from AI/AN people, as well as the ways in which health determinants at different levels of influence across the sociocultural environmental domain can be influenced by exposure to Native-themed mascots (Burkley et al., 2017; Chaney et al., 2011).

Some studies found that these stereotypes had additional real-world outcomes. Implicit negative stereotypes (*sociocultural environmental domain/interpersonal level*) caused participants to hold more stereotypical expectations for what tasks a hypothetical American Indian would enjoy (Chaney et al., 2011), while other participants when primed with a “Native American” student in

opposition to a mascot, evaluated their candidacy for a scholarship or job with more discrimination (Gonzalez, 2005). This follows findings from Jacobs' American Indian interviews and broader participant observation that mascot opponents targeted for backlash from fans were more likely AI/ANs, rather than non-AI/AN opponents (2014). Steinfeldt et al. (2010) even found that some expressed a desire to "punish" American Indians in response to mascot removal through the ending of state and federal programs that assist AI/AN people or through boycotting their businesses (*sociocultural environmental domain/societal level*). Once again, Native-themed mascot opposition is found to be mentally tied to AI/AN people broadly, in addition to mascot opponents. Interestingly, one author found that non-AI/AN minority respondents ranked Native-themed mascots less positively than White respondents, though not as negatively as "Native American" participants (Williams, 2007). Generally, the findings report that Native-themed mascots elicit stereotypes in respondents with possible connection to the well-being of AI/AN people from these stereotypes. Another unique finding was that the stereotyping caused by priming with a mascot was not limited to American Indians, but that stereotypes were heightened toward Asian Americans as well (Kim-Prieto et al., 2010); however, this result was not found to be true of gender stereotypes (Sanchez, 2013).

Interestingly, being a sports fan can have a dampening effect on the extent to which participants were concerned about Native-themed mascots and their possible harm to AI/AN people per authors Bresnahan and Flowers (2008), Billings and Black (2018), Gonzalez (2005), and Williams (2007). This presents a challenge to those in favor of changing existing mascots if team supporters are potentially less likely to be moved by arguments on negative health determinants stemming from these Native-themed mascots. Likewise, not all authors found that mascots were negative. Similar to the findings from the First Nations group (Robidoux, 2006), Lyne (2019) reported that some online participants felt that without Native-themed mascots, there would be no representation in the media at all for AI/ANs, and for them, that made the Native-themed mascots positive representations due to their mere presence alone. Finally, others noted that the reason for lack of concern about mascots was due to desensitization from their mainstream use (Hart, 2011) as many participants felt that something so common and widespread could not possibly be harmful (Billings & Black, 2018). This finding in particular underscores Manson's (n.d.) argument that Native-themed mascots are a health determinant within the sociocultural environmental domain at the societal level, with implications for population health disparities and outcomes.

As with the literature on AI/AN adults, impacts to the general public were not limited to implicit bias and stereotyping. Steinfeldt et al. (2012) found that mascot opponent activists reported that Native-themed mascots contribute to ongoing dehumanization that American Indians faced in their area, including refusal of service (*sociocultural environmental domain/community level*). In addition, advocates reported physical violence as a result of their stance against mascots, including refusal of service and assault, general violent targeting of AI/AN children independent of support or opposition to Native-themed mascots, and being targeted for a school physical fight based on a Native-themed mascot beginning with the word “Fighting” (Steinfeldt et al., 2012). While respondents note that they were targeted for their opposition to Native-themed mascots, AI/ANs more generally were also targeted in relation to Native-themed mascots.

Research has linked the relationship between an individual’s existing implicit bias and their support for Native-themed mascots. For example, Kraus et al. (2019) found university students surveyed to be low in “modern racism” also exhibited little support for a retired Native-themed mascot, while Burke (2009) found that White undergraduate students expressed implicit bias in response to Native-themed mascots. Freng and Willis-Esqueda (2011) found that these mascots activated negative stereotypes rather than positive responses. Predominantly, the literature finds that Native-themed mascots impact health determinants that negatively contribute to health disparities to AI/ANs, including a general detachment of non-AI/AN participants to this issue and non-AI/AN susceptibility to Native-themed mascots that strengthens existing negative AI/AN stereotypes, bias, and discrimination.

