

Using the Implicit Association Test to Measure Implicit Evaluations of Hispanic People

Maeve Boardman

Dr. Jordan Axt

Department of Psychology, McGill University

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Abstract

Previous studies have shown participants hold negative biases towards Hispanic people based on a number of different traits. However, implicit bias towards Hispanic people still goes largely understudied. The aim of this current study was to use a novel Implicit Association Test (IAT) to measure whether an implicit bias against Hispanic people in the U.S. exists, and whether self-reported outcomes such as explicit attitudes, policy support, and various perceptions of American identity for Hispanic people correlate with performance on the IAT. We found that participants ($N= 572$) on average showed only a weak and not particularly robust preference for non-Hispanic over Hispanic people on the IAT ($d = .10$), though implicit and explicit attitude measures were moderately correlated ($r = .22$). Additionally, there was a moderate correlation between implicit attitudes and immigration policy support ($r = .24$), as well as a small correlation between implicit attitudes and support for using ethnicity when judging potential guilt in a crime ($r = .10$). Finally, the IAT showed evidence of incremental predictive validity in predicting support for using ethnicity when judging potential guilt in a crime, and both implicit and explicit measures independently predicted support for immigration policy. These results have broader implications for the perceptions held by the American population and may help to understand the treatment of Hispanic people in wider political and judicial settings.

Using the Implicit Association Test to Measure Implicit Evaluations of Hispanic People

On January 17th, 2023, a protest was held at a high school in Idaho, following a student receiving a dress code violation for wearing a sweater that said “brown pride.” Conflict between school administration and students ensued due to opposing opinions on whether the term celebrated Latinx culture, or whether the term was gang affiliated (Flores, 2023). The school’s assumption of the term being gang-related was a mere stereotype, students said, and they in turn argued that the school was using dress policy as a form of censorship and discrimination, preventing them from wearing apparel honoring their heritage.

This story is just one example of how common stereotypes and bias in the U.S. contribute to discrimination towards minorities; participating in or being proud of one’s culture should not affect their ability to be treated normally at school. This form of organizational discrimination may be attributed to both explicit and implicit biases, which are unfortunately pervasive throughout society; past research from Project Implicit, an online non-profit laboratory, has shown extensive data with the use of the Implicit Association Tests (IATs; Greenwald et al., 1998) that support the idea that minorities are frequently subject to this implicit bias, in addition to explicit bias. In other words, harmful beliefs towards minority groups are commonly held in our social cognition, whether we endorse them or not. In the case of this story, “brown pride” was implicitly associated with damaging stereotypes about gang violence, and it is possible that this association contributed to the creation of the discriminatory policy.

These common negative biases are important to study if we want to better understand how Hispanic people are perceived and treated. Several recent studies have looked into perceptions and attitudes towards Hispanic people. Most recently, a 2020 report on Hispanic

perceptions showed that, from a nationwide sample of 2183 interview respondents, participants who had less personal or professional experience with Hispanic people were more likely to report them as associated with illegality, both in criminal activity and in immigration (We Are All Human, 2020). Relatedly, in a study conducted by Dovidio et al. (2010), a self-report survey found that participants perceived White Americans to be the most prototypical of “Americans,” whereas other races, such as Latino Americans, deviated from the prototype. The authors argued that this perception could correlate with experienced stigmatization among Hispanic people, and contribute to the nature of intergroup bias.

These studies on Hispanic perceptions are important, especially given that for decades, the focus in social psychology has been on Black-White relations (61% of articles), and very little (7%) on Hispanics / Latinos (Dovidio et al., 2010). These prior studies using are intriguing explorations into the thoughts of participants, and can help to shed light on how different racial/ethnic groups, such as Hispanics, are perceived. However, this work largely used measures of explicit bias (i.e., self-report), which can be subject to self-serving biases and demand characteristics; in other words, participants may want to portray themselves in a favorable way and not want to disclose (or fully disclose) their biases, or may not be consciously aware of them altogether, and so they report answers that may not reflect the full range of evaluations present in their own minds. Therefore, such explicit, direct measurement approaches cannot reveal the full range of attitudes that may exist within an individual (Greenwald & Banaji, 1995).

