

**Racial and Religious Differences in Transgender and Sexuality
Attitudes**

Catherine Ao

Department of Psychology, McGill University

PSYC 494D1/D2: Psychology Research Project

Under the supervision of Dr. Jordan Axt

April 3, 2023

Abstract

While prior psychological research has explored racial and religious attitudes towards lesbian, gay, bisexual, and transgender (LGBT) individuals, most studies have focused only on explicit (i.e., self-reported) attitudes. The present study contributes to this question by investigating differences across participants' racial and religious identities in large samples of attitudes towards transgender ($N = 206,587$) and gay people ($N = 253,150$). Results showed significant racial and religious differences in implicit and explicit attitudes. Compared to participants from the six other religious groups polled, non-religious individuals held the least prejudiced implicit attitudes towards gay and transgender people. When analyzing participants' races, White participants showed relatively low implicit and explicit biases against gay and transgender people in comparison to the five other racial groups polled. These findings aid our understanding of how biases against transgender and gay people relate to racial and religious factors. Future work should investigate the influence of religion and culture using implicit and explicit measures on intergroup prejudice and discrimination.

Word Count: 161

Racial and Religious Differences in Transgender and Sexuality Attitudes

In recent years, the public discussion concerning transgender identity (gender identity differing from assigned sex at birth) and homosexuality has significantly increased in various contexts. Along with the increased awareness and visibility of transgender and sexuality issues, societal acceptance of transgender and gay people has increased. For instance, several countries, including the United States, have legally recognized same-sex marriage (Liptak, 2015). Regarding transgender equality, a recent survey showed that about 80% of British citizens believed they were not prejudiced against transgender people, and 76% stated that prejudices against transgender people are always or mostly wrong (Morgan et al., 2020).

Although there have been initiatives to advance lesbian, gay, bisexual, and transgender (LGBT) equality, discrimination against these sexual and gender minorities is still a problem in many conservative countries and regions. For instance, in Georgia, a former Soviet republic, protesters against a planned LGBT march attacked and injured journalists covering the event (AP News, 2021). Furthermore, many state legislatures in the United States are actively evaluating transgender-related regulations, such as prohibiting transgender adolescents from participating in sports based on their gender identity (AP News, 2020). Transgender and gay people are still experiencing discrimination across many domains, including employment (Davis & Yeung, 2022), housing (Lombardi, 2009), and healthcare (Grant et al., 2011).

Race/Ethnicity and Religions

Negative attitudes towards transgender and gay individuals remain an enduring issue in

most societies; however, a growing body of literature suggests that a range of demographic factors, such as culture (Balsam et al., 2011), ideological values, and belief systems (Willoughby et al., 2010) play an important role in predicting such attitudes. Particularly, racial and ethnic characteristics, along with religion, appear to be crucial predictors of attitudes towards transgender and gay people.

For instance, prior research on immigrants in Europe found that people from countries with weaker support for homosexuality are more likely to exhibit prejudicial attitudes about sexual orientation minorities (Röder & Dublin, 2015). In these cases, localized policies can be perceived as signaling “the will of the people” that arose from the local population; consequently, people thus internalized government legislation as social norms and formed their attitudes and behaviors based on their social cognition (Ofosu et al., 2019). Also, these traditional attitudes might represent the remnants of binary-gender norms, and these immigrants tend to retain their ethnic identity by valuing these norms (Lottes & Kuriloff, 1992). Therefore, race and ethnic identity may then be central to understanding LGBT attitudes.

In addition to the influence of race/ethnicity, an individual's sentiments towards LGBT group members are heavily linked with their religious affiliations and beliefs. Multiple studies regarding faith and social perspectives have revealed that religion predicts intergroup prejudices (Solomon & Kurtz-Costes, 2018; Elischberger et al., 2016; Olson et al., 2006). For instance, prior research suggested that Jewish people self-reported more supportive attitudes towards gay men and lesbian women (Lottes & Kuriloff, 1992; Wills & Crawford, 1999), as

well as towards transgender people (Cragun & Sumerau, 2015) than adherents of other religious groups. Conversely, individuals who identified as Christians and Muslims held more negative attitudes against gay men and lesbian women (Christianity: Whitehead, 2014; Muslims: Anderson & Koc, 2015), and Christians tended to be less supportive of transgender rights (Kanamori et al., 2017).

A common argument for this link between negative social attitudes, race/ethnicity, and religious affiliation is claimed to be driven by religion's and culture's focus on “value violation” (Herek, 1987). The idea of “value violation” means that some people believe that certain behaviors go against their important beliefs or principles. The doctrine of the majority of Abrahamic religions (e.g., Judaism, Christianity, and Islam) asserts that their respective deities created humanity with people completely rooted in the gender binary (e.g., Christianity's Adam and Eve; Hunsberger & Jackson, 2005). Gay people are usually considered as violating stereotypical gender norms and expectations (e.g., masculine men and feminine women; Herek, 1984); moreover, transgender people are by definition outside the gender binary of “male” and “female” (Dean et al., 2000). As a result, it is believed that negative attitudes towards transgender identities and sexuality are informed by cultural dynamics (i.e., cultural formation, maintenance, and transformation; Campbell, Hinton & Anderson, 2019), leading to stronger prejudices against gay and transgender people among religious and racial groups.

