DO AMERICAN INDIAN MASCOTS = AMERICAN INDIAN PEOPLE? EXAMINING IMPLICIT BIAS TOWARDS AMERICAN INDIAN PEOPLE AND AMERICAN INDIAN MASCOTS

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Abstract: Empirical examinations of American Indian (AI) mascots have only recently entered into the discourse of mainstream psychology. The present studies examined implicit attitudes of non-AI people towards AI mascots and the extent to which they are related to attitudes towards AI people. Significant concordance was observed between negative bias toward AI mascots and AI people. Negative AI mascot bias also predicted stereotype-consistent expectations of an AI person. The implications of these findings are discussed.

"American Indians were and are real, but the Indian was a White invention and still remains largely a White image, if not a stereotype" (Berkhofer, 1978, p. 3)

The use of American Indian (AI) mascots has been a controversial issue for over 30 years. In recent years, several organizations, including the American Psychological Association (2005), have called for a discontinuation in the use of these mascots. The universal motive cited by these organizations is the perception that, despite claims that AI mascots are intended to honor AI people, they in truth reflect an erroneous and largely negative representation of AI people. Efforts to support these claims, however, are hampered by the absence of published empirical evidence examining the perceptions of AI mascots by non-AI people (Davis-Delano, 2007).

Many AIs argue that these mascot caricatures do not represent an accurate or favorable representation of AI people. However, it is unclear if non-AI individuals also recognize that these mascot images are poor representations of AI people. For many individuals, AI mascots may represent their only exposure to AI people or images of AI culture (e.g., Bird, 1996; Deloria, 1998; Farnell, 2004; King, 2004; Pewewardy, 1999; 2004; Roppolo, 2003). That is, non-AI people may perceive that AI mascots and AI people are one and the same. The goal of the studies presented in this paper was to empirically explore this idea by examining the implicit attitudes people have towards AI mascots and AI people. In particular, we examined whether there is a positive association between

non-AI people's bias towards AI mascots and their bias towards AI people. If so, it would indicate that these individuals perceive AI mascots as interchangeable with AI people. Further, we examined whether implicit bias toward AI mascots is associated with stereotyping of AI people.

Scope and Nature of AI Mascots

Since the 1970s, several attempts have been made to persuade schools and universities to discontinue the use of AI mascots. Still, it is estimated that nearly 90 colleges and approximately 1,200 high schools in the U.S. continue to utilize AI images and logos (King, Staurowsky, Baca, Davis, & Pewewardy, 2002). AI mascots remain among the top ten mascots for U.S. high schools (Clarkson, 2003). As a result, many AI students attend schools with AI mascots, or confront insults resulting from competition against schools that do (Staurowsky, 2007).

One reason for the continued use of AI mascots is that advocates insist such symbols are intended to honor AIs (Steinfeldt et al., 2010; Strong, 2004). Proponents argue that AI mascots represent positive images of AI people. However, others argue that, regardless of *intent*, such mascots portray AI people in a stereotypic and inauthentic manner (Harvard Law Review, 1999). Similarly, some suggest that the mere presence of AI mascots in schools engenders racially hostile learning environments for AI people (Baca, 2004).

Do American Indian Mascots = American Indian People?

Perhaps one of the biggest concerns regarding AI mascots is that, because AIs may be largely defined by (and socially represented in terms of) mascot stereotypes, AI people have ceased to be perceived as real (King et al., 2002). From the time of first contact with European explorers, AIs have been portrayed fictionally as *barbaric*, *wild*, and *savage*—terms that imply AI people are less than human (Stannard, 1992; cf. Goff, Eberhardt, Williams, & Jackson, 2008). Thus, it could be argued that AIs have existed as mascots for the 500+ year history of this country, and one consequence of AI sports mascots is that they keep AI people allegorically fixed as a kind of "cultural souvenir" preserved in the American identity (Slowikowski, 1993; p. 28).

Because AIs have historically been characterized in figurative rather than factual terms, we suspect that inauthentic portrayals, such as those of AI mascots, represent the default impression of AI people for most Americans. As a result, we contend that the boundary between *American Indian as human* and *American Indian as mascot* has become blurred in American culture (Farnell, 2004). Indeed, some have argued that mascot representations of AI people are so entrenched in American identity that these invented images have become the majority culture's definition of what *being Indian* means (e.g., Deloria, 1998; McDonald & Chaney, 2003; Pewewardy, 1999; 2004; Roppolo,

2003). As a result, efforts to eliminate AI mascots may be experienced by the majority culture as an encroachment on quintessentially American tradition (e.g., Davis, 1993; see also Phelan & Rudman, 2010). Understanding this process helps to explain in part the intense backlash of non-AI people in response to appeals for retiring AI mascot images (see Steinfeldt et al., 2010; Staurowsky, 2007).