As a result, we consider the study of implicit bias, which is an attitude or association towards a group of people that is comparatively automatic and less aligned with conscious intentions relative to more controlled, explicit biases (De Houwer, 2009). To measure this, the Implicit Association Test (IAT; Greenwald et al., 1998) provides a method for accessing a

domain of cognition that the self-report cannot (Greenwald et al., 2002; Nosek & Smyth, 2007). Essentially, the test records how quickly positive versus negative terms are paired with members of different groups to estimate the presence of a certain implicit bias within a participant—for example, if a participant were to perform a Black/White IAT, they would be asked in one block to pair positive words with Black faces and negative words with White faces, and in another block to pair positive words with White faces and negative words with Black faces. Participants are asked to pair the concepts as quickly as possible, while still being accurate. Their relative reaction times are compared in both blocks, so that if, for example they had a faster reaction time associating negative words to Black faces, or a slower reaction time associating positive words to Black faces, this would suggest a negative implicit attitude towards Black versus White people.

In fact, this “pro-White” result is often found in participants who take a Black/White IAT; across three separate studies conducted by Nosek et al. (2007) on attitudes towards Black versus White people, dark-skin versus light-skin individuals, and Black versus White children, it was found that approximately 68% of participants showed a negative implicit bias towards Black or dark-skinned individuals over White or light-skinned individuals, while only 14% showed the reverse. Notably, this effect was less strong for explicit, self-report measures—participants were less likely to self-report a negative bias against Black people. A moderate correlation was also found between implicit and explicit measures, with $r = .27$, and more expansive research in implicit and explicit approaches to measurement have shown that implicit and explicit attitudes are separate, but related constructs (Nosek & Smyth, 2007).

In recent years, the popularity of the IAT has increased, and it is commonly used in the field of social psychology today (Ortner & van de Vijver, 2015). In fact, there are hundreds of studies which use the IAT, and meta-analyses show the assessment method has over 10,000

citations (Forscher, Lai, et al., 2019, Kurdi, Seitchek, et al., 2019). As of now, a large proportion of IATs have been designed to measure implicit bias towards various social groups, such as Black/White, men/women, or gay/straight (Henrich et al., 2010). Although there is much merit in researching these groups, focusing too heavily on them leaves other social groups understudied (Lai & Wilson, 2020, Dovidio et al., 2010). Thus, there is value in developing a greater variety of IATs that touch on other important intergroup domains. Here, we propose an IAT that has been created specifically for measuring positive versus negative associations of Hispanic people. The current lack of research on this topic (Henrich et al., 2010, Dovidio et al., 2010) poses a problem for understanding how bias affects the Hispanic population, which currently makes up the largest minority population in the U.S., at 18.7% (U.S. Census Bureau, 2020).

Knowing how strong the implicit biases in our social cognition are can in part help us to understand issues at a broader, systemic scale. Specifically, having measures like a Hispanic IAT may be used in subsequent studies to shed light on the role of implicit biases in several important outcomes, such as whether or not they predict biases in health-related decision making (Hall et al., 2015), or in decisions about criminal justice—for example, data from the California Department of Justice shows that Hispanic people made up a disproportionate amount of felony and misdemeanor arrests in 2020, and that young Hispanic men receive more severe jail sentences than comparable White men (Kansal, 2005).

Developing an IAT of Hispanic people may also be productive in understanding contemporary issues within the U.S. political climate, such as a continued focus on immigration policy (for which Hispanic people remain a primary exemplar for American immigration). For example, the Deferred Action for Childhood Arrivals (DACA) policy, which prevents children of immigrated families from being deported and allows them to obtain health insurance and work

permits, even if they are not U.S. citizens and do not have legal residency, is one example of a public issue that has continued to change throughout different governmental administrations. DACA was first established in 2012 by President Barack Obama, later restricted by President Donald Trump in 2017, and is now currently supported by President Joe Biden. The majority of the recipients of the DACA program are Hispanic (USCIS, 2017), and as a result, there is the potential outcome that support for DACA and other immigration policies is related to explicit and implicit Hispanic attitudes. In all, the lack of a measure of Hispanic-related implicit biases may impede understanding of consequential outcomes like DACA-related policy support.

