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ETHNIC IDENTITY AS A MODERATOR OF INGROUP BIAS

A Thesis

Presented to

The Faculty of the Department of Psychology

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Katie Stokes-Guinan

May 2010

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The Designated Thesis Committee Approves the Thesis Titled

ETHNIC IDENTITY AS A MODERATOR OF INGROUP BIAS

by

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APPROVED FOR THE DEPARTMENT OF PSYCHOLOGY

SAN JOSÉ STATE UNIVERSITY

May 2010

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ABSTRACT

ETHNIC IDENTITY AS A MODERATOR OF INGROUP BIAS

by Katie Stokes-Guinan

This thesis replicated and extended work by Perdue, Dovidio, Gurtman, and Tyler (1990) by priming 132 Asian, Hispanic, and White participants with ingroup and outgroup designators outside of conscious awareness before asking them to make judgments about positive and negative trait words. While bias patterns were similar for participants from all three ethnic groups, they were different among individuals with high and low scores on a measure of ethnic identity (the Multigroup Ethnic Identity Measure by Phinney, 1992). Specifically, participants with high ethnic identity scores demonstrated ingroup bias along ethnic lines, while participants with low ethnic identity scores did not. Results partially support social identity theory, since participants that identified more with their ethnic groups also demonstrated more ingroup bias.

ACKNOWLEDGMENTS

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Finally, I wish to recognize my husband, Frank Stokes-Guinan, who has provided unwavering support during my time in graduate school and without whom my journey would have been much more difficult. I am much indebted to him for his love and encouragement.

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Introduction

Much of the research in social psychology has demonstrated that people are generally biased in favor of groups to which they belong over groups to which they do not belong, a phenomenon known as ingroup bias (Tajfel & Turner, 1986; Dovidio & Gaertner, 1986; Perdue, Dovidio, Gurtman, & Tyler, 1990). The opposite of ingroup bias is outgroup bias, or a preference for groups one does not belong to. Ingroup bias is manifested in a variety of ways, such as recalling more negative than positive behaviors performed by an outgroup (Corenblum, 2003); evaluating a behavior more positively when performed by an ingroup member than an outgroup member (Schruijer et al., 1994); providing greater rewards to ingroup members (Tajfel, 1970; Tajfel & Turner, 1986); and attributing negative behaviors performed by an outgroup member to internal, dispositional factors while attributing negative behaviors performed by an ingroup member to external, situational factors (Sherman & Kim, 2005). Ingroup bias can appear in groups of almost any type. For example, ingroup bias has been found in groups formed on the basis of dot perception (Tajfel, 1970), color perception (Simon & Brown, 1987), college major (Judd, Ryan, & Park, 1991), and political affiliation (Lindeman, 1997). This study focuses on ingroup bias that manifests itself along ethnic lines.

Ingroup bias among Whites

Most research on ethnic ingroup bias has been conducted with White participants, and has typically demonstrated that Whites show a preference for their own group (Tajfel, 1970; Tajfel & Turner, 1986; Sidanius, Van Laar, Levin, & Sinclair, 2004). This preference appears to manifest itself early in life. By age five, White children strongly

prefer their own ethnic group to other ethnic groups, although this bias decreases around age seven as children develop new cognitive skills (Clark, Hocevar, & Dembo, 1980; Aboud, 2003). In White adults, ingroup preference has been found using both implicit measures (Perdue et al., 1990) and explicit measures (Taylor & Moriarty, 1987), and has been demonstrated in a variety of situations, including stereotype ratings (Buriel & Vasquez, 1982; Cheryan & Monin, 2005), hiring decisions (Dovidio & Gaertner, 2000), and helping behaviors (Gaertner & Dovidio, 1977).

One limitation of the extant research on ethnic ingroup bias is that it has focused so heavily on Whites. Further, the few studies that have looked at ingroup bias among minorities have found contradictory results regarding whether, or under what conditions, members of minority groups demonstrate ingroup bias similar to Whites.

Evidence for minority ingroup bias

There is evidence in the United States and abroad that minorities demonstrate ingroup bias. For example, Blacks, Latinos, and Asians at a southern California university all demonstrated a preference for dating partners from their own ethnic groups over dating partners from other ethnic groups (Liu, Campbell, & Condie, 1995). When asked to review a resume of either a Black or a White candidate, Blacks used more self-serving attributions – explanations that attribute one's successes to internal, dispositional factors rather than external, situational factors – to explain negative behavior performed by an ingroup member than an outgroup member (Chatman & von Hippel, 2001). Similarly, Turkish children in the Netherlands – where they are part of a discriminated against minority – used more self-serving attributions when trying to

explain the negative behavior of an ingroup member than when explaining the negative behavior of an outgroup member (Verkuyten, 2003). Finally, people of African and Asian ancestry living in Quebec rate facial expressions as happier when seen on an ingroup member than on an outgroup member (Beaupreé & Hess, 2003).

One theory that has been widely used in the literature to explain the phenomenon of ingroup bias is social identity theory (Tajfel, 1970; Tajfel & Turner, 1979; Tajfel & Turner, 1986). This theory asserts that people are motivated to favor their ingroups over their outgroups in order to maintain or enhance their self-esteem. Because of this, anything that threatens the ingroup may lead to increased identification with the ingroup, and therefore more ingroup bias. In fact, minorities are more likely than members of the majority group to suffer insults on the basis of their race or nationality (Jensen, White, & Galliher, 1982). According to social identity theory, then, the increased threats faced by minorities should mean that minorities are more identified with their ingroups, and therefore more prone to displaying ingroup bias. Because the dominant group in the United States (i.e., Whites) typically holds Asians and Hispanics in lower regard than Whites (Jensen et al., 1982), social identity theory predicts that these groups should show equal or greater ingroup bias than Whites. At the same time, many of the stereotypes associated with Asians, such as intelligent (Collins, Crandall, & Biernat, 2006) and hardworking (Yu, 2006), are positive. Hispanics, on the other hand, are subjected to more negative stereotypes, such as violent, uneducated (Buriel & Vasquez, 1982), or criminal (Niemann, Jennings, Rozell, Baxter, & Sullivan, 1994). Following social identity theory, then, we might predict that Hispanics would show greater ingroup bias

than Asians, as the group identity of Hispanics is subject to greater threats from the dominant White American culture.

Evidence for minority outgroup bias

There has been little research conducted in the U.S. using ethnic minority group members as participants, and most of that research has shown that minorities do indeed demonstrate ingroup bias, or preference for their own ethnic group. Other research, however, has found that minorities show outgroup bias, or preference for other ethnic groups. This research has tended to fall into one of two categories: Either the research used children as subjects, or the research used implicit rather than explicit measures to examine bias.

Work with children has often shown that minorities tend to view themselves through the same stereotyped lenses as the dominant group views them. For example, Sagar and Schofield (1980) presented Black and White children with a series of drawings showing a child engaged in an ambiguous behavior. When the target child in the picture was Black, both White and Black subjects labeled the behavior as more aggressive and threatening than when the target child was White. Another study asked children 5 to 7 years of age to assign positive and negative labels to either Black or White dolls. It found that some Black children appear to have a pro-Black bias, some appear to have a pro-White bias, and others are neutral (see Aboud, 1988, for a review).