Lack of Empirical Research on American Indian Mascots

Despite two decades of persuasive scholarly work on the social implications of AI mascots, the issue has largely remained segregated from mainstream psychology. Undoubtedly, the biggest impediment to the legitimacy of the AI mascot issue is the scarcity of empirical studies in the research literature. Although the topic of AI mascots has received a great deal of scrutiny in recent years, the majority of this attention has been non-empirical. (e.g., Farnell, 2004; King & Springwood, 2000, 2001a, 2001b; Pewewardy, 1999, 2004; Roppolo, 2003; Spindel, 2002; Springwood, 2004; Staurowsky, 2004, 2007; Vanderford, 1996; Wenner, 1993). Consequently, debate about the mascot issue is largely informed by high-profile stories in the popular media, and the reports that have received the greatest attention are also those that defend the continued use of AI mascots (e.g., Sports Illustrated Poll, Price, 2002).

To date, only two sets of studies have empirically examined the negative effects of AI mascots. Fryberg, Markus, Oyserman, and Stone (2008) found that AI youth exposed to stereotypical AI images (e.g., Chief Wahoo) experienced decreased self-esteem compared to youth not exposed to these images. They also found that exposure (versus no exposure) to AI sports mascots resulted in lower achievement-related expectancies in AI college students. These data represent the only empirical illustration of the negative psychological impact of stereotypical mascot images on AI people. Furthermore, Kim-Prieto, Goldstein, Okasaki, and Kirschner (2010) demonstrated that non-AI college students were more likely to show a heightened tendency to stereotype other racial minority groups (i.e., Asian-Americans) following exposure to an AI mascot prime. Although both studies demonstrate the negative consequences of exposure to AI mascots, what remains to be seen is whether AI mascots are indeed construed by non-AI people as positive or negative representations of AI people.

The dearth of empirical investigations on the effects of AI mascots can be attributed in part to the lack of adequate measurement methodology. One of the biggest obstacles for researchers examining prejudice of any kind is the tendency for respondents to downplay prejudicial attitudes on self-report measures. Dovidio (2001) suggested that socially conditioned attitudes, like racial prejudice, operate at a non-conscious level and constitute subtle or implicit forms of racial bias. Such implicit biases present a unique measurement dilemma because they characteristically contain an element of plausible deniability (Dovidio & Gaertner, 2004). In other words, because individuals

are unaware of their implicit biases, they may engage in potentially racist acts (e.g., use insulting AI mascots) and *genuinely* justify them with non-racist explanations at a conscious level (e.g., "We are honoring AIs"). As a result, implicit attitudes of this nature may not be accessible or measurable by traditional self-report methods (Dovidio, Gaertner, Kawakami, & Hodson, 2002).

Measuring Implicit Bias

The difficulty in measuring implicit racial attitudes has been attenuated somewhat by recent advances in research methodology, such as the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). The IAT is a computerized task that measures implicit or automatic associations between stimuli by examining how quickly certain stimuli are associated with evaluative attributes (e.g., positive or negative). Determination of implicit bias on the IAT is based on the assumption that responses to compatible judgment stimulus pairs (e.g., *snakes-dangerous*) will be more automatic, and hence faster, than for incompatible judgment pairs (e.g., *flowers-dangerous*) because of the greater strength of the conditioned association between the stimuli (Greenwald et al., 1998; Karpinski & Hilton, 2001). Racial attitudes are thought to operate in much the same way (Dovidio, 2001).

In one of the original IAT studies, Greenwald and colleagues (1998) examined pleasant and unpleasant evaluative attributes associated with stereotypical Caucasian and African American names in a sample of Caucasian college students. Response times were significantly shorter when "Black" names were paired with unpleasant attributes and "White" names were paired with pleasant attributes (i.e., compatible judgment categories) than when Black names were paired with pleasant attributes and White names were paired with unpleasant attributes (i.e., incompatible judgment categories). Greenwald and colleagues interpreted the findings as evidence of an implicit negative bias toward African Americans. Numerous IAT investigations have yielded similar results for a host of racial minority groups, including African Americans, Hispanic Americans, Japanese Americans, and Korean Americans (e.g., Amodio & Devine, 2006; Greenwald et al., 1998; McConnell & Leibold, 2001; Ottaway, Hayden, & Oakes, 2001).