Finally, developing an IAT about Hispanic people may shed light on perceptions of the degree to which Hispanic people are accepted and respected within the American culture. Prior research has shown that certain identities are more likely to be perceived as “American” than others—particularly, studies conducted by Semrow et al. (2020) show that, for example, gay Asian Americans are perceived to be more “American” than Asian Americans who are presumed to be straight. Further, it has been shown that both African-American and Asian-American faces are implicitly less closely associated with American symbology than White-American faces (Devos & Banaji, 2005). While these studies focus on different identities than the target in our study, we feel that the same principle may apply; perceptions of standing within American culture may be another outcome that is associated with anti-Hispanic implicit biases. Some prior support for this idea comes from a study conducted by Devos et al. (2010), which found that both Latino and Caucasian participants implicitly attributed American symbols more strongly with Caucasian last names than with Latino last names, though the effect was more pronounced for Caucasian participants.

Prior Measures of Implicit Hispanic Attitudes:

There have been several prior attempts to study implicit Hispanic attitudes. For instance, Axt et al. (2014) found evidence of “racial hierarchies” when using a Multi-Category Implicit Association Test (MC-IAT) using Black, White, Asian, and Hispanic groups as targets in the task. Specifically, it was found that while each group exhibited implicit ingroup favoritism, there was also a consensus among Black, White, and Asian participants, who all implicitly ranked Hispanics as the least preferential racial/ethnic group (Axt et al., 2014). This study then measured implicit Hispanic attitudes, but did so in the context of three other racial groups, meaning the measure was not designed to focus specifically on attitudes towards Hispanic people.

Separate work has used the IAT and the startle eyeblink paradigm (a psychophysiological measure to test emotional reactions) to examine in-group bias in addition to out-group bias in regards to White-Hispanic attitudes (March & Graham, 2015). For the IAT, the study represented race categories using photographs of neutral male White and Hispanic faces, and asked participants to pair the stimuli to positive and negative words (e.g. love, happy or evil, hurt) accordingly with each block. In line with previous studies, this work found that White participants held a negative implicit bias towards Hispanic male faces on both measures (Axt et al., 2014, Devos et al., 2010, Weyant, 2005). The novel finding, however, was that Hispanic participants also showed a degree of negative in-group bias, more quickly categorizing positive words with White faces than Hispanic faces (Essien et al, 2021, Nosek et al., 2007). This is a phenomenon perhaps indicative of internalizing societal stereotypes or messages about social standing (Jost et al., 2004).

These prior studies are intriguing investigations of Hispanic-related biases in implicit cognition, but more research is needed to better understand implicit bias against Hispanic people, specifically a more thorough analysis of outcomes that may be related to implicit Hispanic attitudes (i.e., demonstrating predictive validity). The aim of this current study was to then measure on a broader scale whether an implicit bias against Hispanic people exists, and whether outcomes like explicit attitudes, policy support, and perceptions of American identity for Hispanic people correlate with performance on the IAT. We hypothesized that participants would exhibit a degree of anti-Hispanic implicit biases. Additionally, based on past research (Buttrick, Axt et al., 2020), we believed implicit attitudes towards Hispanic people would be moderately correlated with both self-reported, explicit Hispanic attitudes as well as Hispanic-related beliefs and policy support.

Methods

Participants

583 participants completed the study through the Project Implicit research pool. Subjects were excluded from data analysis if more than 10% of their critical IAT trials were faster than 300 milliseconds (Nosek et al., 2007), for a final sample size of 572. This sample size provided 80% power to detect an effect as small as $r = 0.16$. See <https://osf.io/r8k3u/> for the study's pre-registration.