In minority adults, who are savvier and may be reluctant to openly say something negative about their own group, there appears to be a disconnect between what they will explicitly report feeling about their ingroup and what implicit measures of their attitudes

reveal. For example, on an explicit measure of ethnic preference, Blacks reported much stronger liking of Blacks than of Whites. However, their attitudes as measured using an implicit association test showed a slight preference for Whites over Blacks (Nosek, Banaji, & Greenwald, 2002). Other evidence of this implicit bias has been found in a study using a video game to look at people's willingness to "shoot" potentially threatening individuals. Both Black and White subjects were quicker to shoot armed Black targets than armed White targets, and quicker to *not* shoot unarmed White targets compared to unarmed Black targets (Correll, Park, Judd, & Wittenbrink, 2002). One explanation for these findings is that Blacks, in explicit measures, want to be seen as supporting their own group. However, at a subconscious level they may have internalized the ubiquitous cultural messages that link "White" to "good" and "Black" to "bad," leading them to implicitly prefer Whites. Like Blacks, Asians and Hispanics are similarly subjected to stereotypes and relegated to practical non-existence in a mass media that promotes White as the norm (Perry, 2007). Thus, one could reasonably predict that implicit measures of bias would show that Asians and Hispanics demonstrate less ingroup bias than Whites, and possibly more outgroup bias than ingroup bias. Further, we might expect greater ingroup bias among Asians than Hispanics because Asians have a more positive position in U.S. society than Hispanics. Alternatively, using an implicit design we may even expect to see outgroup bias in both groups, but the bias may be more pronounced in Hispanics than Asians.

Ethnic group identification as a moderator of ingroup bias

One factor that may moderate ingroup bias and help to explain the conflicting findings on minority bias patterns is level of *ethnic group identification* (Brown, 2000).

For instance, Corenblum (2003) looked at measures of bias between two samples of Native Canadian children. The Native Canadian children living in a major urban city and attending mostly White schools showed patterns consistent with outgroup bias. However, the Native Canadian children living on a First Nation reserve who had little contact with Whites showed clear ingroup bias. While Corenblum did not explicitly measure their levels of ethnic identification, it may be that the Native Canadian children living on the reserve where their culture was celebrated and highlighted on a daily basis had higher levels of ethnic identification than the Native Canadian children living among majority Whites.

In the U.S., minority children who identify themselves as more "ethnic" than "American" show significantly higher levels of ingroup bias than minority children who identify themselves as more "American" than "ethnic" (Pfeifer et al., 2007). Similarly in adults, ethnic identity is positively related to ingroup bias. Among four ethnic groups on a major university campus in Southern California, the more strongly individuals identified with their own ethnic group, the more strongly they demonstrated ingroup bias (Sidanius et al., 2004). Verkuyten (2003) similarly found that ethnic identification moderated youths' attitudes toward bullies in a brief vignette; youths with high ethnic identification scores demonstrated less negative attitudes toward the ingroup perpetrator than participants with low ethnic identification scores.

Group identification has also been found to moderate bias patterns in groups formed on bases other than ethnicity. Smurda, Wittig, and Gokap (2006) measured college students' identification with their university to determine level of group

identification, then asked students to read a news article about their school that showed the school in either a good or bad light compared to a rival school. The social self-esteem of students with high group identification suffered under conditions of high threat to their social group, and high identifiers made significantly more ingroup serving attributions to explain the information in the story.

Ingroup bias among Asians and Hispanics

The majority of the research on ethnic bias conducted in the U.S. has used only White or, occasionally, Black subjects. Very few studies have included participants from the other ethnic groups that make up an increasingly large percentage of the U.S. population (Fiske, 1998), although there are exceptions (e.g., Liu et al., 1995). In 2008, the racial and ethnic make up of the U.S. population was 65.6% White (non-Hispanic), 15.4% Hispanic, 12.8% Black, and 4.5% Asian (U.S. Census Bureau, 2009a). Some states, such as California, have populations that are much more diverse than the country as a whole. In 2005, for example, 42.3% of California's population was White (non-Hispanic), 36.6% was Hispanic, 12.5% was Asian, and 6.7% was Black (U.S. Census Bureau, 2009b). This points to a clear need to look beyond Blacks and Whites when measuring ingroup bias, and to pay particular attention to bias patterns in groups such as Asians and Hispanics that have been underrepresented in past studies.

Ultimately, this study aims to address three research questions. First, do ethnic minority groups, specifically Asians and Hispanics, show ingroup bias in the same way as the ethnic majority (i.e., Whites)? Second, do ethnic minority groups demonstrate ingroup bias similarly to one another? In other words, do Asians show ingroup bias in

the same way as Hispanics? Third, does strong identification with one's ethnic group increase ingroup bias?

Study overview

The present study was particularly influenced by the work of Perdue et al. (1990), who used a technique for studying ingroup bias that involved priming participants outside of their conscious awareness with ingroup and outgroup designators. The ingroup and outgroup primes were the words *we* and *they*, and a neutral prime, *xxx*, was included for comparison purposes. Perdue et al. presented the primes on a computer screen in such a manner that participants were not aware of their presence. After presentation of the prime, participants indicated whether a series of traits could be used to describe a person. Of those traits that could describe a person, half were positive traits and half were negative traits. Perdue et al. found that participants subconsciously primed with an ingroup prime were quicker to respond to positive person traits than participants subconsciously primed with an outgroup or neutral prime. They argued that this was evidence of ingroup bias.

However, one limitation of their design was that it was not possible to know who or what participants were comparing themselves to when they saw the ingroup and outgroup designating group primes *we* and *they*. In other words, we cannot know what ingroup participants were considering as they made their responses, such as members of their same gender, school, athletic team, or ethnic group. The present study extended the methodology developed by Perdue et al. (1990) to address issues of ingroup bias along ethnic lines. This was accomplished by replacing the ingroup and ougroup designating

group primes *we* and *they* with the ethnic labels *Asian*, *Hispanic*, and *White*. By limiting the participants to members of these three ethnic groups, all participants responded to primes that indicated an ethnic ingroup (e.g., when an Asian person responded to the *Asian* prime) and all participants responded to primes that indicated an ethnic outgroup (e.g., when an Asian person responded to the *Hispanic* and *White* primes). This design allowed for any differences in participants' responses to be attributed to ethnic biases. If ingroup primes facilitated responses to positive traits and/or outgroup primes facilitated responses to negative traits, this would provide evidence of ingroup bias on the basis of ethnicity.

In addition, participants completed the Multigroup Ethnic Identity Measure (Phinney, 1992) in order to assess the strength of their ethnic identification. Participants' ethnic identity scores were analyzed to see if strength of ethnic identification is related to ingroup bias on ethnic lines.

Predictions

The first research question asks whether Asians and Hispanics will show ingroup bias in the same way as Whites. As discussed above, the evidence indicates that Whites virtually always show ethnic ingroup bias favoring their own group. The evidence on ingroup bias for minorities, however, is mixed. Studies using an explicit methodology have generally found ingroup bias among minorities, while studies using an implicit methodology have often shown outgroup bias. Because the present study uses an implicit design to elicit attitudes toward members of various ethnic groups, my first hypothesis is

that Asians and Hispanics will at the very least show less ingroup bias than Whites, and possibly even demonstrate outgroup bias.

The second research question asks whether Asians and Hispanics will show ingroup bias in the same way as each other. Outgroup bias may occur because individuals internalize cultural message about which groups are “good” and which groups are “bad.” Because cultural stereotypes about Asians in the U.S. tend to be more positive than cultural stereotypes about Hispanics, I hypothesize that Hispanics will demonstrate either less ingroup bias or more outgroup bias than Asians.

The third research question addresses whether ethnic identification is related to ingroup bias. Based on past studies showing a positive relationship between ethnic identification and ingroup bias, I hypothesize that ethnic identity will moderate ingroup bias; thus, participants with higher ethnic identification scores will show more pronounced patterns of ingroup bias (and/or less pronounced patterns of outgroup bias) than participants with low ethnic identification scores.

Methods

Participants

A total of 155 undergraduate students attending San Jose State University – a racially and ethnically diverse campus – were recruited to participate in the study. All participants received partial course credit for their participation. Nearly two-thirds of the participants were female (68.39%). The vast majority (90.97%) of the participants were between the ages of 18 and 22, and the remaining participants were between 23 and 47.