OVERVIEW OF THE PRESENT STUDIES

The purpose of the present set of studies was to provide an empirical assessment of how AI mascots are perceived by non-AI people. Across two studies, we addressed several questions about the nature of Caucasian individuals' perceptions of AI mascots and AI people, utilizing both implicit and explicit measurement methods. Our first goal was to determine if non-AI people hold an implicit negative bias towards AI mascots. If such a bias is present, it would challenge the statement that AI mascots are perceived as honorable, positive images. Our second goal was to examine if implicit

AI mascot bias and AI person bias are positively correlated with one another. If such a correlation exists, it would suggest that non-AI people do not perceive a distinct difference between AI mascot images and actual AI people. In other words, they would perceive these two stimuli as essentially interchangeable. Finally, we examined whether negative implicit attitudes towards AI mascots translated into negative perceptions of an AI person.

The present studies are unique in that they provide the first extension of IAT methodology to the topic of AI mascots. Using this measurement tool, we designed two studies to examine if portrayals of AI mascots operate at a similar social-cognitive level as do actual AI people. Study 1 was designed to assess if non-AI participants hold an implicit bias towards AI mascots and towards AI people. This study also examined if there is a relationship between these two measures, such that people who hold an implicit negative bias towards AI mascots hold the same negative bias towards AI people. Study 2 was designed to extend this work by examining if people's implicit bias towards AI mascots can be used to predict stereotypical reactions towards an AI individual.

STUDY 1

The purpose of Study 1 was twofold. First, using the IAT, we examined whether non-AI people hold an implicit bias towards AI mascots. Second, we assessed the degree to which implicit bias towards AI mascots was associated with implicit bias towards AI people.

Method and Participants

Twenty-two Caucasian undergraduate psychology students (12 males and 10 females; 18-25 years of age; $M = 20.3$) from a large university in the southwest U.S. participated for course credit. Participants completed an AI Person IAT and an AI Mascot IAT, in counterbalanced order.

Procedures and Measures

AI Person IAT

The six pleasant words (*love*, *beauty*, *happy*, *miracle*, *relief*, *pleasure*) and six unpleasant words (*poison*, *grief*, *hatred*, *rotten*, *hurt*, *tragedy*) used as evaluative attribute stimuli in the IAT were selected from Greenwald and colleagues (1998). Stimulus words used to describe people of AI or European American descent (i.e., target concept stimuli) were derived from a survey of 67 (40 female and 27 male) undergraduate psychology students at the same university. This survey asked participants to "List the most common American Indian tribes you can think of that describe people of American Indian descent." The same survey asked participants to "List the most common

European nationalities you can think of that describe people of European American descent." The six most frequently listed AI tribes (*Cherokee*, *Navajo*, *Sioux*, *Apache*, *Comanche*, *Iroquois*) and European nationalities (*English*, *Irish*, *German*, *French*, *Scottish*, *Dutch*) were used as target concept stimuli in the IAT.

The AI Person IAT program in the present study was modeled after methodology used in previous studies (e.g., Amodio & Devine, 2006; Greenwald et al., 1998; Ottaway et al., 2001; Rudman & Ashmore, 2007). Once participants were seated at the computer, the experimenter left the room and participants were presented with the following instructions on the computer screen:

> For each of several sorting tasks you will be shown words one at a time in the middle of the computer screen. Your task is to sort each item into its correct category as fast as you can by pressing EITHER the 'D' key or the 'K' key. The categories associated with the 'D' and 'K' keys will be shown at the top of each screen. Please pay close attention to these category labels – they change for each sorting task!
>
> For one of the sorting tasks you will be classifying words that are either
> 'PLEASANT' or 'UNPLEASANT'
> In the other sorting task you will be classifying words that describe people of either
> 'NATIVE AMERICAN' or 'EUROPEAN AMERICAN' descent

The AI Person IAT consisted of three practice blocks and two critical (i.e., test) blocks, each containing 36 trials. Practice blocks introduced participants to the task by requiring them to sort evaluative attributes (e.g., *love*, *grief*) and target concepts (e.g., *Cherokee, German*) into the correct categories. Critical blocks required participants to sort evaluative attributes and target concepts into either compatible judgment (*European American or Pleasant*; *Native American or Unpleasant*) or incompatible judgment combined categories (*Native American or Pleasant*; *European American or Unpleasant*). Presentation of evaluative attributes and target concept stimuli were randomized and presented an equal number of times in each trial block. The presentation of test blocks (i.e., compatible/incompatible) was counterbalanced to control for order effects.

Scoring

Using the most recent IAT scoring algorithm recommended by Greenwald, Nosek, and Banaji (2003), the average difference in mean response latencies (in milliseconds; *ms*) between stereotype-incompatible pairings and stereotype-compatible pairings was calculated. This average difference is reported as *D*, or the overall IAT effect. We chose to use the *D* measure because, compared to other scoring methods, it has been shown to be less susceptible to practice effects and both response

speed and cognitive skill confounds (e.g., Cai, Sriram, Greenwald, & McFarland, 2004; Greenwald et al., 2003). A positive *D* value indicated that response latencies for compatible judgment pairings were shorter compared to latencies for incompatible judgment pairings.

