



Native Appropriation in Sport: Cultivating Bias Toward American Indians

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Abstract

Supporters of American Indian mascots claim that these mascots honor American Indians. If this is the case, then those who have more contact with, and are more supportive of, these mascots would logically demonstrate support for American Indian Peoples in other ways. In this study, we break new ground by employing a cultivation and social learning approach to examine possible associations between greater exposure to American Indian mascots and prejudice toward American Indians, as well as support for their rights. We used an online survey of 903 White Americans to examine associations between long-term exposure to American Indian mascots, attitudes toward Native appropriation, and support for American Indian Peoples. We found that greater exposure to sport media and more contact with American Indian mascots were associated with more prejudice toward and less support for American Indian rights, via double mediators—first via less opposition to American Indian mascots, and second via less opposition to other types of Native appropriation. These findings provide further evidence that American Indian mascots are harmful to American Indians, in this case via their association with higher levels of modern prejudice, less feelings of warmth, and less support for American Indian Nation sovereignty and trust relationship with the United States government. Further, our findings suggest that this harm may be related to lessons learned from the general phenomenon of Native appropriation, which includes acceptance of objectification and dehumanization of American Indians, disregard for their feelings, and legitimization of White settler colonial power.

Keywords Native Americans · Cultivation theory · Prejudice · Political attitudes · Sport

Introduction

In the United States, some people who are not American Indians (AI)¹ drive “Jeep Grand Cherokee” vehicles, dress up “as AI” for Halloween, participate in AI spiritual

practices, and attend summer camps in which they are referred to as “braves” in “the Sioux tribe.” These are examples of Native appropriation,² which occurs when non-AI People utilize aspects of AI cultures (or pseudo-culture) and/or identities for their own purposes (e.g., profit, personal enhancement, system legitimation). Many aspects of AI cultures are appropriated, such as human remains, funerary objects, clothing, regalia, art, dance, stories, spiritual practices, words (e.g., “powwow”), dwellings (e.g., tipis), and other material objects (e.g., totem poles). This appropriation manifests in many aspects of US culture, such as toys, statues, tourism, curios, museums, media, sport mascots, consumer products, home décor, verbal expressions, summer camps, and youth development organizations. Some forms of appropriation even involve “playing Indian,” “going Native,” and misleading claims to AI identity (e.g., Deloria, 1998;

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¹ We use the term “American Indians” because this terminology is associated with American Indian Nation sovereignty. We use the abbreviation “AI” to reduce verbiage.

² We use the phrase “Native appropriation” because one of the leading scholar-activists on this topic utilizes this phrase (Keene, n.d.).

Green, 1988; Huhndorf, 2001; Keene, n.d.; Root, 1996; Smith-Rosenberg, 2010; Todd, 1990).

There are many academic publications focused on one type of Native appropriation: sport mascots. Some of these publications report research findings, including that exposing AI students to AI mascots is harmful (Fryberg et al., 2008; LaRocque et al., 2011). With some exceptions, most publications focused on other types of Native appropriation do not report research findings. The purpose of our research project is to build on existing scholarship on Native appropriation, and in doing so to make the following contributions. First, we break new ground by using a cultivation theory and social learning approach to examine whether more exposure to sports media in general, and AI mascots in particular, are associated with more support for these mascots and other types of Native appropriation. Relatedly, we introduce a measure of general attitudes toward Native appropriation (other than mascots) into the study of AI mascots, prejudice, and rights. Lastly, we explore whether support for Native appropriation is associated with several measures of attitudes toward AI Peoples that have not yet been examined by other scholars.

Non-AI Opinion About AI Mascots

We could find only one published academic research project that reported findings on non-AI opinion about Native appropriation other than AI mascots. In this publication, for their fourth study, Lopez et al. (2021) found that although the mean score of participants who read vignettes describing “redface” was in the unacceptable range (3.44 out of 7), “redface” was perceived as more acceptable than “blackface” because participants were more apt to believe AI Peoples are not contemporary. All of the other published academic research projects about non-AI opinion regarding Native appropriation are focused on AI mascots. Below, we discuss findings from these projects, excluding studies only focused on the r*dskin name.

Several studies published prior to 2010 revealed that most non-AI participants believed AI mascots are acceptable and/or supported retention of these mascots (Bresnahan & Flowers, 2008; Laveay et al., 2009; Williams, 2007). More recently, Billings and Black (2018) found most non-AI participants believed current AI sport nicknames were acceptable. Lastly, Knoester and Rockhill (2021) found slightly more non-AI participants opposed AI mascot elimination. Collectively considered, these studies suggest that, despite some diversity in opinion, many non-AI people support AI mascots.

Some groups of non-AI people seem to be more critical of AI mascots, including women (Bresnahan & Flowers, 2008), younger adults (Knoester & Rockhill, 2021), non-AI persons of color (Knoester & Rockhill, 2021; Williams, 2007), and

political liberals (Knoester & Rockhill, 2021; Leaveay et al., 2009). Further, people who identify as sport fans (Billings & Black, 2018; Knoester & Rockhill, 2021), and report more overall involvement in sport (a measure which included interest in sport, perceived importance of sport, quantity of sport playing, and quantity of sport viewing) (Bresnahan & Flowers, 2008), are more supportive of AI mascots.