Design

This study both replicates and extends the study by Perdue et al. (1990). Thus, the current study incorporates both the group primes (we, they) used by Perdue et al. and ethnic primes (Asian, Hispanic, White) used to test for ingroup bias along ethnic lines. The study uses a 3 (Participant ethnicity – Asian, Hispanic, and White) x 2 (ethnic identity score – above average, below average) x 3 (group prime – we, they, and xxx) x 4 (ethnic prime – Asian, Hispanic, White, or Xxxxxx) x 2 (trait – positive or negative) mixed-factorial design, with participant ethnicity and ethnic identity score as between-subjects factors and primes and traits as within-subjects factors. The dependent variable was response time to indicate whether the traits presented could describe people.

Procedure

Implicit test of ingroup and outgroup associations. Participants were told that the purpose of the experiment was to study how quickly and accurately people categorize objects and persons. Upon entering the lab, their first task was to participate in an activity designed to measure implicit associations between ingroup and outgroup designators and

positive and negative traits. The implicit associations part of the study was conducted on a computer using E-Prime software. Following Perdue et al. (1990), participants were seated so that the distance from their eyes to the center of the computer monitor was 56 cm. This distance was calculated to allow for presentation of the priming stimuli outside of the participant's foveal visual field. The goal was to ensure that participants would register the prime subconsciously without being explicitly aware of its presentation.

	Phase 1 (75 ms)		**Phase 2 (250 ms)**		**Phase 3 (250 ms)**		**Phase 4 (<2000 ms)**
	Present prime	⇒ no delay	**Present category designator**	⇒ 250 ms delay	**Present trait**	⇒ 250 ms delay	**Wait for participant response**
Example from group primes trials	we they xxx brick		PPPPPP HHHHHH		Good Bad Kind Cruel Trustworthy Untrustworthy Airy Drafty Metallic Roomy Spacious Vacant		*f* or *j* key
Example from ethnic primes trials	White Asian Hispanic Brick		PPPPPP HHHHHH		Good Bad Kind Cruel Trustworthy Untrustworthy Airy Drafty Metallic Roomy Spacious Vacant		*f* or *j* key

Figure 1. Experiment procedure.

Participants responded to 48 group primes trials and 60 ethnic primes trials. Half of the participants received the group primes trials first and half received the ethnic primes trials first. Both the trials involving group primes and the trials involving ethnic primes consisted of the same four phases: (1) a priming phase, (2) a category designator phase, (3) a trait word presentation phase, and (4) a response phase. These phases are illustrated in Figure 1.

During the priming phase, a priming word was flashed for 75 ms at a location on the computer monitor so that the center of the word was 3.6 cm from the fixation point. Perdue et al. (1990) showed that when using this procedure, subjects were not consciously aware of the prime. The purpose of this phase was to subconsciously induce participants to think of an ingroup or an outgroup with the assumption that it would impact their response to a trait word. Toward that end, during the group primes trials the relevant priming words that flashed on the screen included *we*, *they*, and *xxx*. During the ethnic primes trials, the relevant priming words that flashed on the screen were *White*, *Asian*, *Hispanic*, and *Xxxxxx*. During both types of trials, *brick* was also used as a prime, but data from these trials were not analyzed for reasons that will be discussed below. The priming words were the only things that differed between the group and ethnic primes trials; all other parts of the experiment procedures were identical between both types of trials.

The second phase of the experiment involved masking the prime by immediately replacing it with a category designator for 250 ms. There were two types of category designators: PPPPPP representing the category of *person*, and HHHHHH representing the category of *house*. The person category designator always followed a person-relevant

prime (i.e., we, they, White, Asian, Hispanic) or a neutral prime (i.e., xxx, Xxxxxx), while the house category designator always followed a house-relevant prime (i.e., brick).

Following the category designator phase, there was a 250 ms delay before the start of the trait word presentation phase. During this phase, a trait word appeared on the screen for 250 ms in the same location as the category designator. The trait words were drawn from Perdue et al. (1990), and consisted of three positive person traits (good, kind, trustworthy), three negative person traits (bad, cruel, untrustworthy), and six house traits (roomy, drafty, spacious, vacant, metallic, airy). Note, however, that some of the person traits could also be used to describe a house (e.g., good, bad). In the final analysis, however, only trials that involved a person prime (i.e., we, they, White, Asian, Hispanic) or a neutral prime (i.e., xxx, Xxxxxx) paired with a person category designator (i.e., PPPPPP) followed by a person trait (i.e., good, kind, trustworthy, bad, cruel, untrustworthy) were analyzed. This left 18 group primes trials and 24 ethnic primes trials to be analyzed. The purpose of including the trials that were not ultimately analyzed, however, was to maintain active decision making by requiring participants to make yes or no decisions.

The fourth phase of each trial involved getting the participants' responses. Participants were asked to press one key if the trait word could ever be used to describe a member of the indicated category and another key if the trait word could not be used to describe a member of that category. After participants registered their response, there was a 2 to 7 second delay before the presentation of the next trial.

To familiarize participants with the procedure, they were first presented with 24 practice trials using categories and trait words that were not part of the main study. No

primes were used during the practice trials, but participants were provided feedback after every response regarding whether they had answered correctly. They were also shown their response times. After the 24 practice trials, participants completed 108 test trials (48 group primes trials and 60 ethnic primes trials) pertaining to all possible prime-category-trait combinations. During the test trials participants were not shown their response times or told whether they had responded correctly.

Multigroup Ethnic Identity Measure. After completing the implicit test of ingroup and outgroup associations, participants filled out the Multigroup Ethnic Identity Measure (MEIM) developed by Phinney (1992). The MEIM includes 12 questions designed to assess degree of ethnic identification. All items are positively worded and are scored on a 4-point Likert-type scale with higher values representing stronger ethnic identity. Scores for the 12 questions are added together to generate an ethnic identity score that can range from a low of 12 to a high of 48. The tool has been shown to have adequate reliability and validity (Phinney, n.d.).

Demographics. Participants responded to several demographic questions to ascertain their ethnicity, gender, and age.

Debriefing questionnaire. Finally, participants completed a paper and pencil debriefing questionnaire to probe for awareness of the primes. On the first page of the questionnaire participants were to freely recall any and all details they could remember about the study. This free response was coded for whether participants spontaneously mentioned seeing the priming words. On the second page, participants were asked directly whether they had noticed the priming words. Finally, participants were asked to

list any priming words they could remember. A copy of the debriefing questionnaire can be found in Appendix A.

Results

Twenty-three participants did not self-identify as White, Asian, or Hispanic, and their data was dropped from the analyses. Thus, the final analytic sample included 132 participants consisting of 50 Asians, 44 Hispanics, and 38 Whites. There were more female participants (68.9%) than male participants (31.1%). The vast majority (91.67%) of participants were between the ages of 18 and 22, and the remaining participants were between 23 and 47.

Primes

In order for the results to indicate something about the influence of subconscious priming with ingroup and outgroup designators, we first need to ascertain whether the primes were indeed presented outside of participants' conscious awareness. In the study by Perdue et al. (1990), less than 1 percent of participants were able to correctly identify any of the priming words. In the present study, the rate at which participants were able to recall priming words from the group primes trials was comparable, as only one participant – or less than 1% of the total sample – reported seeing any of the group primes.

As shown in Figure 2, however, the story was very different for the ethnic primes trials, where 38.64% of participants spontaneously mentioned seeing the ethnic primes and when prodded, nearly half (47.73%) were able to recall an ethnic prime. Specifically, 42.42% percent of participants reported that they had seen the word "Asian," 41.66% reported that they had seen the word "Hispanic," and 37.88% reported that they had seen the word "White." There were no significant ethnic differences in terms of who noticed the priming words and who did not, $F(1, 130) = 01$, $p = .94$.