Among participants reporting their demographic information, 67.8% were women, 29.7% were men, and 2.5% reported another gender identity. The mean age was 35.0 years ($SD = 15.2$). By race, 63.7% were White, 11.6% were Hispanic, 10.7% were Black, 6% were Asian, 1.4% were Middle Eastern, 0.35% were Native American, 0.18% were Pacific Islander, and 6.1% were multi-racial.

Procedure and measures

The study consisted of two components: the Implicit Association Test and a self-report survey, which examined both explicit Hispanic attitudes as well as outcomes including reported Hispanic-related perceptions and policy support. The order of the two components was randomized. Participants provided demographic information (such as gender, age, ethnicity, and political identity) when first registering for the Project Implicit research pool. Upon completion of the measures, participants were given their IAT results and were debriefed.

Hispanic attitudes survey: The survey was comprised of two components: a measure of explicit attitudes and a measure of potentially related outcomes. The former asked questions regarding participants' strength of preference for Hispanic and non-Hispanic people on a scale from 1 = *I strongly prefer Hispanic people to Non-Hispanic people* to 7 = *I strongly prefer Non-Hispanic people to Hispanic people*, temperature ratings (feelings of warmth or coldness) towards Hispanic people and non-Hispanic people respectively on a scale from 1 = *Extremely warm* to 11 = *Extremely cold*, and thermometer ratings (negative or positive feelings) for Hispanic and non-Hispanic people respectively on a sliding scale from 1 = *extremely negative* to 100 = *extremely positive*.

Questions about potentially related outcomes were measured on 7-point and 5-point Likert scales, and inquired about the extent to which 1) participants supported the DACA program, 2) the extent to which participants believed others view Hispanic people as superior or inferior (adapted from Zou & Cheryan, 2017), 3) the extent to which participants viewed Hispanic people as superior or inferior, 4) the extent to which participants viewed Hispanic people born in the United States as foreign, 5) the extent to which participants viewed Hispanic people born in the United States as accepted within American culture (adapted from Semrow et

al., 2019), and 6) support for using ethnicity when judging potential guilt in a crime. Measures 2, 3, 5, and 6 were reverse coded for ease of interpretation. See the Appendix for the full wording of questions and response options.

Implicit Association Test: The IAT was designed to measure the strength of participants' associations between positive and negative attributes towards Hispanic and non-Hispanic names. Positive words included "Celebrate", "Fabulous", "Lovely", "Love", "Delightful", "Friend", "Adore", and "Magnificent". Negative words included "Rotten", "Evil", "Abuse", "Humiliate", "Nasty", "Annoy", "Dirty", and "Poison". Race categories were represented by Hispanic names, including "Torres", "Vargas", "Castillo", "Ramos", "Perez", "Garcia", "Rodriguez", and "Guerrero", as well as non-Hispanic names, including "McDonald", "O'Brien", "Kelly", "Smith", "Foster", "Wallace", "Andrews", and "Robertson".

Items were presented one at a time, and participants were asked to categorize as quickly as possible, while still being accurate, using the "I" and "E" keys on their keyboard. As recommended by Nosek et al., 2007, the IAT consisted of seven blocks. In the first block (20 trials), participants practiced categorizing all positive and negative words. In the second block (20 trials), participants practiced categorizing all names. The subsequent blocks asked participants to categorize either Hispanic names with positive words and non-Hispanic names with negative words, or Hispanic names with negative words and non-Hispanic names with positive words. For example, in one block, participants might categorize both "Perez" and "Friend" with the "I" key and "Wallace" and "Rotten" with the "E" key. In another, they might categorize "Perez" and "Rotten" with the "I" key and "Wallace" and "Friend" with the "E" key. Participants were randomly assigned which block type was presented first.