Effects of AI Mascots on Non-AI People

Although there are published academic studies focused on the effects of AI mascots on non-AI people, there are no comparable studies focused on the effects of other types of Native appropriation, so here we can only report on the former. First, two publications reveal an association between AI mascots and negative stereotypes of AI Peoples (Chaney et al., 2011; Freng & Willis-Esqueda, 2011). Chaney et al. (2011) found that their White participants (who tended to have favorable attitudes toward AI mascots) were more apt to implicitly associate AI mascot names (e.g., Braves) and AI Nation names (e.g., Navajo) with negative words and stereotypes of AI Peoples than they did with White mascot names (e.g., Pirates) and White group names (e.g., English); and higher levels of doing so were associated with belief that a fictional AI partner would enjoy stereotypical tasks.

Second, two publications report that exposure to AI mascots increases bias against AI Peoples (Angle et al., 2017; Burkley et al., 2017). Angle et al. (2017) found that exposure to an AI sport logo increased liberal participants’ implicit stereotyping of AI Peoples as warlike. Burkley et al. (2017) found that when participants who are prejudiced against AI Peoples were exposed to AI mascot logos, but not White mascot logos, they rated a fictitious AI student, but not fictitious White and Black American students, as more aggressive than participants without a prejudiced attitude.

Lastly, two publications demonstrate that non-AI supporters of AI mascots hold more biased attitudes toward AI Peoples than those in opposition (Foxworth & Boulding, 2021; Kraus et al., 2019). Kraus et al. (2019) reported that support for a particular AI mascot was associated with higher levels of explicit and implicit prejudice against AI Peoples. Foxworth and Boulding (2021) found that those who believe AI mascots honor AI Peoples are less apt to believe AI Peoples face discrimination and more apt to resent them (a measure which includes one statement favoring assimilation, one against preferences, and two against US government support).

Other Types of Native Appropriation

Although not primarily based on empirical research, scholars have discussed types of Native appropriation other than mascots, often in the context of settler colonialism. Settler

colonialism occurs when colonists settle in an area that is already inhabited and strive to eliminate and replace these inhabitants (e.g., McKay et al., 2020). In this context, Native appropriation is part of a long history and continuation of White Americans taking and controlling AI resources (e.g., Riley & Carpenter, 2016; Whitt, 1995). Smith-Rosenberg (2010) argued that early “Indian play” in the United States conveyed that White Americans had replaced AI Peoples as rulers of US lands and could control conceptions of AI Peoples for their own purposes. Coombe (1997, 1998) observed that Native appropriation involves White-generated imagery and myths in the absence of AI voices; AI Peoples are represented as stereotypical historic artifacts, but not heard.

Scholars have described many problems with Native appropriation. These problems include (but are not limited to) that Native appropriation objectifies and dehumanizes AI Peoples (e.g., Green, 1993; Hirschfelder, 1999; Todd, 1990), discounts AI feelings (e.g., Brasch, 1999; Desai & Abeita, 2007; Newton, 1997), and manifests and reinforces White American power over AI Peoples, especially disregarding AI Nation sovereignty and moral rights to self-determination over their own cultures and identities (e.g., Meyer & Royer, 2001; Riley & Carpenter, 2016; Todd, 1990). Given these aspects of Native appropriation, non-AI people who are more exposed to Native appropriation may have learned that it is acceptable for them to objectify AI Peoples, use and control aspects of AI cultures, and ignore AI concerns. These beliefs are clearly disrespectful and thus may be associated with greater prejudice against, and less support for the rights of, AI Peoples.

Cultivation and Social Learning Theory

In this research project, we draw on cultivation theory. Hermann et al. (2021) and Morgan et al. (2012, 2015), in summarizing cultivation theory and research findings, note that cultivation researchers began with exploration of whether heavy viewers of television would be more likely than light viewers to perceive the world in line with messages prevalent on television. More recently, researchers have extended this approach to other media and particular genres. In general, cultivation researchers explore whether quantity of long-term media/genre consumption is associated with beliefs aligned with content (and associated messages) prevalent in this media. Even with recent changes to media, the results of cultivation studies often reveal correlations between higher levels of media consumption and beliefs aligned with content patterns in media. Considering that there are many social forces other than media that impact human beliefs, even small correlations can be meaningful (e.g., Hermann et al., 2021; Morgan et al., 2012, 2015). Results from cultivation studies are correlational, and thus—unlike experimental research—causality cannot be determined. Yet,

experimental methodology is unable to measure long-term exposure. Thus, both types of research are critical to learning about associations between media exposure and beliefs.

Only a few researchers have utilized cultivation theory to explore associations between exposure to media and attitudes toward AI Peoples. Using a small sample of White college students, Tan et al. (1997) found that more television viewing was generally not associated with beliefs about AI Peoples. Using a larger sample of predominantly White college students, Lee et al. (2009) found that heavy viewers of television were more apt to perceive AI Peoples as less open, extroverted, and conscientious. Most recently, Davis-Delano et al. (2022b) found that more reported exposure to multiple media and genres was associated with endorsement of the warrior stereotype of AI Peoples, and more reported exposure to social media was associated with endorsement of the noble stereotype of AI Peoples.

Because one of our independent variables includes non-mediated exposure to AI mascots, our analysis is also based on principles derived from social learning theory, which is a theory of socialization. This theory, which is widely accepted, includes the principles that learning is a cognitive process and people often learn from social contexts in which they are embedded via observation. One can learn from observing both live behavioral and verbal modeling as well as through mediated experiences (e.g., Bandura, 1971, 1977; Grusec, 1992).