Further, there were no significant differences in seeing the primes by ethnic identity score, F(1, 130) = 1.92, p = .17.

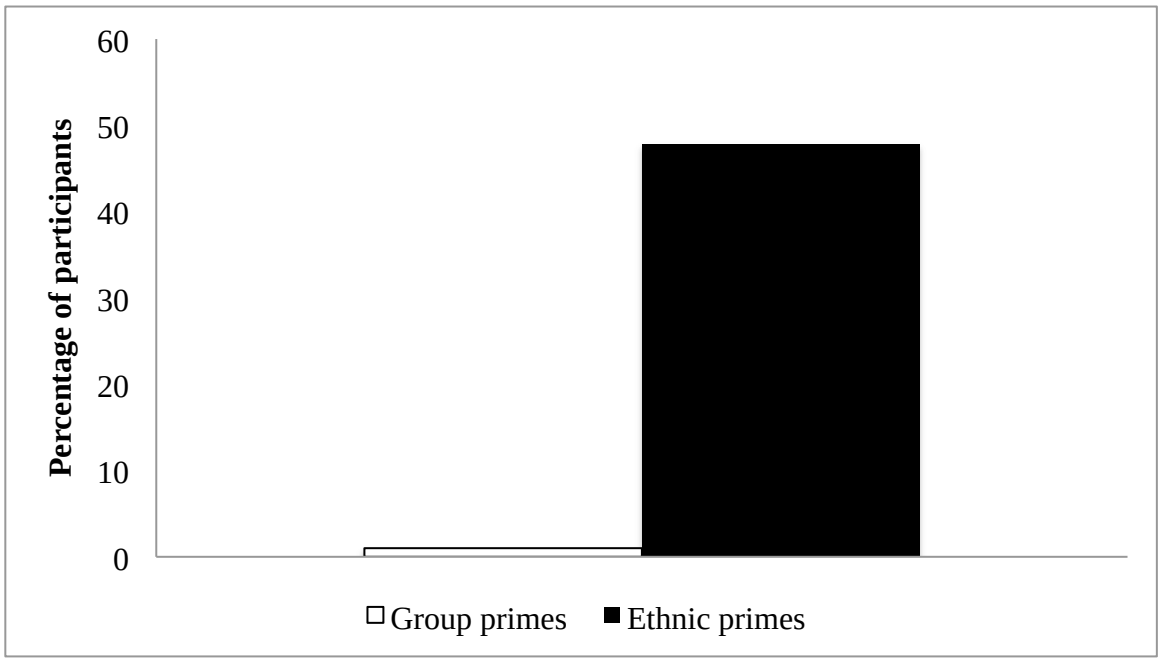

Figure 2. Percentage of participants who reported seeing primes by prime type.

Ethnic identity scores

All participants were assigned an ethnic identity score that was equal to the sum of their responses to 12 questions on the Multigroup Ethnic Identity Measure. Although the possible range of scores was 12 to 48, the actual range of scores obtained by participants was 20 to 47, with an average score of 35.39. As shown in Figure 3, ethnic identity scores were not the same for participants of all ethnic groups, $F(2, 129) = 9.54$, $p < .00$. Post-hoc analyses revealed that Whites ($M = 32.63$, $SD = 4.43$) had significantly lower ethnic identity scores than both Asians ($M = 35.50$, $SD = 5.36$) and Hispanics ($M = 37.66$, $SD =$

5.62). However, Asians' and Hispanics' ethnic identity scores were not significantly different from one another.

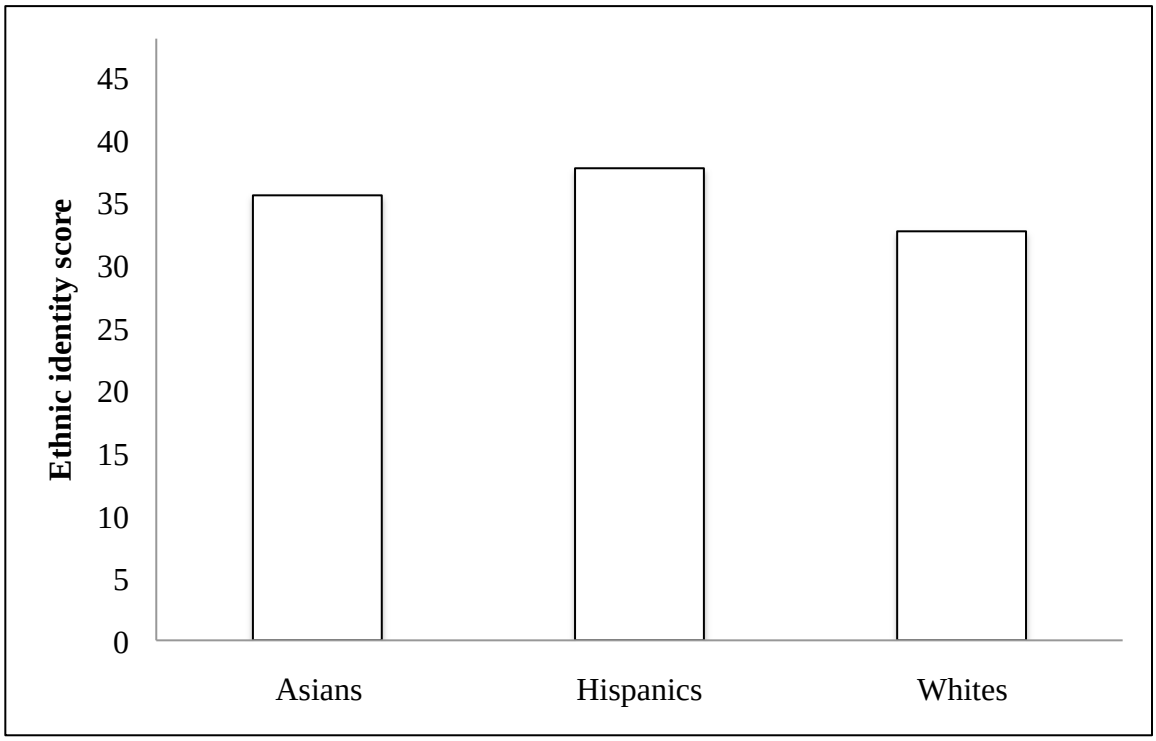

Figure 3. Ethnic identity scores by ethnicity.

Based on how their score compared to the mean ethnic identity score for other participants of their same ethnic group, all participants were divided into one of two groups: above or below average ethnic identity score. As shown in Figure 4, for Asians, the mean scores for the above and below average groups were 39.73 (*SD* = 2.15) and 30.92 (*SD* = 3.74), respectively. For Hispanics, the mean scores for the above and below average groups were 42.70 (*SD* = 2.45) and 33.46 (*SD* = 3.67), respectively. Finally, for

Whites the mean scores for the above and below average groups were 36.32 (*SD* = 2.43) and 28.95 (*SD* = 2.41), respectively.