Analyses

IAT performance scores were calculated using the *D* scoring algorithm, as per the outlines of Greenwald et al., 2003, such that more positive values indicate greater implicit preference for non-Hispanic over Hispanic people. *D* scores were first compared against a value of zero using a one-sample *t*-test to examine whether IAT performance showed evidence of an implicit bias against Hispanic people. Next, IAT *D* scores were correlated with our measure of explicit Hispanic attitudes, as well as our measures of policy support and perceptions of American identity. Finally, multiple linear regression was used to predict policy support and American identity as a test of incremental predictive validity.

Results

The mean IAT *D* score was 0.05 ($SD = 0.47$), meaning that, although skewed towards a pro-non-Hispanic bias, on average, participants showed only a weak and not particularly robust preference for non-Hispanic over Hispanic people on the IAT, $t(397) = 1.97$, $d = 0.10$, $p = 0.050$. Implicit and explicit measures of Hispanic attitudes were moderately correlated, $r = 0.22$, 95% CI [0.11, 0.32], $p < 0.001$. See Table 1 for descriptive statistics of the explicit attitudes measures and Table 2 for descriptive statistics of the self-report outcome measures.

No significant results were found in the correlation between measures of perceived American identity and IAT *D* scores ($r = .XX$, $p = .XXX$), although a moderate correlation between IAT *D* scores and DACA policy support was found, $r = 0.24$, 95% CI [0.15, 0.32], $p < 0.001$, as well as a small correlation between implicit attitudes and support for using ethnicity when judging potential guilt in a crime, $r = 0.10$, 95% CI [0.02, 0.19], $p = 0.02$. See Table 3 for the full reporting of correlations between IAT *D* scores and self-reported outcome measures.

Finally, implicit and explicit attitude measures were used to determine whether policy support and perceived American identity could be predicted using simultaneous linear regression. No significant results were found for perceived American identity, although explicit attitudes did predict self-perceptions of Hispanic inferiority, $p = 0.018$. The Hispanic IAT was found to have incremental validity in predicting support for using ethnicity when judging potential guilt in a crime, $p = 0.049$. Additionally, both implicit and explicit measures independently predicted support for the DACA program, $p < 0.001$, $p = 0.003$, respectively. See Table 4 for the full reporting of results.

Table 1
Descriptive Statistics for Explicit Attitudes Measures

Explicit Attitudes	Mean	Standard Deviation
Hispanic preference	3.96	0.75
Temperature rating for Hispanic	8.05	1.97
Temperature rating for non-Hispanic	7.77	1.85
Thermometer rating for Hispanic	31.37	38.59
Thermometer rating for non-Hispanic	26.50	37.20
Temperature difference score	-0.24	1.37
Thermometer difference score	-4.87	21.35

Table 2
Descriptive Statistics for Self-Reported Outcome Measures

Explicit Outcomes	Mean	Standard Deviation
DACA support	2.08	1.46
Inferiority (perception of others)	2.76	1.00
Inferiority (self-perception)	3.93	0.58
Foreignness	1.34	0.63
Acceptance	3.11	0.89
Crime and Ethnicity	6.54	1.19

Table 3
Correlations Between Implicit Attitudes and Outcomes

Outcome	IAT	
	Correlation	<i>p</i> -value
DACA support	$r = 0.24$, 95% CI [0.15, 0.32]	<0.001
Inferiority (perception of others)	$r = -0.08$, 95% CI [-0.18, 0.02]	0.10
Inferiority (self-perception)	$r = 0.05$, 95% CI [-0.05, 0.15]	0.37
Foreignness	$r = 0.04$, 95% CI [-0.06, 0.13]	0.44
Acceptance	$r = -0.03$, 95% CI [-0.13, 0.06]	0.48
Crime and Ethnicity	$r = 0.10$, 95% CI [0.02, 0.19]	0.02

Table 4
Regression for Implicit, Explicit Measures and Policy support, Perceived American Identity