The Present Study

In this study, we are the first to use a cultivation and social learning approach to explore possible associations between exposure to Native appropriation and attitudes toward AI Peoples and their rights. Since AI mascots are so prevalent, with several professional teams, some university teams, and close to 2000 high school teams using these mascots in the United States (e.g., Davis-Delano et al., 2020), the most commonly experienced form of Native appropriation may be AI mascots. Thus, we use two measures of likely exposure to AI mascots as independent variables: long-term exposure to mediated sport, which would logically result in more exposure to AI mascots, and more narrow exposure to AI mascots in particular, which is a broader indicator of exposure than mediated contact. We predicted that higher levels of both of these types of exposure would be associated with more support for AI mascots, which is our first mediator, and then we predicted more support for AI mascots would be associated with more support for other forms of Native appropriation, which is our second mediator. Here, we break ground by introducing a measure of attitudes toward multiple types of Native appropriation in an academic publication. Lastly, we explore whether more support for Native appropriation is

associated with our dependent variables of prejudice against, and support for the rights of, AI Peoples.

It seems plausible that lessons learned about Native appropriation via greater exposure to AI mascots might be extended to support for other types of Native appropriation because in both cases AI-associated words, imagery, adornment, actions, and the like are adopted and utilized by non-AI (mostly White) people, for their own purposes, usually without consent from AI Nations. Given these aspects of Native appropriation, we suspect that those who are more accepting of this appropriation would be more apt to believe that settler colonialism is justified and that heirs of settler colonialism are superior to AI Peoples (e.g., Hirschfelder, 1999; Riley & Carpenter, 2016; Root, 1996; Todd, 1990). Thus, we predicted that those who are more supportive of Native appropriation (our second mediator) would hold more prejudicial attitudes toward, and be less apt to endorse the rights of, contemporary AI Peoples (our dependent variables). To explore prejudice and rights, we use four measures not yet used in academic publications focused on Native appropriation: old-fashioned prejudice in the form of relative warmth felt toward AI Peoples, modern prejudice against AI Peoples, support for AI Nation sovereignty, and support for the US government trust relationship with AI Nations.

Method

Procedures and Participants

IRB approval was granted by the institution of the first author. We paid the Dynata company to supply participants to take our online survey, which was labeled “Cultural Experiences and Beliefs.” We removed participants who failed attention checks. Our final sample was 903 participants, who identified as only White, lived their entire lives in the United States, and were from 48 states (excluding Alaska and Hawaii). The survey included informed consent and took a median of 17 min to complete. Please see Online Resource (Supplementary material) for details about Dynata, a description of all survey measures and their order of appearance in the survey, full measures used in this study, precautions taken to ensure participants met participant study criteria, and attention checks.

Materials

We used two independent variables, *time spent consuming sport media* and *contact with AI mascots*, and two mediators, *opposition to AI mascots* and *opposition to Native appropriation* other than mascots. There are four dependent variables. We used two measures of prejudice, *modern prejudice* and *feelings of warmth* toward AI Peoples. We

also employed two measures of support for AI rights, which are *support for AI Nation sovereignty* and *support for trust relationship* between AI Nations and the US government. In all models, we control for age, gender, education level, political ideology, and close relationships with AIs. Unless specified otherwise, we developed the measures discussed below for this study.

Time Spent Consuming Sport Media

Since our research project was inspired by, and is situated in the context of, an extensive body of cultivation theory research (e.g., Hermann et al., 2021; Morgan et al., 2012, 2015), our measure of sport media consumption is aligned with typical measures used by cultivation researchers. Measures used by cultivation researchers focus on long-term media use and are designed to enable comparison of participants based on their self-reported long-term quantity of media or genre use. In the context of other questions about media consumption (i.e., about films, television, books, social media, and news), we asked about consumption of sport media in the following manner: “On an average day, throughout your life, how many hours did you watch, listen to, or read about sports?” Participants responded in half hour increments, ranging from 0 = zero hours to 8 = 8 or more hours.

Contact with AI Mascots

This measure consisted of three randomized, yes/no, questions asking participants whether they had attended a high school or college/university with an AI mascot, lived in a state with a professional or big-time university team with an AI mascot, and were a fan of a team with an AI mascot. It is important to note that this measure examines exposure to AI mascots over multiple years, as people typically attend high school and college for 4 years, and people are often a fan of teams and reside in states for many years. Further, this measure is inclusive of exposure to AI mascots beyond media, such as exposure to AI mascots via conversation, clothing, posters, and pep rallies. Affirmative responses to the three questions were summed, and thus scores ranged from zero to three, indicating the amount of exposure to AI mascots. It is important to note that overall scores on this measure do not involve much individual choice, as the presence or absence of big-time sport teams with AI mascots probably does not determine which state people reside in, and the high school most individuals attend is usually based on decisions by one’s parents. Further, sport programs play little role in the college/university most non-athletes attend (e.g., Peterson-Horner & Eckstein, 2014; Smith, 2019). Also, although individuals can choose which sport teams to support, many are fans of teams in their geographical region (e.g., Giratikanon

et al., 2014; Groeneman, 2017; Meyer, 2014). Lastly, two of the three questions in this measure apply to those who are not fans of teams with AI mascots, in that some of these non-fans are embedded in social environments (i.e., schools and states) that normalize use of these mascots.