AI Mascot IAT

The six pleasant and six unpleasant words were identical to those in the AI Person IAT. The initial list of six AI and six Caucasian mascots was determined from a survey of 100 (41 male, 59 female) introductory psychology students at the same university. This survey listed five mascot categories (*Caucasian*, *American Indian*, *Gentle Animal*, *Fierce Animal*, and *Occupations*) and asked students to generate as many mascots they could for each category. The six most frequently listed AI mascots and the six most frequently listed Caucasian mascots on this survey were initially considered for inclusion as target concept stimuli.

Because the most frequently listed Caucasian mascot from this survey (*Fighting Irish*) contained two words, we decided to replace *Seminoles* (number six on the original AI mascot list) with *Fighting Sioux* to provide consistency in the length of stimulus words (see Greenwald et al., 1998, Experiment 2). Furthermore, one of the top six Caucasian mascots on the original list was *Cowboys*. Because this is the mascot of the university where the study took place, *Mountaineers* (number seven on the original Caucasian mascot list) was substituted to minimize the potential for a positive bias confound. The final list of AI mascots used as target stimuli consisted of: *Chiefs*, *Redskins*, *Indians*, *Warriors*, *Braves*, *Fighting Sioux*; the six Caucasian mascots were: *Celtics*, *Mountaineers*, *Pirates*, *Vikings*, *Rebels*, *Fighting Irish*. Instructions and procedures for completing the AI Mascot IAT were identical to those in the AI Person IAT. The only difference was that participants read:

> For one of the sorting tasks you will be classifying words that are either
> ‘PLEASANT’ or ‘UNPLEASANT’
> In the other sorting task you will be classifying names of sports teams that are either
> ‘NATIVE MASCOTS’ or ‘CAUCASIAN MASCOTS’

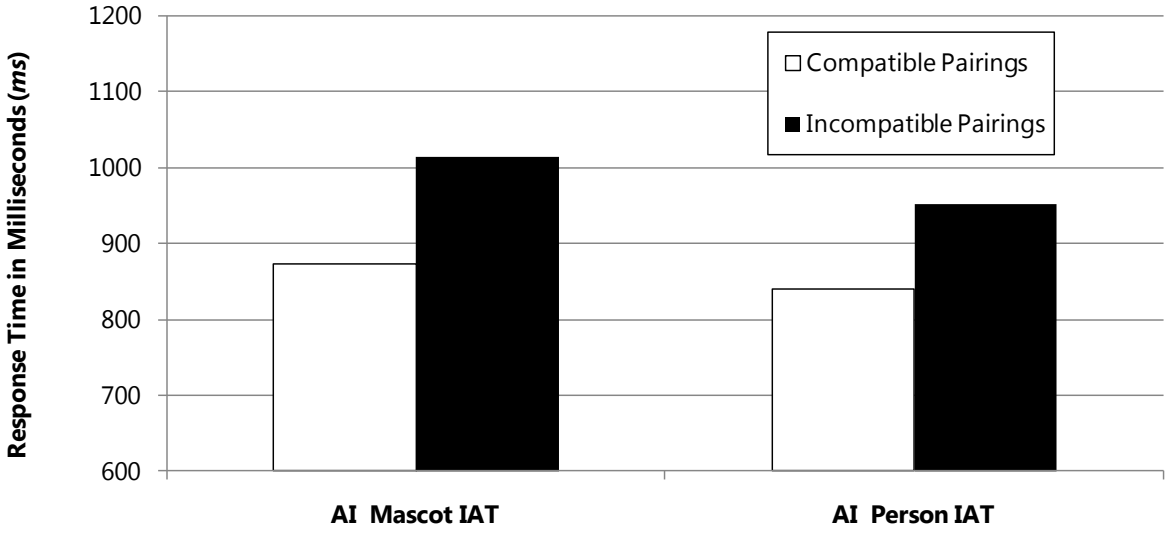
Results and Discussion

Internal consistency analyses resulted in coefficients of .71 ($p = .01$) for the AI Person IAT and .69 ($p = .01$) for the AI Mascot IAT. The ANOVA on the AI Person IAT revealed shorter response latencies for compatible judgment categories (*European American or Pleasant*; *Native American or Unpleasant*; 840 *ms*) compared to incompatible judgment categories (*Native American or Pleasant*;

European American or Unpleasant; 951 *ms*), F (1, 20) = 7.80, p = .01, D = .18 (η^2 = .28) (see Figure 1). This pattern indicated that most participants in our sample held a negative implicit bias towards AI people relative to Caucasian people.