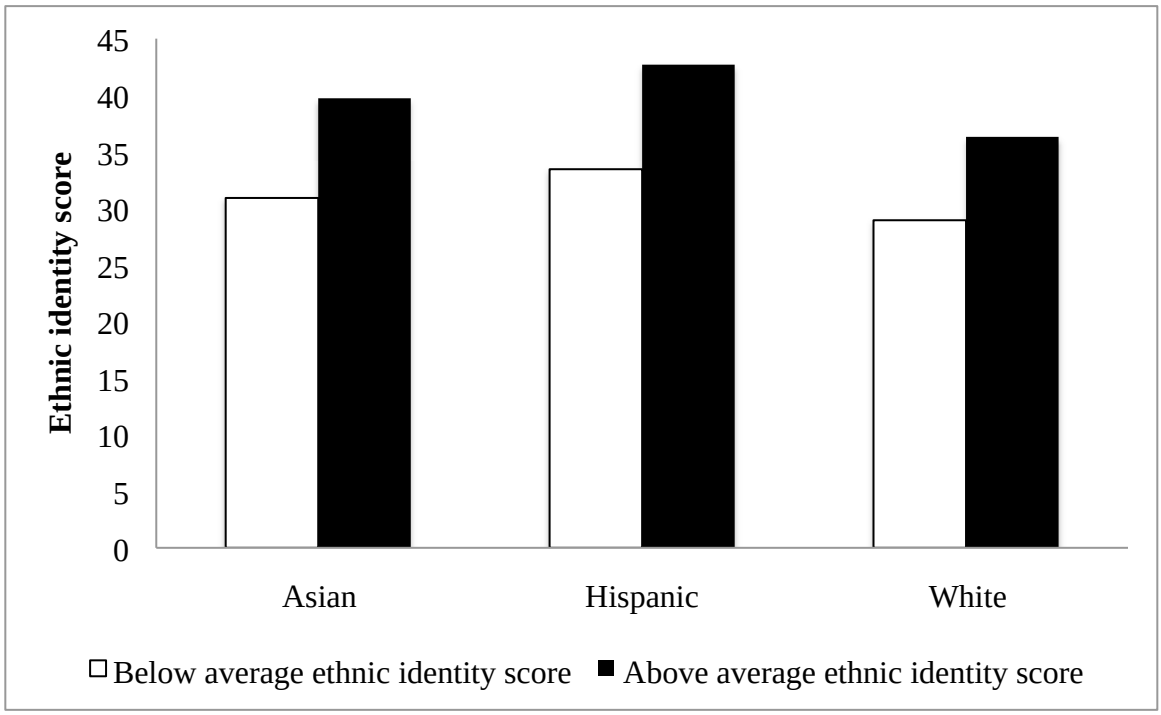

Figure 4. Above and below average ethnic identity scores by ethnicity.

Results for group primes trials

Number of correct responses. All responses were scored as either correct or incorrect. A response to a trial that involved a person category designator was scored as correct if the participant responded affirmatively that one of the person-related traits (good, bad, etc.) could be used to describe a person. Responses to trials with person category designators that involved house traits were not considered in the analysis as these trials were not central to addressing the research questions. This left

a total of 18 group primes trials for which correct response data was analyzed. Of the 18 trials, one-third involved ingroup primes, one-third involved outgroup primes, and one-third involved neutral primes. Half of the trials for each type of prime were paired with positive traits and half of the trials were paired with negative traits. The error rate was 4.1% (*SD* = 1.91), which was similar to the 4.5% error rate reported by Perdue et al. (1990). Analysis showed that participant errors were not related to prime, trait, or participant ethnicity.

Response time. Response times for trials involving each type of prime, trait, and prime-trait combination were generated by averaging the response time to all correct responses. Responses were considered correct if the response time was between 200 and 2000 ms. All response times less than 200 ms, which accounted for less than 1% of the data, were counted as missing data on the assumption that such a response time was too quick for the participant to have actually been responding to the prompt. Response times over 2000 seconds were automatically counted as incorrect by the software program because unusually long response times indicated that participants were not responding based on their initial impressions; this would weaken the effect of the priming procedure. After eliminating response times under 200 ms and over 2000 ms, the average response time for correct answers to the group primes was 783.57 ms (*SD* = 182.33).

The first model was a mixed between-within subjects ANOVA with response time as the dependent variable, prime and trait as within-subject independent variables, and ethnicity, order (whether participants responded to the group primes trials first or last), seeing primes (whether participants reported seeing any primes or not), key (whether

participants used the *j* key or the *f* key to indicate a correct response) and ethnic identity as between-subjects independent variables. In this analysis, data from seven participants were excluded because they did not have at least one correct answer for each prime-trait combination to allow for comparison. Among the 125 participants whose data did enter into the analysis, there was a main effect for order, $F(1, 79) = 5.73$, $p = .02$, as participants had slower response times if they saw the group primes before the ethnic primes (M = 831.50 ms, SD = 172.38) rather than after (M = 734.89 ms, SD = 180.48). This difference is most likely due to a practice effect, as participants who had already responded to the ethnic primes were more familiar with the procedure by the time they responded to the group primes.

There was also a significant main effect for key, $F(1, 79) = 5.35$, $p = .02$. Participants responded faster if they used the *f* key (M = 746.99, SD = 172.76) to indicate a correct response than the *j* key (M = 817.45 ms, SD = 185.64). This result is hard to interpret, since neither key was expected to lead to faster response times. Further, in the ethnic primes analysis reported below there was no main effect of key on response time, so it is unclear why a main effect was found here. Regardless, because of the significant result this variable was included in the final model.

There was no main effect for seeing primes, $F(1, 79) = .58$, $p = .56$. Participants who saw the primes responded equally as fast (M = 810.36 ms, SD = 181.59) as those who did not (M = 759.48 ms, SD = 180.92). Therefore, this variable was dropped in the final model.

The final model consisted of a mixed between-within subjects ANOVA with response time as the dependent variable, prime and trait as within-subject independent variables, and ethnicity, order, key, and ethnic identity as between-subjects independent variables. As in the first model, the analysis revealed a main effect of order, $F(1, 101) = 10.89$, $p = .001$ and a main effect of key, $F(1, 101) = 7.40$, $p = .01$. More pertinent to my research questions, however, the analysis revealed no main effect of prime, $F(2, 100) = 1.34$, $p = .27$, with participants responding equally fast to ingroup ($M = 776.37$, $SD = 189.77$), outgroup ($M = 796.05$, $SD = 206.76$) and neutral ($M = 779.49$ ms, $SD = 206.68$) primes. There was, however, a significant main effect of trait, $F(1, 101) = 43.57$, $p < .001$, with participants responding faster to items paired with positive traits ($M = 748.51$ ms, $SD = 188.38$) than negative traits ($M = 818.42$ ms, $SD = 194.35$). However, neither ethnicity nor ethnic identity score interacted with prime or trait, as Asians ($M = 759.22$ ms, $SD = 170.35$), Hispanics ($M = 785.81$ ms, $SD = 193.23$), and Whites ($M = 812.35$ ms, $SD = 184.73$) all responded equally fast, $F(2, 45) = 1.02$, $p = .37$, as did participants with above average ($M = 787.49$, $SD = 200.71$) and below average ($M = 779.82$, $SD = 164.31$) ethnic identity scores, $F(1, 45) = .001$, $p = .97$.

Finally, neither the three-way prime x trait x ethnicity interaction was significant, $F(4, 202) = .15$, $p = .96$, nor was the four-way prime x trait x ethnicity x ethnic identity score interaction, $F(4, 202) = .99$, $p = .42$.

Discussion of group primes trials

Overall, the analysis of response times only partially replicated the findings of Perdue et al. (1990). Specifically, like Perdue et al., the present analysis found faster

response times for trials with positive traits than trials with negative traits, and no difference in response times for trials with ingroup, outgroup, and neutral primes. However, Perdue et al. found a significant interaction between primes and traits, with participants responding faster when positive traits followed an ingroup prime rather than an outgroup or neutral prime. This interaction was the main evidence they had supporting their argument that individuals show ingroup bias. The present analysis found no such interaction, and consequently, also found no evidence to support an argument of ingroup bias. Further, the lack of significant differences among particpants of different ethnic backgrounds provides no evidence of ingroup bias along ethnic lines. Finally, the non-significant findings for ethnic identity score provide no evidence that ethnic identity moderates bias. However, given that the stimuli for the group primes trials were not specifically designed to prime thoughts of ethnicity, the lack of significant findings for ethnicity and ethnic identity score is not surprising. The following analysis for the ethnic primes trials more directly tested the hypotheses related to ethnicity and ethnic identity.