Opposition to AI Mascots

This measure consists of three randomized statements (two reverse-scored) indicating opposition to AI mascots (e.g., “There is no good reason to eliminate Native American mascots.”). Participants replied using a 5-point scale ranging from 1 = “strongly disagree” to 5 = “strongly agree.” Principal component analysis with Varimax rotation yielded one factor with an eigenvalue of 2.60, accounting for 86.5% of the variance. All item loadings were 0.91 or greater. Scale scores were calculated as the average across all items. Cronbach’s alpha for the current sample was 0.92.

Opposition to Native Appropriation

Eight randomized statements were developed to assess attitudes about Native appropriation other than AI mascots, including appropriation associated with Halloween, spiritual practices, consumer product names/logos, Boy Scouts, and summer camp (e.g., “It is acceptable for a non-Native person to dress up as Native American for Halloween.”). Respondents replied using a 5-point scale ranging from 1 = “strongly agree” to 5 = “strongly disagree.” Principal component analysis yielded two factors with eigenvalues above 1.0. The first factor (eigenvalue = 3.64, percent variance accounted for = 45.5) contained five items with factor loadings ranging from 0.55 to 0.79. The second factor yielded an eigenvalue of 1.09 (13.6% of variance accounted for), but had one cross-loaded item. We used the five items that loaded on factor one as our measure of opposition to Native appropriation. Scores were calculated as the average of the five items ($\alpha = 0.78$).

Feelings of Warmth

We used the domains of competence and warmth, derived from the stereotype content model (Fiske, 2015),³ to construct two measures, which appeared before participants were aware the survey was focused on AI Peoples. We placed these measures on the same page to enable participants to think in a comparative manner about both the domains and the five groups that appeared in the questions in randomized order: American Indians (Native Americans), and White,

Asian, Black/African, and Hispanic/Latinx Americans. The first question directed participants to indicate on 100-point thermometer scales the degree they experienced “cold” or “warm” feelings toward these groups, while the second question was identical except participants indicated belief about group “incompetence” or “competence.” In this study, we are only using the measure of warmth. We calculated each participant’s score on warmth by subtracting their score on AI Peoples from their score on White Americans. Thus, scores could range from -100 to $+100$, with higher scores indicating that the participant feels less warmth toward AI Peoples relative to White Americans.

Modern Prejudice

Morrison et al. (2008) designed a measure of modern prejudice faced by Aboriginal Canadians that includes 14 statements, some of which are reverse-scored. We made minor modifications to ten of these statements (e.g., changed “Aboriginal people” to “Native Americans”) and replaced four statements. Statements in this measure assert that AI Peoples do not face oppression and oppose efforts to reduce this oppression (e.g., “Many of the demands made by Native Americans to the US government are excessive.”). Participants responded using a 5-point scale ranging from 1 = “strongly disagree” to 5 = “strongly agree,” and scale scores were calculated as the average of items ($\alpha = 0.93$). In a different study (Davis-Delano et al., 2022a), modern prejudice was positively associated with other forms of prejudice toward AI Peoples and negatively associated with endorsement of policies that support AI Peoples.

Support for AI Nation Sovereignty

Prior to responding to items in this measure, participants were instructed to read the following: “Native American tribes have sovereignty, which means that they have their own government which enables them to make and enforce their own laws and policies. These laws and policies impact many aspects of tribal life such as tribal citizenship, economics, education, housing, healthcare, the environment, and criminal justice.” Then, participants replied to six randomized statements (e.g., “I support Native American tribal sovereignty”), half reverse-scored, using a 5-point scale ranging from 1 = “strongly disagree” to 5 = “strongly agree” ($\alpha = 0.92$). A total score was calculated as the mean of all items. In other research (Davis-Delano et al., 2022a), support for sovereignty was negatively associated with multiple forms of prejudice toward AI Peoples, negatively

³ This model is focused on two stereotype dimensions: competence and warmth.

associated with the belief that AI Peoples are “of the past,” and positively associated with the belief that AI Peoples are contemporary.

Support for Trust Relationship

This measure began with an explanation of the trust relationship between federally-recognized AI Nations and the US government: “Based on treaties between the U.S. government and specific Native American tribes, as well as court cases associated with these treaties, the U.S. federal government has a trust responsibility toward these Native American tribes. This means that the U.S. government is required to look out for the welfare of these tribes, including provision of services such as education and healthcare for these tribes.” Participants then replied, using a 5-point scale (1 = “strongly disagree” to 5 = “strongly agree”), to three randomized statements, one of which was reverse-scored, about this matter (e.g., “The US government should honor treaties with Native American tribes by providing resources to Native American tribes for education of tribal citizens.”) ($\alpha = 0.90$). A total score was calculated as the average of all items. In other research (Davis-Delano et al., 2022a), support for the trust relationship was significantly positively associated with support for AI Nation sovereignty and for improving representation of AI Peoples in media and education.

Demographic Variables

Participants responded to questions about their age, gender, political ideology, and level of education. Median age was 48 (with a range from 18 to “80 or older”). Education ranged from “less than a high school degree” to “doctorate or professional degree,” with a median education level of “some college or associate’s degree.” Mean political ideology was 3.04 on a scale from 1 = “very conservative” to 5 = “very liberal.” With regard to gender, 44.3% of respondents identified as men, 53.7% as women, and 2% as transgender, nonbinary, or another non-cisgender category. For the purposes of analyses, we created a dichotomous variable that controlled for identification as a man vs. all other gender identity labels (55.7%).