Figure 1

Response Times for American Indian Mascot and American Indian Person IATs



Similarly, the AI Mascot IAT results revealed shorter latencies for compatible categories (*Caucasian Mascot or Pleasant*; *Native Mascot or Unpleasant*; 872 *ms*) compared to incompatible categories (*Native Mascot or Pleasant*; *Caucasian Mascot or Unpleasant*; 1014 *ms*), F (1, 20) = 9.16, p = .007, D = .19 (η^2 = .31). This pattern indicated that most participants in our sample held a negative implicit bias towards AI mascots relative to Caucasian mascots. Thus, at a non-conscious level, our participants were more likely to associate AI mascots than Caucasian mascots with negative words. This calls into question the idea that AI mascots represent positive imagery of AI people.

Importantly, correlation analyses revealed that AI Person IAT performance (D) was significantly associated with AI Mascot IAT performance (r = .68, p = .001). Further, an analysis of covariance (ANCOVA) indicated that the AI Mascot IAT effect (D) was no longer significant after controlling for the influence of AI Person IAT D scores, F (1, 20) = 1.18, p = .31. Thus, implicit bias toward AI people was positively correlated with implicit bias toward AI mascots. Moreover, the results indicate that a significant portion of the observed AI mascot bias was accounted for by AI person bias, suggesting that implicit evaluations towards AI mascots operate from similar implicit negative evaluations towards AI people. These results suggest that people in our sample did not distinguish between their feelings toward AI mascots and their feelings toward AI people. AI mascots were perceived as essentially equivalent to AI people.

STUDY 2

The results of Study 1 suggest that non-AI people perceive AI mascots as interchangeable with AI people. Although demonstration of this cognitive association is important, the larger issue is whether this association does in fact result in negative consequences for AI people. Study 2 was designed to test this possibility. Specifically, Study 2 sought to extend these results by examining if people's implicit stereotype bias towards AI mascots can be used to predict their stereotyping of an AI individual. If non-AI people perceive AI mascots and AI people as interchangeable, then we would expect individuals with a negative stereotype bias towards AI mascots to also demonstrate this negative bias when making judgments about an AI individual. To test this possibility, we examined whether people with a negative implicit bias towards AI mascots would be more likely to negatively stereotype a fellow AI student.

Method and Participants

Participants were 42 (25 male, 17 female) Caucasian students recruited from undergraduate psychology courses at the same university. Participants ranged in age from 18 to 31 (M = 21, SD = 2.6). The majority of participants had a parent with a college degree (47.6%). Additionally, 28.6% of participants had a parent with a post-graduate degree, 19% had some college, 31% completed high school, and 2.4% had a parent complete middle school.

Procedures and Measures

The procedures and materials used in this study were modeled after a commonly used measure of stereotypical judgments (Amodio & Devine, 2006; Study 3). The study consisted of two sessions that were spaced two weeks apart. Participants completed the independent variable measures during the first session and completed the dependent variable measures during the second session.

Session 1

Participants first completed a demographics questionnaire that assessed their age, gender, race, and socioeconomic background. Next, participants completed an attitude survey and an IAT task. The order of these two measures was counterbalanced, with half of the participants completing the attitude survey before the IAT, and half completing it after. Following completion of the first session of the study, they were scheduled for the second session and released.

Attitudes survey

One concern regarding the results from Study 1 was that people who held a social aversion to the *use* of AI mascots would demonstrate a negative IAT bias indistinguishable from those who

instead held a negative bias towards AI mascots, per se. To address this concern, we embedded a single item ("The use of Indian mascots is offensive") into a larger self-report measure of general attitudes towards various social issues (e.g., affirmative action). Responses were made using a rating scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Participants were eliminated from the primary analyses if they reported that they either *agree* or *strongly agree* (4 or 5 on the scale) that the use of AI mascots is offensive. This was done to decrease the probability of negative emotions being detected by the IAT that were due to participants perceptions of AI mascots as a socially offensive practice.

AI Mascot IAT

Because this study was concerned with stereotyping, rather than general negative attitudes, we created a different version of the IAT. Unlike the IAT in Study 1, which assessed people's general negative or positive feelings towards AI mascots, this study used an IAT that assessed people's negative or positive *stereotypes* of AI mascots that were based on typical descriptors of AI people. In this way we could examine the extent to which stereotypes of AIs are implicitly associated with AI mascots.