## **DISCUSSION**

Despite decades of pressure from AI/AN organizations, activists, and community members, Native-themed mascots persist among professional, collegiate, and youth teams (LaRocque et al., 2011). The general consensus among social science research is that non-AI/AN individuals, in particular White research participants, continue to express overall support for these mascots. On the issue of sports team mascots, fans and supporters tend to hold extreme beliefs and deeply personal stances in relation to their respective teams. Outside of psychological research studies, surveys and media reports have shown strong polarization on this issue. Indeed, fans frequently express strong ties to teams as part of their personal identity and to these Native-themed mascot rituals—even positing their own identities as fans of a particular Native-themed mascot as too personal and too large a part of their “culture” for the name to undergo change and

discontinuation (Engle, 2020; Spencer, 2020; Lang, 2020). This scoping review found study results concurrent with these impressions, including among students pursuing a career in sports (Rickabaugh & Rickabaugh, 2015), but also found that training interventions on Native-themed mascots can shift attitudes (Steinfeldt & Wong, 2010).

Broadly, the majority of works included in this review provide evidence that Native-themed mascots contribute to negative health determinants for AI/ANs, primarily (but not limited to) the sociocultural environmental domain, across individual, familial, community, and population levels. This includes violence and aggression, especially towards AI/AN youth (Jacobs, 2014; Steinfeldt et al., 2012), implicit bias in respondents (Burke, 2009), experiments showing that stereotyping can lead to lower performance evaluations (Gonzalez, 2005), and a dampening of personal beliefs in one's self and one's community among American Indian youth (Fryberg et al., 2008). Though research is limited by primarily identifying discrimination, bias, and stereotyping (Burke, 2006), these health determinants have the potential to harm AI/ANs outside of these studies, across their life course (Appendix: Table A1).

This review finds little to support the argument from mascot proponents that objections to mascots come from only a vocal minority of researchers. While some authors (six; 11.1% of the total) authored or co-authored multiple works on the topic, the majority (48; 88.9% of the total) have only authored or co-authored a single relevant article in the dataset. The breadth of authorship in this review undercuts the belief that only a handful of researcher-activists create the majority of scholarship on Native-themed mascots. While the subject has a limited body of work, it has been written by an array of researchers over many years.

After this review of articles through 2019 was completed, a new review was published by Davis-Delano et al. (2020) on the psychosocial effects of Native-themed mascots. They explain their motivations for the review as helping to inform educational policy with research. They review 19 articles and master's theses. The authors situate their findings on the negative impacts of these mascots within the broader understanding of prevalent "Native American" stereotypes. They conclude that research is clear and that educational administrators should rely on research to discontinue the use of these mascots to better support the success of "Native American" students. Due to the limited nature of this subfield, there is overlap among the articles included in both our scoping review on health determinants stemming from Native-themed mascots organized conceptually by the NIMHD research framework and their psychosocial

review, along with different research goals and review methodologies. Both reviews add to the literature on the harmful impacts of Native-themed mascots in different ways.

### **Limitations and Strengths**

This study was conducted to better inform future research on the health impacts and health determinants stemming from Native-themed mascots. Our review suggests that research on this topic can be expanded into four primary areas to improve research results in the future: (1) expand the types of determinants investigated; (2) expand the types of respondents recruited, (3) explore more aspects of Native-themed mascots and their impacts, and (4) continue to expand the fields of research for this work across disciplines.

Our review found that the majority of work focuses on bias and stereotyping. In the future, additional work needs to investigate the relationship between Native-themed mascots and other aspects of AI/AN health disparities and health determinants. A handful of works looked at discrimination and prejudice that led to physical and verbal aggression against AI/ANs (in particular, children) and mascot opponents. Expanding this area of research is critical to disentangling the impact of Native-themed mascots to AI/ANs from the impact of Native-themed mascots to mascot opponents. In addition, while our work utilized a framework predominantly exploring the relationship between health determinants within the sociocultural environmental domain across levels of influence, we believe that Native-themed mascots likely impact and contribute to additional health determinants within other domains of influence. For example, Fryberg et al.'s (2008) finding on negative impacts to AI/AN youth beliefs in their community after being primed with Native-themed mascot images directly relates to the determinant of community functioning (*behavioral domain/community level*). Such relationships justify additional study.