Close Relationships with AI Persons

In response to a single question, participants indicated the number of AI persons with whom they had close relationships, with options ranging from 0 to “10 or more.” Participants were directed to consider relationships close if they regularly shared personal information or engaged in

activities with the person. Most reported no close relationships ($n = 509$, 56.4%), while the mean was 1.37 ($SD = 2.36$). Scores on this measure were skewed, so to enable its use we rendered this variable binary: “no close relationships” and “one or more close relationships.”

Results

Descriptive Statistics

Table 1 contains descriptive statistics for independent, dependent, and mediating variables in the mediation models. On average, participants reported just under one hour per day consuming sport media and the median score for contact with AI mascots was 1. Both independent variables were skewed with scores clustered at the lower ends of the scales. Scores for opposition to AI mascots and more general Native appropriation were roughly normally distributed around the midpoints of the scales. Similarly, scores for both measures of prejudice toward AI Peoples were roughly normally distributed around the midpoints of the scales. Average scores for support for sovereignty and trust relationships were toward the higher end of the scales.

Bivariate Correlations

Table 1 also shows bivariate correlations among all variables. Demographic control variables were significantly correlated with most independent and dependent variables. In particular, more liberal political beliefs were strongly associated with less reported prejudice and more support for policies beneficial to AI Peoples. Older age and male gender were significantly associated with less opposition to appropriation, more prejudice, and less support for policies beneficial to AI Peoples, but the correlations were small in size. Education and reporting close relationships with AI persons were only sporadically associated with the primary study variables. Because of the consistent presence of significant associations between demographic variables and the independent, mediating, and dependent variables, all five demographic variables were included in all analyses as controls.

A significant, but small, positive correlation emerged between sport media consumption and contact with AI mascots. Both independent variables were significantly negatively associated with opposition to mascots and opposition to Native appropriation, but neither independent variable showed consistent direct relationships to prejudice or attitudes about AI rights. Opposition to mascots and opposition to appropriation both demonstrated moderate to strong

Table 1 Descriptive statistics and bivariate correlations among the measures

	1	2	3	4	5	6	7	8
Mean	0.89	0.91	2.74	3.01	2.34	-1.30	3.74	4.15
SD	1.35	0.97	1.21	0.79	0.72	25.23	0.86	0.77
Median	0.50	1.0	2.67	3.00	2.36	0	3.83	4.00
Min–Max (observed scores)	0–8	0–3	1–5	1–5	1–4.71	-100 to 100	1–5	1–5
1. Hours per day sports	1	0.08*	-0.11**	-0.07*	0.02	0.07*	0.02	0.01
2. Contact with mascots		1	-0.18**	-0.09**	0.06	0.05	-0.01	0.02
3. Opposition to mascots			1	0.61**	-0.53**	-0.29**	0.29**	0.24**
4. Opposition to appropriation				1	-0.55**	-0.31**	0.37**	0.26**
5. Modern prejudice					1	0.35*	-0.62**	-0.67**
6. Prejudice: lack of warmth						1	-0.25**	-0.22**
7. Support sovereignty							1	0.62*
8. Support trust								1
Age	0.01	0.16**	-0.13**	-0.22**	0.11**	0.15**	-0.12**	0.03
Gender	0.14**	0.16**	-0.05	-0.19**	0.16**	0.12**	-0.12**	-0.03
Education	-0.05	0.13**	0.07*	-0.04	-0.01	0.07*	-0.13**	-0.01
Political beliefs	-0.03	-0.09**	0.48**	0.42**	-0.51**	-0.26**	0.26**	0.29**
Close relationships	0.09**	0.06	-0.07*	0.01	-0.01	-0.03	0.09*	0.06

* $p < 0.05$; ** $p < 0.01$

relationships with all variables measuring prejudice and attitudes about AI rights.

Tests of Indirect Paths

Tests of indirect paths were conducted using the PROCESS macro in Statistical Package for the Social Sciences (Hayes, 2018; IBM Corp, 2017). The PROCESS macro utilizes bootstrapping (a random sampling technique to test model fit) and ordinary least squares regression to calculate direct effects of the independent variables (sport media consumption or mascot contact) on the dependent variables (prejudice and support for rights), as well as the indirect effect of the predictor through the mediators. Tests of indirect effects examine simple indirect paths from the independent variables (sport media consumption or mascot contact) to the dependent variables and from opposition to mascots to the dependent variables. In addition, the model tests double mediation, from the independent variable (i.e., sport media consumption or mascot contact) to opposition to mascots to opposition to broader Native appropriation to the dependent variables. The significance of indirect paths is tested using confidence intervals. Confidence intervals that do not contain zero indicate statistically significant indirect paths.

All models also included the following covariates: age, education, political beliefs, gender, and presence/absence of close AI relationships. The pattern of significance for the covariates was identical in the four models that tested effects of sport consumption and the four models that tested

effects of mascot exposure. Political beliefs were a significant predictor in all of the models, with more liberal political beliefs related to less prejudice and more support for AI rights ($p < 0.001$ in all models). Age was a significant predictor in two of the four models, with higher age associated with less modern prejudice and more support for AI Nation sovereignty ($p < 0.002$). Note that the direction of effect for age in the models was the opposite of the direction of the bivariate correlations, suggesting suppressor effects in the regression models. Education was significant in one model, with higher education associated with less support for AI Nation sovereignty ($p < 0.001$). The presence of close AI relationships was significant in two of the models. Reporting at least one close relationship was associated with more support for AI Nation sovereignty and US trust responsibilities ($p = 0.01$). Gender was significant in one model, with identification as a man associated with higher levels of modern prejudice ($p < 0.001$).