Outcome	IAT			Explicit Score		
	Estimate	SE	<i>p</i> -value	Estimate	SE	<i>p</i> -value
DACA support	0.653	0.155	<0.001	0.259	0.088	0.003
Inferiority (perception of others)	-0.127	0.109	0.244	-0.106	0.062	0.089
Inferiority (self-perception)	0.032	0.066	0.628	0.089	0.038	0.018
Foreignness	0.053	0.071	0.459	-0.001	0.04	0.976
Acceptance	-0.054	0.099	0.584	-0.024	0.057	0.673
Crime and Ethnicity	0.258	0.131	0.049	0.005	0.075	0.946

Discussion

In this study, we used a novel measure of implicit attitudes towards Hispanic people to examine whether participants exhibited an implicit bias against Hispanic people, and if implicit attitudes towards Hispanic people correlated with explicit attitudes as well as several conceptually related outcomes (e.g., policy beliefs concerning immigration, perceptions about Hispanic people being “American”). We also investigated whether implicit attitudes towards Hispanic people demonstrated incremental predictive validity towards such outcomes after controlling for explicit Hispanic attitudes. We hypothesized that participants would exhibit a

negative implicit bias towards Hispanic people, and that implicit attitudes would correlate moderately with explicit attitudes as well as with certain beliefs or perceptions concerning Hispanic people. As predicted, we found that implicit attitudes correlated moderately with explicit Hispanic attitudes ($r = .22$), and additionally correlated moderately with one outcome measure: support for immigration policy ($r = .24$). However, contrary to our hypothesis, participants exhibited only a very weak preference for non-Hispanic people on the IAT ($d = .10$), and many of the selected outcomes, including perceptions of inferiority, foreignness, and acceptance within American culture, did not correlate with implicit attitudes (all r 's $< .05$).

One possible explanation for the lack of an effect on the IAT was that our sample was relatively racially and ethnically diverse (63.7% White, 11.6% identifying as Hispanic or Latino), and that if we precluded our sample to only White participants, we would find evidence of an anti-Hispanic bias in IAT performance. To investigate this issue, we ran an exploratory analysis that examined the implicit bias of White participants to determine whether they exhibited a stronger anti-Hispanic bias than the sample as a whole. Results showed that they had an average D score of 0.11 ($SD = 0.44$), which indicates that White participants on average exhibited a small to moderate anti-Hispanic bias on the IAT, $t(248) = 4.15$, $p < 0.001$, $d = 0.26$. This bias was stronger than the sample's average, which is in line with previous research from March & Graham (2015), who found that White participants held a negative implicit bias towards Hispanic male faces on an IAT that was similar to the method used here.

Additionally, this analysis focusing only on White participants is consistent with previous research using a different indirect measure, the MC-IAT. Specifically Axt et al. (2014) found evidence for a hierarchy in implicit racial/ethnic attitudes, wherein Hispanic people received the most negative implicit evaluations from participants that themselves were not Hispanic (i.e.,

White, Black, and Asian participants). In line with the study, we found that White participants exhibited a negative implicit bias towards Hispanic people.

However, other findings within our study are not supported by the previous research completed by Axt et al.— for one, we found that on average the whole sample showed only a weak implicit bias towards Hispanic people. This result could potentially be due to the fact that we had a diverse sample, with a non-trivial portion of the sample identifying as Hispanic (XX.X%). Additionally, unlike Axt et al.'s MC-IAT, our study did not measure race preference relative to other races; in other words, our study only had one target race compared to “non-Hispanic” people on the IAT, and using this broader category likely meant that participants were relying on a less elaborated or developed attitude when completing the IAT (Nosek, 2007), compared to prior measures that used a specific contrast group in the IAT (e.g., Hispanic people versus White people). Had we compared Hispanic people to people from a specific race, it is possible we might have seen a similar result to what was previously found in terms of anti-Hispanic biases in implicit attitudes.