Second, there remains a deep need to study children, both AI/ANs and non-AI/ANs, in relation to the health impacts of Native-themed mascots. As Fryberg (2002) noted in her dissertation, White respondents expressed improved self-esteem in response to mascot priming, while Steinfeldt et al. (2012) noted that Native-themed mascots instill misinformation about AI/ANs to non-AI/AN children in their “formative years” to their detriment; future studies should further assess the effects of Native-themed mascots on non-AI/AN youth.

Beyond age groups, there remains a need to expand the sample size of studies that evaluate the health impacts on AI/AN adults. At present, studies generally only included a handful of AI/AN

participants when recruiting from multiple racial/ethnic groups. Larger sample sizes will be necessary to draw broader, generalizable results. Likewise, there remains a need to expand this research to better represent the impacts to Alaska Natives specifically. While recruiting a large sample of AI/ANs is more challenging than reaching other racial/ethnic groups, research resulting from smaller sample sizes will continue to be dismissed by mascot supporters, necessitating larger studies moving forward. Robidoux's (2006) work on a Canadian First Nation tribe noted that respondents did not feel negatively toward Native-themed mascots in part because of the disconnect between the stereotypes employed by the mascots, generally loosely based on Plains tribes, and their own tribal identities. Future work should see if this is true of Alaska Natives.

More recruitment away from college campuses and not among students remains an important goal for studies of both AI/AN and non-AI/AN adults. Naturally, the accessibility of college students remains a reason for the tendency to draw participants from that group, but to expand the applicability of this research, a broader group of adults needs to be integrated into Native-themed mascot research. In addition, this scoping review revealed that results from college samples are nearing a level of saturation. Hearing from respondents from a range of broader age groups could also potentially be used to show the health impacts from these mascots across respondents' lifetimes.

Third, in terms of the field of research, the vast majority of studies were conducted within the field of psychology, and while additional non-health related writings on Native-themed mascots have been published in the fields of communication, legal studies, history, and anthropology, among others, the field of psychology remains the dominant field for work on the question of these Native-themed mascots. Future work can help to expand health disparity and health determinant related research on Native-themed mascots to other fields. However, the findings on self-esteem and stereotypes do have the potential to contribute to existing health disparities among AI/AN individuals and the population as a whole, as well as other health-related comorbidities. These psychological impacts to the well-being of AI/ANs have the potential to cause further medical impacts, including stress and depression, which can compound the prevalence of other conditions such as, diabetes, obesity, and heart disease (Thayer et al., 2018). Future research can move beyond establishing the presence of stereotyping to its impacts more broadly in terms of overall health and wellness.

Finally, the definitions of Native-themed mascots ought to be expanded in future research. At present, the vast majority of work focuses on mascots as names and images. However, in light

of recent changes to the landscape of professional teams using and formerly using Native-themed mascot names and logos, there has been a shift in the media to begin to include fan and game-day rituals in their evaluations of Native-themed mascots. Similarly, many teams that maintain Native-themed mascot names and logos have made efforts toward change at the ritual level. The discourse will likely continue to move in this direction, with a growing focus on the Native-themed mascot rituals. Future research needs to explore the relationship between such rituals, including fan redface, the use of “war chants” and the “tomahawk chop,” the employment of Native-themed pantomime by half-time performers, and Native-themed fan songs.

### **Public Health Implications and the Future of Native-themed Mascots**

While the focus of this scoping review has largely been on the negative health determinants for AI/ANs stemming from Native-themed mascots, results are not limited only to AI/ANs. Rather, Native-themed mascots impact the public at large. As evidenced by the ongoing public discourse over both pervasive structural and localized racism within American society, the public has begun to better acknowledge the ways in which racism, discrimination, bias, and stereotyping contribute to minority health disparities and societal inequality. Changing and retiring these Native-themed mascots is necessary for the overall betterment of AI/ANs of all ages and broad societal progress for all, as evidenced by the majority of the existing literature. This scoping review reaffirms that Native-themed mascots likely contribute to AI/AN health disparities and their determinants, and of greatest concern, health disparities and their determinants among AI/AN youth. This review is also important to frame and build on the body of knowledge on this issue to help support efforts to retire harmful Native-themed mascots still in use by schools and professional sports.