Table 2 presents the results of regression models assessing indirect paths for sport media consumption on measures of prejudice (modern prejudice and less warm feelings toward AI people). For each model, the direct path from sport media consumption to prejudice was not significant. However, significant negative direct relationships were observed between both mediators and prejudice. The indirect relationship from sport media consumption to prejudice through attitudes about AI mascots was significant in both models. Further, the double mediation path from sport consumption to less opposition to mascots to less opposition to

Table 2 Direct and indirect paths from sport media consumption to measures of prejudice

Effect	<i>B</i>	SE	<i>T</i>	<i>p</i>	LLCI	ULCI
Modern prejudice ($R^2=0.44$)						
Direct effects						
Sport media consumption > Modern prejudice	-0.027	0.014	-1.94	0.052	-0.053	0.0002
Opposition to AI Mascots > Modern prejudice	-0.138	0.020	-6.95	<0.001	-0.177	-0.099
Opposition to Native Approp. > Modern prejudice	-0.255	0.030	-8.58	<0.001	-0.313	-0.197
Indirect effects of sport media consumption on modern prejudice						
Through opposition to AI Mascots	0.012	0.004			0.004	0.020
Through opposition to Native appropriation	-0.001	0.004			-0.009	0.006
Double mediation	0.007	0.003			0.002	0.013
Lack of warmth ($R^2=0.14$)						
Direct effects						
Sport media consumption > Lack of warmth	0.793	0.595	1.33	0.183	-0.375	1.96
Opposition to AI mascots > Lack of warmth	-2.61	0.869	-3.01	0.003	-4.32	-0.91
Opposition to Native Approp. > Lack of warmth	-5.03	1.30	-3.87	<0.001	-7.58	-2.48
Indirect effects of sport media consumption on lack of warmth						
Through opposition to AI Mascots	0.217	0.110			0.044	0.470
Through opposition to Native appropriation	-0.021	0.081			-0.189	0.140
Double mediation	0.145	0.068			0.036	0.300

Table 3 Direct and indirect paths from sport media consumption to attitudes about AI rights

Effect	<i>B</i>	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Support for sovereignty ($R^2=0.18$)						
Direct effects						
Sport media consumption > Support for sovereignty	0.033	0.020	1.68	0.092	-0.006	0.072
Opposition to AI Mascots > Support for sovereignty	0.075	0.029	2.59	0.010	0.018	0.131
Opposition to Native approp. > Support for sovereignty	0.268	0.043	6.22	<0.001	0.184	0.353
Indirect effects of sport media consumption on support for sovereignty						
Through opposition to AI Mascots	-0.006	0.003			-0.014	-0.001
Through opposition to Native appropriation	0.001	0.004			-0.007	0.009
Double mediation	-0.008	0.003			-0.014	-0.003
Support for trust relationship ($R^2=.13$)						
Direct effects						
Sport media consumption > Support for trust	0.016	0.018	0.88	0.377	-0.020	0.052
Opposition to AI Mascots > Support for trust	0.043	0.027	1.61	0.108	-0.009	0.095
Opposition to Native Approp. > Support for trust	0.142	0.040	3.57	<0.001	0.064	0.220
Indirect effects of sport media consumption on support for trust relationship						
Through opposition to AI Mascots	-0.004	0.003			-0.009	0.001
Through opposition to Native appropriation	0.001	0.002			-0.004	0.005
Double mediation	-0.004	0.002			-0.008	-0.001

general Native appropriation to prejudice was significant in both models.

Table 3 presents the results of models assessing indirect paths for sport media consumption on attitudes about AI rights. Similar to findings for measures of prejudice, there were no significant direct paths from sport media consumption to attitudes about rights. However, opposition to

AI mascots and opposition to Native appropriation were both strongly linked to support for sovereignty, and opposition to Native appropriation was strongly linked to support for the trust relationship. Double mediation through opposition to AI mascots and then general opposition to Native appropriation was significant in both models. Additionally, simple mediation through opposition to AI

Table 4 Direct and indirect paths from AI mascot contact to measures of prejudice

Effect	<i>B</i>	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Modern prejudice ($R^2=0.44$)						
Direct effects						
AI mascot contact > Modern prejudice	-0.025	0.019	-1.31	0.191	-0.063	0.013
Opposition to AI mascots > Modern prejudice	-0.139	0.020	-6.91	<0.001	-0.178	-0.099
Opposition to Native approp. > Modern prejudice	-0.253	0.030	-8.50	<0.001	-0.312	-0.195
Indirect effects of AI Mascot contact on modern prejudice						
Through opposition to AI Mascots	0.025	0.011			0.013	0.039
Through opposition to Native appropriation	-0.009	0.006			-0.021	0.001
Double mediation	0.016	0.004			0.009	0.024
Lack of warmth ($R^2=.14$)						
Direct effects						
AI Mascot Contact > Lack of Warmth	-0.469	0.842	-0.56	0.578	-2.12	1.19
Opposition to AI Mascots > Lack of warmth	-2.80	0.877	-3.19	0.001	-4.52	-1.08
Opposition to Native Approp. > Lack of warmth	-4.97	1.301	-3.82	<0.001	-7.53	-2.42
Indirect effects of AI Mascot contact on lack of warmth						
Through opposition to AI mascots	0.496	0.201			0.151	0.932
Through opposition to Native appropriation	-0.182	0.123			-0.458	0.034
Double Mediation	0.309	0.117			0.103	0.553