Our results also speak to previous research conducted by Zou and Cheryan (2017), which found support (in self-report measures) that American participants evaluated racial/ethnic groups on levels of both inferiority and foreignness. From this Racial Position Model, Latinos were perceived to be both inferior and foreign, as compared to, for example, White people who are seen as both superior and American, or Black people who are seen as inferior but also American. Specifically, Zou and Cheryan (2017) found that perceivers were more likely to stereotype Latinos as inferior compared to Asian Americans and Whites. This finding is supported by our data, which found that greater explicit prejudice towards Hispanic people predicted self-reported perceptions of inferiority of Hispanic people ($r = .12$); in other words, participants' attitudes

were significantly related to their perception of Hispanic people being inferior, which helps to legitimize the idea that races are evaluated along a continuum of inferiority.

The previous research also found that Latinos reported experiencing foreignness-based prejudice more than other forms of prejudice, and that perceivers of Hispanic targets viewed Hispanic people to be more foreign than Black or White Americans. However, the foreignness outcome in our study was non-significant, meaning that self-reported attitudes did not predict perceptions of foreignness for Hispanic people. One possible explanation for this finding could be that people's attitudes towards foreignness do not necessarily correspond to their overall liking of Hispanic people. For instance, people may view Hispanic people as foreign, but still have generally positive feelings towards them.

Implications

One notable result is that immigration policy support was predicted by both implicit and explicit attitudes towards Hispanic people. This result has important implications for understanding how Hispanic-related bias may relate to consequential outcomes like voting and the passing of legislation that directly affects the Hispanic population, and could also help researchers and the public understand how such biases may contribute to prejudice or discrimination in other contexts (e.g., hiring). However, while intriguing, these data are ultimately correlational, and a clear next step for this line of research is to investigate whether interventions to change implicit or explicit Hispanic attitudes translate into changes in policy support as well (Forscher, Lai, et al. 2019).

Additionally, we found that the IAT had incremental predictive validity in predicting support for using ethnicity when judging potential guilt in a crime. This result points to the possibility that implicit bias may play a role in judging guilt for a crime, which has real world

consequences on people's lives—and may contribute to the previously mentioned criminal sentencing disparities for Hispanic people (Kansal, 2005, State of California Department of Justice, 2020). Accordingly, this finding can help to address the need for bias interventions in judicial settings and police training—fields in which implicit bias has the potential to influence people's lives in major ways, but that recent evidence suggests are contexts where behavior could be difficult to change (Lai & Lisnek, 2023).

Limitations

Of note and as previously alluded to, a potential limitation of this study is that we contrasted the specific category of “Hispanic people” with a general category of “non-Hispanic people” on the IAT. This lack of a well-focused comparison could have affected the results, specifically by using a less defined contrast category that in turn introduced greater error into measurement. For instance, participants' attitudes about non-Hispanic people could be very broad, depending on the category of people who first come to mind. In this way, our results are potentially weaker than had the measure been more specific (e.g. White versus Hispanic people). Subsequent studies in this line of research may want to examine whether the measure performs better when using a more focused contrast category, or when using implicit measures that have only one category, such as the Single-Category IAT (SC-IAT; Karpinski & Steinman, 2006); indeed, recent evidence suggests that the SC-IAT may be particularly well-suited for questions of incremental predictive validity (Axt, Buttrick & Feng, 2023).

However, using a more specific comparison category presents a unique challenge in the context of measuring Hispanic attitudes, as “Hispanic” is an ethnicity rather than a race, so using another racial group as a contrast category (e.g., White people) may lead to participant confusion or the creation of a false dichotomy, since many participants may identify as both White and

Hispanic. As a result, it may be necessary to use a more general comparison category in future attempts to measure Hispanic-related implicit attitudes.

Future Directions

There are multiple avenues for future work in this area. One next step would be to examine perceptions of Hispanic immigrants rather than U.S.-born Hispanic people. It would be worthwhile to compare how perceptions between the two groups differ; for instance, how are people of the same “race” or “ethnicity” treated differently depending on their country of origin? Here, we could potentially see how a factor of “American-ness” plays a role in people’s attitudes towards Hispanic citizens versus Hispanic immigrants, and the prejudice measures used in the present work may be particularly relevant for our outcomes when such measures are adapted to investigate Hispanic immigrants specifically.