Results for ethnic primes trials

Number of correct responses. As with the group primes trials, participants were considered to have answered correctly if they responded affirmatively that one of the person-related traits (good, bad, etc.) could be used to describe a person. Responses to trials with person category designators that involved house traits were not considered in the analysis. In all, there were a total of 24 trials for which correct response data was analyzed. Of the 24 trials, one-fourth involved ingroup primes, one-half involved outgroup primes, and one-fourth involved neutral primes. However, an ingroup prime for

one participant might be an outgroup prime for another. For example, an Asian participant responding to a trial using *Asian* as the prime would be responding to an ingroup prime, whereas a Hispanic or a White participant responding to the same prime would be responding to an outgroup prime. Half of the trials for each type of prime were paired with positive traits and half of the trials were paired with negative traits.

The error rate for the ethnic primes trials was 8.0%, nearly double the 4.1% error rate obtained in the group primes trials. The error rate was not related to prime or participant ethnicity. However, participants were more likely to respond correctly to positive (M = 94.57%, SD = .09) than to negative traits (M= 89.52%, SD = .16), $F(1, 128) = 16.43$, $p < .00$.

Response time. Response time for the ethnic primes trials were calculated in the same manner as response times for the group primes trials. As such, an average response time was calculated for each participant for each type of prime, trait, and prime-trait combination they responded to. The average response time for correct answers to the ethnic primes trials was 811.95 (SD = 192.65 ms), a little higher than the average response time of 783.57 ms (SD = 182.33) for the group primes trials.

The first model was a mixed between-within subjects ANOVA with response time as the dependent variable, prime and trait as within-subject independent variables, and ethnicity, order (whether participants responded to the group primes trials first or last), seeing primes (whether participants reported seeing any primes or not), key (whether participants used the *j* key or the *f* key to indicate a correct response) and ethnic identity as between-subjects independent variables. The analysis revealed that key was

not related to response time, $F(1, 78) = 1.43$, $p = .24$. Thus, this variable was dropped in the final model. However, order was a significant predictor of response time, $F(1, 78) = 6.00$, $p = .02$, with participants responding faster to the ethnic primes trials when they saw them last ($M = 766.05$, $SD = 173.31$) rather than first ($M = 858.10$, $SD = 185.57$). Again, this most likely indicated the presence of a practice effect with participants becoming quicker at responding over the course of the experiment. There was also a significant main effect of seeing primes, $F(1, 78) = 6.78$, $p = .01$. Specifically, participants were slower to respond if they saw the primes ($M = 869.45$ ms, $SD = 197.80$) than if they did not ($M = 759.85$ ms, $SD = 156.00$). This finding is problematic, as the experiment was built on the premise that one could prime participants with ethnic designators outside of their awareness. Because of this, the final model includes only the 69 participants who did not report seeing the primes.

The final model consisted of a mixed between-within subjects ANOVA with response time at the dependent variable, prime and trait as within-subject independent variables, and ethnicity, order, and ethnic identity as between-subject independent variables. As in the first model, order remained a significant predictor of correct responses, $F(1, 57) = 5.64$, $p = .02$, showing that practice still mattered. Further, there was a main effect of trait, $F(1, 57) = 45.83$, $p < .001$, as participants responded faster to items paired with positive traits ($M = 730.52$ ms, $SD = 159.33$) than items paired with negative traits ($M = 791.29$ ms, $SD = 166.16$). However, prime was not significant, $F(2, 114) = .48$, $p = .62$, with participants responding equally fast to ingroup ($M = 750.02$ ms, $SD = 158.02$), outgroup ($M = 760.95$ ms, $SD = 167.97$) and neutral ($M = 765.46$ ms, $SD = 177.11$) primes. The prime x

trait interaction was also not significant. As shown in Figure 5, Asians (*M* = 750.49 ms, *SD* = 797.48), Hispanics (*M* = 754.60 ms, *SD* = 819.22), and Whites (*M* = 781.95, *SD* = 821.41) all had similar response times.

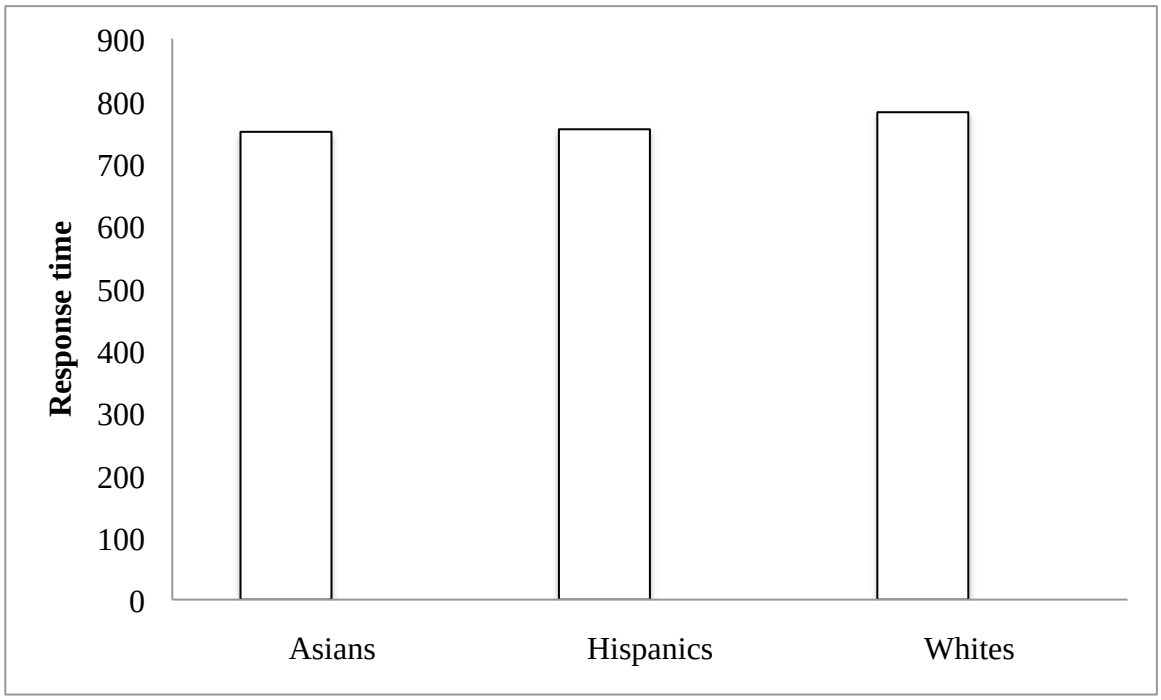

Figure 5. Response time to ethnic primes trials by ethnicity.

There was a significant two-way interaction between trait and ethnic identity score, $F(1, 57) = 5.93$, $p = .02$, but more importantly there was a significant prime x trait x ethnic identity score interaction, $F(2, 56) = 3.31$, $p = .04$. As shown in Figures 6 and 7, when looking at the results for participants with ethnic identity scores above and below the average for their ethnic peers, participants with above average ethnic identity scores were faster to respond when positive traits were linked to ingroup designators but slower to respond when positive traits were linked to outgroup designators.