These stereotypical attributes were determined from two separate surveys pre-tested on introductory psychology students at the same university. The first survey was given to 125 students and consisted of 48 stereotypes that could be used to describe a person. The stereotypes included an equal number of both positive and negative attributes. Respondents were instructed to circle the words on the list that best described stereotypes of AIs. The second survey, given to 40 students, comprised the most frequently chosen negative stereotypes and least frequently chosen positive stereotypes of AIs from the first survey, as well as an additional stereotype (*educated*) from Amodio and Devine (2006). Participants rated the favorability of each stereotypical trait on a Likert scale ranging from 1 = *low* to 7 = *high*. Results indicated that the six most unfavorable traits were *worthless*, *freeloader*, *fat*, *poor*, *lazy*, and *dirty*, and the six most favorable traits were *smart*, *healthy*, *responsible*, *educated*, *clean*, and *successful*.

The basic structure of the IAT task in Study 2 was identical to the AI Mascot IAT used in Study 1; however, instead of using evaluative words to assess general positive or negative associations with mascots, this IAT used specific stereotypes derived from pre-test surveys to assess stereotypical associations with mascots. The six AI mascots and six Caucasian mascots were the same as those used in Study 1.

Session 2

Twenty-seven participants returned to complete their individual second session. The returning participants ranged in age from 18 to 31 ($M = 21$, $SD = 2.8$). They were informed that the purpose of the study was to examine how well they work on tasks as individuals and with a partner. Following a procedure similar to Amodio and Devine (2006; Study 3), participants were led to believe that they would be interacting with a same-sex AI partner on tasks involving tests of academic (verbal and mathematic) and nonacademic (general culture and environmental issues) knowledge. The purpose of this task was to assess whether the non-AI participants would judge their AI partner in a stereotypical manner.

When participants arrived, the experimenter informed them they would be completing paperwork separately from their partner and gave them the name of their partner. Participants were informed that, while they waited for their partner to arrive, they could start on the first part of the task.

Next, participants were given the following instructions:

> We're studying people's abilities to cooperate with another person on some tasks assessing different types of general knowledge. You and a partner are going to complete a set of tasks, and then your combined score on these tasks will be compared with other teams who are in this study. You should try your best on these tasks, because the teams with the top five combined scores will be entered into a drawing for $100 each.

The experimenter then exited the room ostensibly to see if the partner had arrived while participants rated their own abilities in various areas, including math and verbal skills, and their knowledge of general cultural and environmental issues. After a few minutes had passed, the experimenter returned to the room and told participants that their partner had arrived and was completing his/her questionnaires. Participants were then given a personal information sheet with the partner's name (Joe Tallchief/Joanna Tallchief), race (AI), age (19), and year in school (sophomore). Participants were asked to provide their own personal information underneath the partner's information.

The experimenter then commented that the session was running behind schedule and gave the following instructions:

> To save time, I'm going to have you decide which tasks you'll do and which your partner will do. Then we'll all go to the main testing room. Remember, you want to choose tasks for yourself and your partner that will give you the best combined score,

not just so that only you or he/she will do well. There are 2 different tasks consisting of academic and nonacademic knowledge: One has questions from the math SAT and verbal SAT, and the other has questions about general cultural knowledge and environmental issues.

Participants were then asked to rate their expectations of their partner's enjoyment on these four tasks (i.e., math test, verbal test, cultural knowledge test, and environmental issues knowledge test). Ratings were made using a scale ranging from 1 = *not at all* to 9 = *very much*. Ratings for the math and verbal tasks (r = .44, p = .02) were averaged to create a stereotype-inconsistent composite score; ratings for the culture and environment items (r = .78, p = .001) were averaged to create a stereotype-consistent composite score. Participants were then debriefed for both sessions of the experiment and were given a full explanation of the experiment and procedures before being dismissed.

RESULTS

IAT Results

Forty-two participants arrived for the first session of Study 2. Seven of these participants answered *agree* (rating of 4) or *strongly agree* (rating of 5) to the question, "The use of Indian sports mascots is offensive" and were removed from all primary analyses, resulting in a final sample size of 35 for Session 1.

The AI Mascot IAT results from the first session indicated that response latencies were significantly faster for compatible judgment combinations (876 ms) compared to incompatible judgment combinations (1030 *ms*), F (1,33) = 21.2, p = .001 (D = .20, η^2 = .38). Thus, similar to Study 1 results, most participants were more likely to implicitly associate negatively stereotypical words with AI mascots relative to Caucasian mascots.

In the sample of participants who returned for the second session of Study 2 (n = 27), results also indicated a negative implicit bias toward AI mascots relative to Caucasian mascots (D = .14, η^2 = .30), F (1, 25) = 11.4, p = .002. Response latencies were significantly faster for compatible judgment pairings (891 ms) compared to incompatible judgment pairings (1012.6 *ms*).