While significant changes to the landscape of Native-themed mascots have occurred since 2019, overall changes to the landscape of Native-themed mascots have been happening gradually on the ground for decades. Native-themed mascot progress is not—and has not—been limited to only high-profile examples, specifically the Washington NFL team and the Cleveland MLB team, though these changes are noteworthy for the teams’ once strong stance against any change to their previous Native-themed mascots and the teams’ high profiles. In fact, Washington’s owner Dan Snyder previously stated intentions to “NEVER” change the name (Willingham, 2018). Change historically has been more common at the collegiate level, with many universities retiring Native-themed mascot names and logos over the years since the 1960s and 1970s, including Syracuse University, Marquette University, University of Oklahoma, Miami University, Dartmouth

College, and St. Mary's College (Rickabaugh & Rickabaugh, 2015; American Indian Sports Team Mascots, n.d.). Change at the professional level has been slower prior to 2019, primarily with changes to mascot logos and rituals rather than outright names, with prominent examples including the Golden State Warriors NBA team stopping use of Native-themed imagery while retaining their name, the Kansas City Chiefs NFL team retiring their Native-themed mascot logo of a man in Native clothing in exchange for their current arrowhead-shaped logo, and the Atlanta Braves discontinuing the Native-themed pantomime halftime dance by a man dressed in a Native-themed costume (Gordon & Connolly, 2013; American Indian Sports Team Mascots, n.d.).

At present, current movement on the issue has shifted to focusing on these types of changes primarily to fan and game-day rituals. For instance, the Kansas City Chiefs NFL team, under increased scrutiny in recent years, has steadily instituted a number of game-day changes, including the renaming of one of its game-day rituals, the "tomahawk chop," now called simply "the chop" and performed with a closed rather than open fist; the retirement of a horse, "Warpaint," ridden by one of the team's cheerleaders (the horse was originally ridden by a man in Native-themed costume and retired for the first time in 1989 before returning in its new form in 2009); as well as disallowing the wearing of redface by fans, specifically face paint and headdresses, within the stadium on game days (Kennard, 2021; Honeycutt 2021; Levenson, 2020; McDowell, 2021). However, the team retains its Native-themed mascot name, as well as other game-day rituals, including the beating of a decorated drum by VIP game-day guests. Similarly, the Chicago Blackhawks NHL team has also disallowed fan wearing of Native-themed costume headdresses into events and home games (Thompson, 2020). At present, professional teams appear to be seeking a balance between change that will satisfy public outcry without significantly altering the status quo.

At lower levels, many elementary and secondary schools continue to grapple with the decision to remove or retain their Native-themed mascots. In light of the recent decisions by the Washington and Cleveland teams, as well as the overall shifting in public rhetoric toward retiring Native-themed mascots, a growing number of schools and school districts are deliberating retiring and voting to retire their mascots, which will potentially lead to a continued reduction in these numbers. According to a national school mascot tracking database maintained by NCAI (2022), as of January 24, 2022, there were a total of 1,927 elementary, secondary, and high schools representing 984 school districts across the country that utilize Native-themed sports mascots. Without overarching state or federal regulation, this often becomes a battle between school board

candidates and local mascot opposition, as well as a platform on which to run for election to a school board seat (Farzan, 2020). However, that is not always the case: in a handful of instances, retired mascots have made a return based on backlash over the decision to remove them, for example Killingly, Connecticut and Cambridge, New York have both resurrected their Native-themed mascots this past year (Farzan, 2020; Moore, 2021). In other areas, state regulation has only been followed by the letter of the law, rather than the spirit, with schools removing a Native-themed mascot name while retaining Native-themed mascot imagery, including Chowchilla and Calaveras High Schools in California, as examples (Calix, 2016; Taylor, 2016; Haddock, 2021). These instances show the ongoing tug-of-war between proponents and opponents, mixed opinion among the general public (Knoester & Rockhill, 2021; Sharrow et al., 2021), and the ways in which nationalized debates can become localized, with the well-being of youth at the center. As evidenced by the literature, Native-themed mascots constitute a negative health determinant contributing to AI/AN and AI/AN youth health disparities, and this continued battle over Native-themed mascots in schools perpetuates these negative impacts.