Table 5 Direct and indirect paths from AI Mascot contact to attitudes about AI rights

Effect	<i>B</i>	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Support for sovereignty ($R^2=0.18$)						
Direct effects						
AI mascot contact > Support for sovereignty	0.052	0.028	1.86	0.062	-0.003	0.107
Opposition to AI mascots > Support for sovereignty	0.079	0.029	2.71	0.007	0.022	0.136
Opposition to Native approp. > Support for sovereignty	0.264	0.043	6.12	<0.001	0.180	0.349
Indirect effects of AI Mascot contact on support for sovereignty						
Through opposition to AI mascots	-0.014	0.007			-0.029	-0.003
Through opposition to Native appropriation	0.010	0.006			-0.002	0.023
Double mediation	-0.016	0.005			-0.026	-0.009
Support for trust relationships ($R^2=0.13$)						
Direct effects						
AI mascot contact > Support for trust	0.037	0.026	1.44	0.149	-0.013	0.088
Opposition to AI mascots > Support for trust	0.047	0.027	1.75	0.080	-0.006	0.100
Opposition to Native approp. > Support for trust	-0.139	0.040	3.49	0.001	0.061	0.217
Indirect effects of AI mascot contact on support for trust relationships						
Through opposition to AI mascots	-0.008	0.005			-0.019	0.001
Through opposition to Native appropriation	0.005	0.004			-0.001	0.013
Double mediation	-0.009	0.003			-0.016	-0.003

mascots was also significant in the model predicting support for sovereignty.

Table 4 presents models assessing direct and indirect paths for AI mascot contact on both measures of prejudice (modern prejudice and less warm feelings). There was no significant direct path from AI mascot contact to prejudice, but the indirect path through opposition to AI mascots was

significant. In addition, a positive double mediation pathway was also significant, such that more AI mascot contact was linked to lower opposition to AI mascots, lower opposition to Native appropriation, and subsequently to higher prejudice.

Finally, Table 5 presents models assessing the direct and indirect paths for AI mascot contact on endorsement

of AI rights (to sovereignty and the trust relationship). As with other models, no direct paths emerged from AI mascot contact to attitudes toward rights. However, one simple mediation path was observed from AI mascot contact to less opposition to AI mascots to less support for sovereignty. Further, both models yielded significant double mediation from AI mascot contact to less opposition to AI mascots to less opposition to general Native appropriation to less support for AI rights.

Discussion

Non-AI people who use AI mascots, and engage in other forms of Native appropriation, often assert that they are honoring or valorizing AI people (e.g., Steinfeldt et al., 2010; Todd, 1990). If they were actually honoring AI Peoples, then one would expect them to be supportive of AI Peoples. Yet, in this study, we found that those who are more supportive of Native appropriation exhibit more prejudice against, and are less supportive of the rights of, AI Peoples. These findings suggest that the claims that Native appropriation honors AI Peoples ring hollow.

We are the first to utilize a cultivation and social learning approach to determine whether there is an association between extent of long-term sport media use, and exposure to AI mascots, with attitudes toward AI Peoples. In support of cultivation and social learning theory, we found that more exposure to both sport media in general, and AI mascots in particular, were associated with more support for AI mascots,⁴ and more support for AI mascots was associated with more support for other forms of Native appropriation. Then, more support for Native appropriation was associated with higher levels of prejudice against AI Peoples and less support for AI rights. Our findings are consistent with those from two other research teams that demonstrate an association between support for AI mascots and more prejudice against AI Peoples (Foxworth & Boulding, 2021; Kraus et al., 2019), although our measures of prejudice differ from theirs. We uniquely demonstrate that more support for AI mascots, and Native appropriation more broadly, are associated with less support for AI Nation sovereignty and the trust relationship with the US government. Further, we uniquely reveal that the problem is not just with AI mascots but also with Native appropriation more generally. In fact, our study is the first to utilize a measure of attitudes toward multiple types of Native appropriation.

Our results suggest that some categories of non-AI people are more likely to support efforts to eliminate Native appropriation, as well as support AI rights: politically liberal people, and to a lesser degree those who have close relationships with AI persons. The association we found between liberalism and greater opposition to AI mascots is consistent with Leavey et al.'s findings (2009). The findings on close relationships are consistent with the contact hypothesis (e.g., Aberson et al., 2021). Our findings on age, gender, and education are less consistent.

It makes sense that more exposure to sport media, and AI mascots more specifically, would generate greater support for AI mascots. This is because, as cultivation and social learning theory would predict, in the vast majority of cases AI mascots are normalized and valorized (not criticized) in these contexts. It also makes sense that lessons learned from Native appropriation via AI mascots might be extended to support for other types of Native appropriation, because Native appropriation, generally speaking, involves use of aspects of AI cultures, pseudo-culture, and/or identities for non-AI purposes and without AI Nation consent. Lastly, it makes sense that lessons learned from Native appropriation would generate more prejudice against, and less support for the rights of, AI Peoples. This is because Native appropriation ignores contemporary AI feelings, objectifies and dehumanizes living AI Peoples, and conveys that non-AI power over AI Peoples is acceptable (e.g., Brasch, 1999; Green, 1993; Riley & Carpenter, 2016; Todd, 1990), and thus Native appropriation is modeling settler colonial processes of erasing contemporary AI Nations and Peoples, as well as exerting control over them.