Stereotypical Expectations Results

Implicit negative stereotyping of AI mascots on the IAT was not related to greater perceived partner enjoyment on the stereotype-inconsistent tasks (i.e., mathematics, verbal), $r = -.07$, $p = .72$. However, this implicit stereotype bias was related to greater perceived partner enjoyment on the stereotype-consistent tasks (i.e., culture, environmental issues). Pearson's zero-order correlation revealed a significant relationship between biased AI Mascot IAT performance (*D*) and expected partner enjoyment on non-academic tasks, $r = .39$, $p = .04$.

GENERAL DISCUSSION

The present set of studies utilized the IAT (Greenwald et al., 1998) to examine implicit attitudes toward AI mascots, AI people, and the connection between these two. Similar to other IAT studies that focused on bias towards African Americans or women (e.g., Amodio & Devine, 2006; McConnell & Leibold, 2001; Nosek, Greenwald, & Banaji, 2005; Ottaway et al., 2001), Study 1 demonstrated that non-AI individuals hold a negative implicit bias toward people of AI descent, relative to people of European American descent. Furthermore, Study 1 extended the use of the IAT to the topic of sports mascots, and demonstrated that non-AI individuals also hold a negative implicit bias toward AI mascots, relative to Caucasian mascots. Study 1 also demonstrated a significant link between AI mascot and AI person bias among participants. Importantly, after controlling for participants' negative bias on the AI Person IAT, the AI Mascot IAT bias effect was no longer present.

The demonstration of a negative bias towards AI mascots is important because it casts doubt on the claim that such mascots genuinely exist as positive characterizations of AI people and culture. Despite outward claims that AI mascots reflect honorable representations of AI people, our data reveal that non-AI people tend to evaluate AI mascots more negatively than Caucasian mascots on an implicit level. Furthermore, the fact that we found a robust relationship between implicit bias towards AI mascots and AI people in Study 1 indicates that AI mascot names serve the same function as actual names of AI tribes in eliciting negative attitudinal biases. Given this strong negative bias that non-AI people have towards both AI mascots and AI people, it is difficult to defend the use of AI mascot images as truly positive, honorable representations of AI people.

Importantly, Study 2 demonstrated that this automatic association between AI mascots and AI people can result in negative consequences for AI individuals. Specifically, this study showed that people's level of implicit bias towards AI mascots in fact predicts how they will perceive an AI partner. Results demonstrated that participants with a negative stereotype bias towards AI mascots were more likely to assume their AI partner would enjoy non-academic tasks (i.e., cultural and environmental tasks). Thus, people who held a stronger negative bias towards AI mascots were also

more likely to perceive their AI partner in a stereotypical manner. Although our methodology could have contributed to a negative attitude towards the partner in Session 2, it does not detract from our primary finding. In other words, if our methodology inadvertently created a negative perception toward the partner (e.g., tardiness), it presumably occurred for all participants and therefore would not have covaried with the predictor variables in the study. Taken together, the results of these two studies suggest that people's evaluations of AI mascots and AI people are a function of a common underlying negative bias and result in stereotypical expectations of AI people.

Our explanation of the IAT data suggests a negative implicit bias toward AI mascots; however, alternative accounts deserve consideration. First, it is possible that the shorter response latencies for compatible judgment categories (e.g., *Caucasian Mascot or Pleasant*; *Native Mascot or Unpleasant*) were due to participants' greater familiarity with and subsequent favorability for in-group (i.e., Caucasian) stimulus items. Although this explanation is plausible, several studies have indicated that the familiarity bias cannot account for the majority of IAT findings (e.g., Dasgupta, Greenwald, & Banaji, 2003; Dasgupta, McGhee, Greenwald, & Banaji, 2000; Ottaway et al., 2001). Further, the mascot stimuli used in the present studies represented the most popular (i.e., most frequently listed) Caucasian and AI mascots derived from a pre-study survey conducted at the same institution with a similar college sample; therefore, it is unlikely that participants listed AI mascots on that survey that were both popular and unfamiliar. It is equally doubtful that the AI mascots generated were familiar to the survey sample but were unfamiliar to the samples examined in the present studies. Thus, it is unlikely that our results merely reflected a positive association with Caucasian mascots due to greater familiarity with the target stimuli.

Second, the nature of the IAT does not allow us to determine whether AI mascots were evaluated negatively in an *absolute* sense, or merely evaluated negatively *relative to* Caucasian mascots. It could be argued that our results reflected positive evaluations of Caucasian mascots in the absence of any negative evaluation of AI mascots. For example, it is possible that both Caucasian and AI mascots were evaluated favorably; however, participants merely evaluated Caucasian mascots more favorably. In other words, although our interpretation (i.e., negative bias towards AI mascots) is supported by the observed IAT effects, it is also possible that a *relative* difference in evaluation of the two types of mascots could have yielded the same results (see Blanton & Jaccard, 2006; Brendl, Messner, & Markman, 2001). Future studies exploring the mascot issue should employ different measures of implicit social cognition that do not utilize complementary categories (i.e., compatible vs. incompatible) and/or do not utilize response latencies to assess automatic associations (e.g., *Affect Misattribution Procedure*; Payne, Cheng, Govorun, & Stewart, 2005, *Go/No-Go Association Test*; Nosek & Banaji, 2001; *Single Category Implicit Association Test*; Karpinski & Steinman, 2006). Because these measures do not rely exclusively on the calculation of response time difference scores

in determining the presence or absence of biased implicit cognition, they allow for a more precise examination of the associative strength between evaluative attributes and individual target concepts.