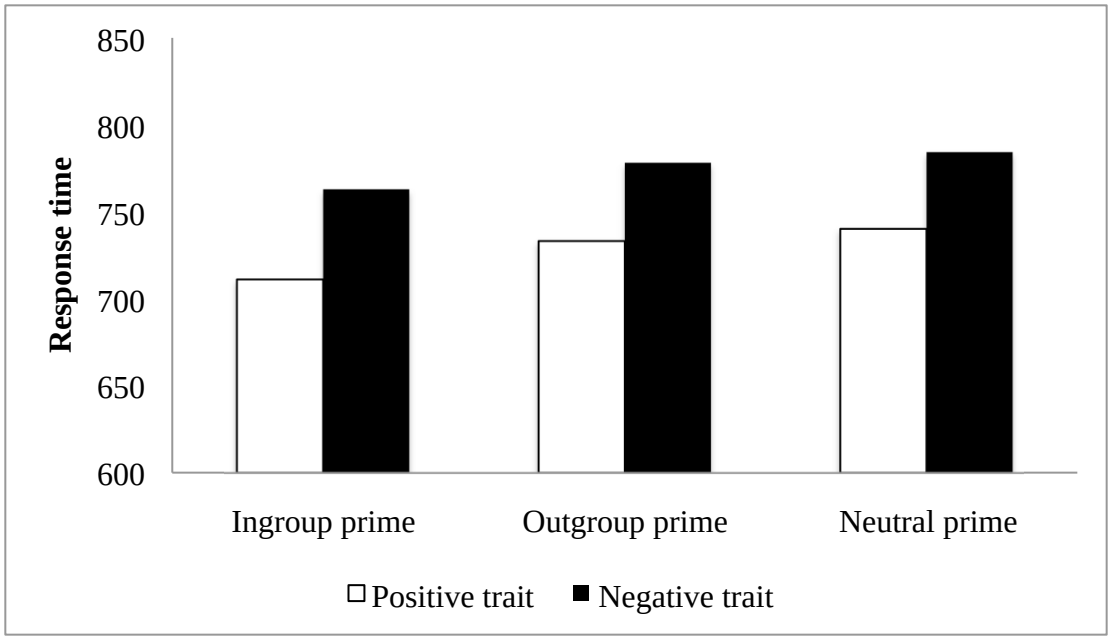

Figure 6. Response time to ethnic primes trials by ethnic identity score, prime, and trait for participants with below average ethnic identity scores.

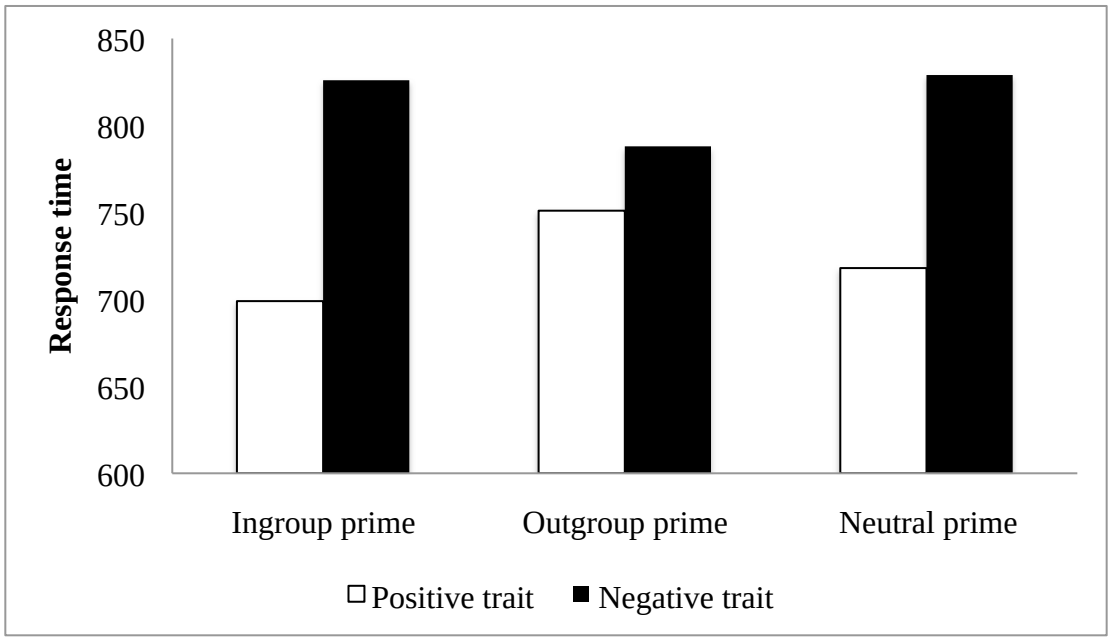

Figure 7. Response time to ethnic primes trials by ethnic identity score, prime, and trait for participants with above average ethnic identity scores.

Further, participants with above average ethnic identity scores were slower to respond to negative traits linked with ingroup designators but faster to respond when positive traits were linked to outgroup designators. Because of this, the difference in response times to ingroup primes with positive and negative traits was much greater for participants with above average ethnic identity scores than for participants with below average ethnic identity scores. The difference in response times to neutral primes with positive and negative traits was also much greater for participants with above average ethnic identity scores. This pattern was not repeated for outgroup primes, however, where the difference in response times to positive and negative traits was the same for participants of above and below average ethnic identity scores.

Finally, there were no significant interactions between ethnicity and ethnic identity score, indicating that ethnic identity moderated ingroup bias similarly for participants from all ethnic backgrounds.

Discussion of ethnic primes trials

The findings on ethnic primes trials similarly fail to replicate the findings of Perdue et al. (1990) of an interaction between prime and trait. However, the significant interaction with ethnic identity indicates that it is ethnic identity more than ethnicity that moderates how participants respond to various prime-trait combinations.

General Discussion

This study was designed to answer three research questions: (1) Do ethnic minority groups, specifically Asians and Hispanics, show ingroup bias in the same way as the ethnic majority (i.e., Whites)? (2) Do ethnic minority groups demonstrate ingroup bias similarly to one another? In other words, do Asians show ingroup bias in the same way as Hispanics? (3) Does strong identification with one's ethnic group increase ingroup bias?

To answer these questions, I first replicated a study by Perdue et al. (1990) that used an implicit priming mechanism to show that participants were biased toward their ingroups. However, I was not able to replicate their findings, as the results from the group primes trials did not show any evidence of ingroup bias. I then modified the methodology used by Perdue et al. by substituting ethnic terms (i.e., Asian, Hispanic, White) as the primes to facilitate ingroup and outgroup associations based on ethnicity. Even with this modification, I failed to find evidence of general ingroup bias, as there was no significant two-way interaction between prime and trait. Further, there was no evidence that members of different ethnic groups show different levels of ingroup bias, as there were no significant main effects or interactions with ethnicity. Thus, with regards to the first and second research questions, my evidence actually denies their premise, since no ingroup bias was found. However, the lack of bias was equal among all ethnic groups.

The results of this study were not consistent with the results of other implicit tests which have shown outgroup bias among minority members instead of ingroup bias. In no case did the present study find evidence of outgroup bias.

Of course, the research literature on ingroup bias has often provided mixed messages about whether minorities show ingroup or outgroup bias. However, there have been some indications that the strength of one's ethnic identity might moderate ingroup bias and help to explain some of the contradictory findings on ingroup bias. Thus, my third research question asked whether strong identification with one's ethnic group would lead to increased ingroup bias. Based on the results of this study, it appears that ethnic identity may indeed be a moderating factor for whether individuals show ingroup bias or not.