Our findings are correlational, and thus we cannot claim causality. Having said that, given that most mascots in sport media are not AI mascots, it is unlikely that people who support Native appropriation would be more likely than others to consume sport media. On the other hand, it is likely that people who support Native appropriation are more attracted to AI mascots, but—as already discussed—our measure of contact with AI mascots involves limited choice with regard to this contact. It is possible that people who are less supportive of AI Peoples (via prejudice and opposition to AI rights) are more apt to engage in or support Native appropriation, but when our participants endorsed statements of prejudice and opposition to rights they were expressing overtly negative attitudes toward AI Peoples, while those who engage in Native appropriation often justify their actions by ostensibly positive claims about AI Peoples (e.g., that they are honoring AI Peoples) (e.g., Steinfeldt et al., 2010; Todd, 1990). Thus, the direction of effects in our models is much more logical than the reverse direction.

Overall, our findings provide clear evidence that AI mascots, and Native appropriation more generally, are associated with beliefs that are harmful to AI Peoples. Thus, our

⁴ The association we found between more sport media consumption and greater support for AI mascots is aligned with, but not the same as, the findings of Bresnahan and Flowers (2008) and Billings and Black (2018).

findings are one justification for eliminating these mascots and other forms of Native appropriation. We hope that organizations such as the National Congress of American Indians and IllumiNative, as well as other AI activists and their allies, are able to use our results toward the end of eliminating Native appropriation, including but not limited to AI mascots.

Our findings support both cultivation and social learning theory. Like other cultivation researchers, we studied the degree of long-term exposure to a particular genre, in our case sport media. Leaning more on social learning theory, we also utilized a measure of exposure to AI mascots which encompasses both mediated and non-mediated (e.g., pep rallies) exposure to these mascots. Thus, our findings suggest that perhaps cultivation theory and social learning theory can be combined to examine a combination of mediated and non-mediated exposure to particular social phenomena.

Strengths, Limitations, and Recommendations for Future Research

Like all research, our project has both strengths and limitations, with implications for future research. One strength is that we use multiple measures of prejudice against, and attitudes toward the rights of, AI Peoples, none of which had been used in prior studies focused on Native appropriation. For example, we measured both modern prejudice and old-fashioned prejudice via feelings of warmth. Another strength is that we used a measure of support for AI Nation sovereignty as one of our dependent variables, as AI Nation sovereignty is arguably the most important measure of support for AI Peoples because AI Nations owe their existence to this sovereignty. Further, it is a strength that we assessed our other measure of support for AI rights, for the trust relationship with the US government, separately from support for AI Nation sovereignty, because this trust relationship is perceived through a different lens by non-AI people than sovereignty (Conner et al., 2017). Yet another strength is that we included more than one measure of exposure to AI mascots, both sport consumption in general and a narrow measure of exposure to AI mascots (that includes mediated and non-mediated exposure) that is mostly not based on participant choice. As far as we know, we are the first research team to utilize a measure that includes a variety of types of Native appropriation in a peer-reviewed journal publication.

Of course, there are limitations to our study. One limitation is that our measure of Native appropriation only included five types of appropriation. In future, we recommend that scholars develop more comprehensive measures of Native appropriation and explore various antecedents and consequences of this appropriation. Another limitation is that cultivation measures of media consumption, including our measure of sport media use, are limited by

participants' capacities to accurately recall their past behaviors. Future scholars could utilize a more detailed measure of sport media consumption, inquiring about matters such as type of sport media (e.g., sport news, live broadcasts, type of sport) and various time periods in participants' lives (e.g., in high school, after retirement). A third limitation is that our sample is not representative of White Americans. Thus, in future, we recommend the use of representative samples to study the research questions we pursued. Lastly, as previously mentioned, our findings are correlational and not causal. Thus, we recommend experimental research to determine causation. For example, researchers could expose participants to Native appropriation and then examine possible effects (e.g., Lopez et al., 2021).

Conclusion

Although scholars have studied opinions about, and associations with exposure to, AI mascots, there have not been comparable studies on Native appropriation more generally. We designed a measure of attitudes about multiple types of Native appropriation and then explored possible associations between these attitudes and both prior exposure to AI mascot appropriation and other attitudes toward AI Peoples. In support of both cultivation and social learning theory, we found that higher levels of long-term sport media consumption and more narrow exposure to AI mascots were associated with greater support for AI mascots. Then, we found that greater support for AI mascots was associated with more support for other types of Native appropriation. Lastly, more support for Native appropriation was associated with more prejudice toward, and less support for the rights of, AI Peoples. The implications of our findings are clear: The institution of sport—situated in the economic and education institutions—is associated with bias against AI Peoples via inclusion of AI mascots. Further, it seems likely that the normalization of AI mascots in sport renders other types of Native appropriation more acceptable. And, Native appropriation, although justified by claims of honoring or valorizing AI Peoples, is rooted in a settler colonial process that erases contemporary Indigenous Peoples via taking and objectifying, without consent and for one's own purposes, aspects of Indigenous cultures and identities. Given the nature of Native appropriation, it is not surprising that this appropriation is associated with bias against AI Peoples. We hope our research findings are useful to those working against Native appropriation and for AI rights.

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Data Availability The dataset generated during and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Conflict of interest We have no conflict of interest to disclose. We have full control of primary data and agree to allow the journal to review these data if requested.

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