Regardless of absolute positive or negative evaluation of target groups, however, the relative differences in target evaluation observed in the present studies have important implications. Although we did not assess actual social interactions in this investigation, we did observe a significant association between negative stereotype bias toward AI mascots and stereotype-consistent expectations of a fellow student. In addition, previous studies indicate that relative differences on the IAT are predictive of untoward behavioral transactions between members of racially dissimilar groups (e.g., Amodio & Devine, 2006; Florak, Scarabis, & Bless, 2001; Hugenberg, & Bodenhausen, 2003, 2004; McConnell & Leibold, 2001; Rudman & Ashmore, 2007). Future studies should examine additional behavioral and/or social products of negative implicit biases toward AI mascots.

Finally, we interpreted our data to suggest that the observed negative associations were based on negative evaluations of both AI mascots and AI people based on antipathy or dislike. However, it is also possible that our data reflect egalitarian negative associations emanating from participants' identification with the historical plight and hardships of AIs (cf. Uhlmann, Brescoll, & Paluck, 2006). To illustrate, all implicit measures of social cognition are limited by their ability to ascertain only the sum total of negative and positive associations with target objects. They do not possess the inferential complexity necessary to tell us the specific source of negative affect associated with the target (Payne, Burkley, & Stokes, 2008). Thus, it could be that the negative implicit associations observed across our studies actually represent a negative, albeit egalitarian, association on the part of participants between AIs and historical oppression, subjugation, and maltreatment.

Although this alternative explanation is feasible, it is unlikely that AI mascots are adopted by non-AI institutions because of a genuine desire to identify with the totality of AI culture and history characterized by genocide, forced removal, and land expropriation (Springwood, 2004). It is more likely that non-AI people genuinely believe they are identifying with AI culture, when in fact they are selectively identifying with inauthentic *pseudo-Indian* imagery (e.g., the noble savage) that emanates from a more romanticized version of the struggles endured by AIs on this continent (King, 2004). This is probably why many people—including the overwhelming majority of participants in Study 2—do not deem the use of AI mascots as offensive and genuinely believe they are honoring AIs with mascot images.

These considerations notwithstanding, the present studies provide empirical evidence of negative implicit attitudinal bias toward both AI mascots and AI people. Indeed, our data revealed consistent tendencies on the part of participants to demonstrate robust negative implicit biases toward AI mascots, relative to Caucasian mascots (Study 1 and 2), even in the presence of favorable explicit evaluation of AI mascots (Study 2). Further, the results indicated that AI person bias accounted

for a significant portion of the observed bias towards AI mascots. Whereas previous research has highlighted the potential negative impact of these mascots on AI people (Fryberg et al., 2008), the present data are unique because they empirically demonstrate that at an implicit level, non-AI people do not perceive AI mascots as positive representations of AI people. Our finding that negative stereotype bias towards AI mascots predicted stereotyping of an AI *person* also suggests that negative attitudinal biases towards these mascot images have meaningful social implications.

Our data also revealed that non-AI people do not perceive a distinct difference between AI mascot imagery and actual AI people—they perceive them in a negative light and as essentially interchangeable. In essence, our data suggest that these AI images are not *just mascots*, but may be emblematic of larger subjugating narratives regarding AI people. Many scholars have argued that AI mascots are so deeply entrenched in American society that, for non-AI people, these inauthentic representations define what it means to be AI (e.g., Farnell, 2004; King, 2004; Pewewardy, 2004). The present studies provide the first empirical evidence to support these claims. Our results indicate that portrayals of AI mascots operate at a similar cognitive level as do actual AI people. For many non-AI people, AI mascots and AI people are one and the same.

This perception that AI mascots are equivalent to AI people may make it difficult for non-AI people to understand the efforts to eliminate these stereotypical mascot caricatures (see Phelan & Rudman, 2010; Staurowsky, 2007; Steinfeldt et al., 2010). Our results offer insight into one reason why non-AI people can be so resistant to the idea of retiring AI mascot imagery. It is our hope that the present studies and further research on this topic will illuminate the social and psychological issues related to AI mascots and will bring a degree of scientific legitimacy to the examination of AI mascots that is long overdue.

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