In addition, attitudes towards immigrants are potentially subject to change over time; for example, in 2017, a large part of Donald Trump’s campaign targeted immigrants and their capacity to “steal jobs away from Americans.” Therefore, in line with Zou and Cheryan’s Racial Position Model (2017), exploring people’s perceptions of immigrants in regards to “inferiority” and “foreignness” could prove to be a worthwhile step in understanding different Hispanic perceptions. Specifically, it would be interesting to track self-reported perceptions of inferiority and foreignness over time, which could explore how contemporary politics shape the perceptions of the American population. We might expect to see a shift towards more positive attitudes towards Hispanic immigrants over time, as the world becomes more globalized and the U.S. becomes more diverse. For example, although immigration has recently slowed within the last few years (the pandemic being one culprit), immigration over the last few decades has increased (Pew Research Center, 2022)—thus, more integration of immigrants within U.S. society

potentially leads to increasing contact among immigrants and U.S. citizens, which is a known agent in reducing prejudice, provided the contact is relatively positive (Intergroup Contact Theory; Allport, 1954, Kotzur et al., 2018). At the same time, some people may find the rise of immigrant populations threatening, which could lead to increased bias against Hispanic immigrants over time. Regardless, tracking changes in implicit and explicit attitudes, as well as perceptions of foreignness could illustrate how such attitudes and perceptions are influenced by our political environment and perceptions of social norms.

Conclusion

The present study builds off of previous research examining both implicit and explicit biases against Hispanic people, and furthers the study of Hispanic perceptions by using a novel measure of implicit attitudes. Results found that implicit Hispanic attitudes were moderately correlated with self-reported attitudes, and independently predicted potentially consequential outcomes like policy support. These findings have broader implications for the perceptions and attitudes held by the American population, which in turn may help to understand the treatment of Hispanic people in wider political and judicial settings. An important next step may be to examine how Hispanic-related prejudices causally influence policy support, especially in the context of immigration.

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Appendix

Questions on potentially related outcomes from the Hispanic attitudes survey consisted of the following:

- 1) The United States' DACA program is a policy that prevents children of immigrated families from being deported, even if they are not U.S. citizens and do not have legal residency, and allows them to obtain work permits and health insurance. To what extent to you support the United States' DACA program?

1. I am highly supportive of the program
2. I am moderately supportive of the program
3. I am slightly supportive of the program
4. I neither oppose or support the program
5. I am slightly opposed to the program
6. I am moderately opposed to the program
7. I am strongly opposed to the program

- 2) In your opinion, to what extent do other people see Hispanic people seen as inferior or superior in the United States?

1. Extremely inferior
2. Moderately inferior
3. Slightly inferior
4. Neither inferior or superior
5. Slightly superior
6. Moderately superior
7. Very much superior

- 3) To what extent do you see Hispanic people as inferior or superior in the United States?

1. Extremely inferior
2. Moderately inferior
3. Slightly inferior
4. Neither inferior or superior
5. Slightly superior
6. Moderately superior
7. Very much superior

4) To what extent do you view Hispanic people born in the United States as foreign?

1. Not at all foreign
2. Slightly foreign
3. Moderately foreign
4. Quite a bit foreign
5. Extremely foreign

5) In general, how much are Hispanic people who are born in the United States accepted within American culture?

1. Not accepted at all
2. Slightly accepted
3. Moderately accepted
4. Quite a bit accepted
5. Extremely accepted

6) In a U.S. state where it is illegal, a Hispanic man and a Non-Hispanic man are both suspected for possession of marijuana. Because an arresting officer wants to make an accurate judgment, he should use information about a person's ethnic group when deciding who is more likely to be guilty.

1. Strongly agree
2. Moderately agree
3. Slightly agree
4. Neither agree or disagree
5. Slightly disagree
6. Moderately disagree
7. Strongly disagree