We hope that evidence of harm caused by and retirement of Native-themed mascots across the country prompts other professional and school sports teams to assess and retire their Native-themed mascots, names, images and logos, and associated fan and game-day rituals that contribute to the negative health disparities of AI/AN people, youth, and communities. With the continued, wide-spread use of harmful Native-themed mascots by professional and academic sports teams, more research on the health impacts of these mascots is still urgently needed.

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The authors have no conflicts of interest to disclose.

### **AUTHOR INFORMATION**

Sierra Watt (Pechanga Band of Luiseño) is a PhD candidate at the University of Kansas and a research associate at the Policy Research Center of the National Congress of American Indians in Washington, DC. Dr. Ian Record is a Tribal Governance and Economic Development Consultant. Dr. Yvette Roubideaux (Rosebud Sioux) is the Director of the Policy Research Center of the National Congress of American Indians in Washington, DC.

## APPENDIX

**Table A1**  
***Mascot health impacts publication dataset and select study variables: 1999-2019***

<b>Article (N=26)</b>	<b>Individual Studies in Article (40)</b>	<b>Race/Ethnicity of Participants in Article</b>	<b>Participant Age Group</b>	<b>Peer- Review Status</b>	<b>Methods</b>	<b>Health-Related Determinants Stemming from Native-themed Mascots</b>
<b>Fryberg et al., (2008)</b>	4	American Indian	Children; Adults	Yes	Experiment	Activation of Lower Reported Self-Esteem, Community Success, and Future Expectations of Achievement, Even Positively Associated Mascots
<b>Castagno &amp; Lee, (2007)</b>	1	AI/AN	Adults	Yes	Interview	Decreased Ability to Learn in the University Classroom for AI/ANs
<b>Robertson (2015)</b>	1	"Native American"	Adults	Yes	Interview	Activation of Racial Bias, Negative Stereotypes, and Legitimized Racism against "Native Americans"
<b>Robidoux (2006)</b>	1	Canadian First Nations	Adults	Yes	Interview	Positive Representation and Health Promotion for First Nations Community
<b>Jacobs (2014)</b>	2	American Indian; N/A	Adults	Yes	Interview; Participant Observation	Physical and Verbal Aggression toward AI/AN Native-themed Mascot Opponents; Taunting of AI/AN Children Due to Native-themed Mascots
<b>Angle et al. (2017)</b>	3	N/A	Adults	Yes	Experiment	Implicit Stereotype Activation among Liberal Participants against American Indians
<b>Burkley et al. (2017)</b>	1	White; Black; "Native American"; Asian; Latino; Unidentified	Adults	Yes	Experiment	Among Prejudiced Participants Aggressive Stereotype Activation Against a "Native American" Individual
<b>Burke (2006)</b>	1	White	Adults	No	Experiment	Implicit Bias by Participants Against Native-themed Mascots

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<b>Article (N=26)</b>	<b>Individual Studies in Article (40)</b>	<b>Race/Ethnicity of Participants in Article</b>	<b>Participant Age Group</b>	<b>Peer- Review Status</b>	<b>Methods</b>	<b>Health-Related Determinants Stemming from Native-themed Mascots</b>
<b>Chaney et al. (2011)</b>	2	White	Adults	Yes	Experiment	Implicit Bias by Participants toward Native-themed Mascots and American Indians; Stereotypical Expectations of American Indians Task Preferences
<b>Gonzalez (2005)</b>	1	White	Adults	No	Experiment	Discriminatory Evaluation by Participants toward "Native American" Individual and Native-themed Mascot Opponent
<b>Steinfeldt et al. (2010)</b>	1	N/A	Adults	Yes	Content Analysis	Negative Stereotypes and Racism; Desire to "Punish" through Program Discontinuance
<b>Williams (2007)</b>	1	White; "Native American"; combined category of "Non-Native" including Black, Asian, Pacific Islander, Hispanic/Latino, and Other	Adults	Yes	Survey	Positive Stereotypes; Disregard for "Native American" Opposition to Mascots
<b>Kim-Prieto et al. (2010)</b>	2	White; Black; Asian; Latino	Adults	Yes	Experiment	Activation of Negative Stereotypes toward Asians
<b>Sanchez (2013)</b>	1	White; Black; American Indian; Asian; Latino; Multi-ethnic; Other	Adults	No	Experiment	No Negative Stereotype Activation toward Women