When primed with ethnic labels, participants of all ethnic backgrounds with high ethnic identity scores compared to their same ethnic peers had different response patterns than participants with low ethnic identity scores. Participants with high ethnic identity scores were faster to respond when positive labels were associated with their ingroup than when positive labels were associated with their outgroup. When presented with negative labels, however, they were faster to respond when the negative label was paired with their outgroup than with their ingroup. This provides evidence that participants with high ethnic identity scores demonstrate ingroup bias. Participants with low ethnic identity scores, on the other hand, did not show the same pattern of ingroup bias. This finding supports social identity theory, which argues that people are motivated to favor their ingroups over their outgroups in order to maintain or enhance their self-esteem (Tajfel, 1970; Tajfel & Turner, 1979; Tajfel & Turner, 1986). The participants who are most identified with their ingroup – as demonstrated by their high ethnic identity scores – are expected to be the most threatened by any negative associations with their ingroup.

Thus, social identity theory predicts that individuals with high ethnic identity scores are the most likely to demonstrate ingroup bias. The present research extends the evidence for social identity theory even to implicit tests, as the majority of the research supporting minority ingroup bias had been found using more explicit tests of bias.

In fact, the finding that Hispanics had the highest ethnic identity scores followed by Asians and then by Whites is supported by social identity theory. Social identity theory posits that threats to one's ingroup result in an increased identification with the ingroup (Tajfel, 1970; Tajfel & Turner, 1979; Tajfel & Turner, 1986). In the United States, societal stereotypes – and therefore threats to group self-esteem – are more negative for Hispanics than for Asians, and more negative for Asians than for Whites (Buriel & Vasquez, 1982; Collins, Crandall, & Biernat, 2006; Niemann, et al., 1994; Yu, 2006). Thus, it is not surprising that Hispanics had the highest ethnic identity scores and Whites had the lowest. However, despite differences in ethnic identity scores across groups, no ethnic differences were found in ingroup bias patterns. This finding indicates that the relationship between ethnic identity score and ingroup bias is not a perfect one, since if it was then Hispanics should have shown more ingroup bias than Asians, who in turn should have shown more ingroup bias than Whites.

Strengths and limitations

One strength of the current design was its use of an implicit measure of attitudes that allowed for the probing of associations with ingroups and outgroups (mostly) outside of participants' conscious awareness. One serious issue faced by researchers studying ethnic bias is that people want to present themselves in a positive light. This means that

people will not always be truthful in their responses to socially sensitive questions. For example, Nosek, Banaji, and Greenwald (2002) found that Black participants expressed a preference for Blacks on an explicit measure of ethnic bias, but showed the opposite pattern – a bias for Whites – on an implicit measure of ethnic bias. Clearly, concerns about self-presentation may drive people to provide inaccurate answers on explicit measures of bias. Therefore, research designs that use implicit measures of bias may be the best way to get a realistic understanding of people's views. The current methodology, unlike the Implicit Association Test (for an example, see Nosek, Banaji, & Greenwald, 2002), has the added benefit of allowing people to participate without having any awareness that their attitudes toward a particular group are being measured. This may increase the willingness of participants to engage in the task by lowering their anxiety about appearing biased or prejudiced.

Another strength of this study was that it helped to address the dearth of existing research looking at ingroup bias in minority groups, particularly among minorities other than Blacks. Considering that the Asian and Hispanic populations in the U.S. are growing at rapid rates, it is crucial that researchers begin to consider their viewpoints as well. Further, as the U.S. continues its march toward becoming a multicultural society that has no ethnic majority, researchers need to be cautious of the assumption that minorities compare themselves only to Whites and never to other minorities. By including primes for multiple ethnic groups, including two minority groups, the present study has helped to move the field further in this direction.

The addition of the ethnic primes, however, presented a methodological challenge, since nearly half of the participants reported noticing the ethnic primes. I suggest two possible reasons this may have occurred. The first is simply that the ethnic terms were more salient, making participants more aware of them. The second and perhaps more likely explanation is that the ethnic primes were all longer than the group primes. For example, *we* and *they* are three and four letters in length, respectively, whereas *Asian*, *Hispanic*, and *White* are longer. Since all the priming words were presented so that their center was 3.6 cm from the fixation point, the longer length of the ethnic primes may have caused them to enter participants' foveal visual field. If this indeed occurred, it would have made them more noticeably visible to participants. Future research using a similar methodology might consider flashing the primes further to the side of the monitor so they are not so directly in participants' line of vision.

In addition, a limiting factor in priming studies such as this one, where primes are presented outside of conscious awareness, is that it can be difficult to know the *why* behind any non-significant result. For example, there was no effect of prime in the group trials experiment. But we cannot know whether this is because participants really do not respond differently to ingroup and outgroup designators or if they simply did not register the primes, even at a subconscious level.

Finally, this study found differences in response times based on participants' ethnic identity scores. However, participants responded to the Multigroup Ethnic Identity Measure after they had already completed the trials. The purpose of this was to not alert participants that the experiment was in any way looking at issues related to ethnicity. At

the same time, the subconscious priming with ethnic labels might have influenced participants' responses on the MEIM. The results related to ethnic identity score might have been different if we had obtained a more neutral measure of ethnic identity.

Implications

This study provides additional data about ingroup biases among majority and minority group members. Importantly, it shows that members of different minority groups demonstrate ingroup bias similarly to one another, despite their different experiences in the United States. Another important contribution of this work is that it has helped to shed light on the relationship between ethnic identity and ingroup bias – a relationship that may explain the contradictory findings of past research regarding minority ingroup bias. If past samples have used large numbers of minority participants with low ethnic identity scores, the ingroup bias found among participants with high ethnic identity in this study would have been obscured. Clearly, future research on this topic may need to include level of ethnic identity as a predictor in order to better tease out the intricacies of ingroup bias.

Suggestions for future research

While there appears to be a relationship between ingroup bias and ethnic identity, the present study provides no indication of whether this relationship is a causal one or not. Future research might be undertaken to understand if the relationship is causal, and if so, what the direction of the relationship is. If a causal relationship could be found, then this may hold the promise of developing interventions to reduce bias.

Next, this research could be extended to better understand whether or how ingroup bias is activated under conditions of stereotype threat. Stereotype threat, as described by Steele and Aronson (1995), is when individuals feel they are at risk of confirming a negative stereotype about their group. For example, Steele and Aronson have shown that Black college students underperform White college students on a verbal task when told that the task is diagnostic of their verbal ability, but perform equally well as Whites when not told that it is diagnostic. Different bias patterns might be found among minorities if instead of using generic trait words like good, bad, and kind, the study employed trait words that were stereotypically relevant for the participating groups.

Finally, future research may want to compare the results of this implicit design with results from other implicit designs, such as the Implicit Association Test (e.g., Nosek, Banaji, & Greenwald, 2002). Because individuals participating in the IAT are aware during their participation that the test is looking at racial attitudes, it would be interesting to know how this awareness impacts the findings of the test, compared to a test like the present design in which this awareness is not available to participants.

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Appendix A

DEBRIEFING QUESTIONNAIRE PG 1

Subject #_____ Date: _____

*Please proceed to the next page only when you have finished entering information on this page. Once you have turned to the next page, you may **not** return to this page.*

Please write any and all details you remember about the procedure used in this study.

STOP!

*Please proceed to the next page **only when you have finished entering information on this page**. Once you have turned to the next page, you may **not** return to this page.*

DEBRIEFING QUESTIONNAIRE PAGE 2

*Please answer the questions below. Do **not** return to the previous page at any time.*

You may or may not have noticed that some words appeared just before the PPPPPP or HHHHHH categories were presented.

Were you aware of the appearance of any words just before the categories?

_____ Yes _____ No

On what % of the trials did the words appear just before the PPPPPP or HHHHHH? (circle one)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Please list any words you can remember that may have been presented just before the PPPPPP or HHHHHH categories. If you cannot remember any words, please give your best guess.

_____ _____

_____ _____

_____ _____

_____ _____

STOP!

*Thank you for answering these questions. Please do **not** return to the previous page. You may leave this packet for the experimenter to collect after you leave.*