**Table A1**  
***Mascot health impacts publication dataset and select study variables: 1999-2019***

<b>Article (N=26)</b>	<b>Individual Studies in Article (40)</b>	<b>Race/Ethnicity of Participants in Article</b>	<b>Participant Age Group</b>	<b>Peer- Review Status</b>	<b>Methods</b>	<b>Health-Related Determinants Stemming from Native-themed Mascots</b>
<b>Bresnahan &amp; Flowers (2008)</b>	1	White; Black; "Native American"; Asian; Latino; Multi-racial	Adults	Yes	Experiment	Sports Fans Expressed Greater Approval for Mascots; Author Argued This Uncritical Support Causes Harm
<b>Billings &amp; Black (2018)</b>	2	N/A	Adults	Yes	Survey; Content Analysis	Respondents Expressed that Native American Tribes Should Determine Acceptability of Mascot Use; Sports Fans Expressed Greater Support for Mascots; Sports Fans Showed Greater Support for Native-themed Mascot Rituals Even When Not Specifically a Fan of the Team in Question; Fan and Game-day Rituals Marginalize Contemporary AI/ANs, in Particular, Fan Redface
<b>Lyne (2019)</b>	1	N/A	Adults	No	Content Analysis	Mixed Results; Positive Representations; Instances of Disregard by Supporters for Negative Impacts to "Native Americans" and Verbal Abuse
<b>Hart (2011)</b>	1	N/A	Adults	No	Survey	Respondents Were Desensitized to Native-themed Mascots Due to Prevalence
<b>LaRocque et al. (2011)</b>	1	"Non-Native"; "Native American"	Adults	Yes	Experiment	Negative Affect in Native But Not Non-Native Participants
<b>Steinfeldt et al. (2012)</b>	1	White; American Indian	Adults	Yes	Interview	Perpetuate Racist Stereotypes, Physical and Verbal Aggression, and Refusal of Services Against American Indians and Opponents

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***Mascot health impacts publication dataset and select study variables: 1999-2019***

<b>Article (N=26)</b>	<b>Individual Studies in Article (40)</b>	<b>Race/Ethnicity of Participants in Article</b>	<b>Participant Age Group</b>	<b>Peer- Review Status</b>	<b>Methods</b>	<b>Health-Related Determinants Stemming from Native-themed Mascots</b>
<b>Cross (2018)</b>	3	White; Black; "Native American"; Asian; Latino; Middle Eastern (two studies); Other	Adults	No	Experiment	Activation of Negative Stereotypes in More Prejudiced Participants and Mascot Supporters
<b>Kraus et al. (2019)</b>	4	White; Black (three studies); "Native American" (one study); Asian (one study); Latino (three studies); "Minority"; Mixed Race (three studies); Other (three studies)	Adults	Yes	Participant Observation; Survey; Experiment (two studies)	Lower Modern Racism Scores Correlated to Negative Mascot Attitudes; "Native American" Stereotypes Related to Higher University Donations Among More Prejudiced Participants
<b>Burke (2009)</b>	2	White	Adults	No	Experiment	Both Mascots and "Native American" people Elicited Implicit Stereotype Bias in Participants; Implicit Bias Related to Higher Expectations of a "Native American" Person to Enjoy Non- Academic Tasks
<b>Freng &amp; Willis- Esqueda (2011)</b>	1	White; Black; Asian; Latino; Multiple Ethnicities; Unknown	Adults	Yes	Experiment	Activated Negative Rather Than Positive Native Stereotypes

**Table A1**  
***Mascot health impacts publication dataset and select study variables: 1999-2019***

<b>Article (N=26)</b>	<b>Individual Studies in Article (40)</b>	<b>Race/Ethnicity of Participants in Article</b>	<b>Participant Age Group</b>	<b>Peer- Review Status</b>	<b>Methods</b>	<b>Health-Related Determinants Stemming from Native-themed Mascots</b>
<b>Rickabaugh &amp; Rickabaugh (2015)</b>	1	N/A	Adults	Yes	Survey	Students Pursuing a Sports Career Found Mascots Minimally Insensitive
<b>Steinfeldt &amp; Wong (2010)</b>	1	White; Black; Asian; Multiracial	Adults	Yes	Experiment	Participants Higher in Color-Blind Racial Attitudes Found Mascots More Acceptable; Mascot Trainings Proved Effective in Reducing Mascot Support