Implicit Transgender and Sexuality Attitudes

Most research on transgender and sexuality related attitudes rely on observation or

self-reported explicit attitudes (i.e., conscious and self-endorsed attitudes; Greenwald & Banaji, 1995). Despite explicit attitudes being informative, these may not represent the whole spectrum of evaluations since they are at the conscious level and are controlled. Instead, implicit attitudes refer to comparatively automatic associations with less conscious awareness and controls (Greenwald & Banaji, 1995). Specifically, implicit attitudes are inferred from individuals' responses, such as in the speed with which participants can associate positive and negative words with an attitude object.

One of the most prevalent methods developed to measure implicit intergroup evaluations is the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). The IAT is based on the concept that associations are reflected by people's behaviors and attitudes, as stronger association denotes more frequently activated concepts together. The logic behind the IAT is based on response times, such that it is easier to respond quicker to the concepts that are more frequently activated together when they share the same response key. Often, the IAT is used to measure the strength of associations via reaction time between concepts (e.g., Black-White, Gay-Straight) and positive or negative attributes (e.g., see Greenwald, McGhee, & Schwartz, 1998).

Such implicit measures can assess more automatic ingroup and outgroup evaluations (Nosek et al., 2007). However, while implicit attitude measures are widespread in many intergroup areas, most of them only focus on a handful of domains, such as race, religion, or sexual orientation (e.g., see meta-analysis Kurdi et al., 2019). Up until recently, there has been relatively little prior research on implicit attitudes towards transgender and cisgender

people. The first implicit transgender study that used the IAT was conducted by Wang-Jones et al. (2018), which found overall positive implicit attitudes towards “biological men” and “biological women” among all heterosexual and homosexual participants. However, this method for measuring transgender-related implicit associations may not be ideal, since the researchers measured attitudes towards “transsexual men” and “transsexual women” in comparison to “biological men” and “biological women”, which are labels that refer to one's genitals instead of gender (e.g., “transgender people”, “cisgender people”). To be specific, this prior work measured associations towards subgroups instead of transgender people as a whole group (Govan & Williams, 2004). Follow-up research (Axt et al., 2020) found that implicit transgender attitudes could be measured more holistically and accurately by using categories of “transgender people” and “cisgender people” on an IAT and using celebrity images to represent each group.

Current Study

Given that transgender and gay people now occupy a larger proportion of the population, it is urgent to understand the culture of prejudices on gender identity and sexual orientation. For many people, race and religion functions as an important set of beliefs about the world and inform social norms that influence individuals' attitudes (Baumeister, 1991). This study uses a novel transgender IAT developed by Axt et al. (2020) and a sexuality IAT from Nosek et al. (2007) to investigate variations in attitudes towards gender identity and sexual orientation across racial and religious groups, compared to White people and non-religious

people. The study also examines whether similar patterns emerged for implicit and explicit outcome measures related to attitudes concerning gay and transgender people.

Study 1

Study 1 compares attitude differences towards transgender and cisgender people between White participants and other various racial-ethnic groups, as well as non-religious people compared to other religious groups.

Method

Participants:

A total of 206,587 participants completed the transgender IAT at Project Implicit (<https://implicit.harvard.edu>) between April 3rd 2020 and December 31st, 2021. Since this study primarily focuses on racial and religious comparisons, only participants who self-identified as following six racial identities (American Indian/Alaska Native, East Asian, South Asian, Native Hawaiian or other Pacific Islander, Black or African American and White) and following seven religious identities (Buddhist/Confucian/Shinto, Catholic/Orthodox, Protestant, Hindu, Jewish, Muslim/Islamic) including no religious beliefs are retained for analysis. Data from participants who had reaction times faster than 300ms on more than 10% of the trials were removed from the analysis (Greenwald, Nosek, & Banaji, 2003; Nosek et al., 2007), resulting in a sample of $N= 185, 366$ (racial groups; $M_{Age} = 34.21$, $SD = 13.63$; 78.4% USA residents; other descriptive data see Table 1) and $N= 193,963$ (religious groups; $M_{Age} = 34.25$, $SD = 13.63$; 80.2% USA residents; other descriptive data see Table 1).

Table 1. Descriptive Statistic of Participants for Study 1

	Identities	Count	Percentage
Racial Identities	American Indian/Alaska Native	1606	0.9%
	East Asian	6467	3.5%
	South Asian	5660	3.1%
	Native Hawaiian or other Pacific Islander	1014	0.5%
	Black or African American	14552	7.9%
	White	156067	84.2%
Religious Identities	Buddhist/Confucian/Shinto	2811	1.4%
	Christian: Catholic or Orthodox	35689	18.4%
	Christian: Protestant or Other	48195	24.8%
	Hindu	2019	1.0%
	Jewish	5204	2.7%
	Muslim/Islamic	2467	1.3%
	Not Religious	97578	50.3%

Measures

Implicit transgender attitudes. Implicit transgender attitudes were measured through a seven-block IAT developed by Axt et al. (2020). Subjects were presented with either good attribute words (e.g., “Nice”, “Glorious”, etc.) or bad attribute words (e.g., “Nasty”, “Agony”, etc.). The category labels were “transgender people” and “cisgender people”, representing the whole group. Stimuli comprised eight images of celebrities (four cisgender people and four transgender people). Pairs of celebrities from each group were matched on race, approximate age and popularity (estimated using Google search returns). At the beginning of the IAT, participants were shown a text description of each celebrity and were asked to complete a 24-trial training block. In such training trials, participants had to correctly categorize the celebrities' images that has transgender or cisgender labels into corresponding categories. Such labels on images were removed after the training block. The seven-block IAT was developed from Nosek et al. (2007), designed and followed the D scoring algorithm (Greenwald et al., 2003). A more positive D score indicated a more positive association with cisgender people than transgender people.

Explicit Attitudes. Participants were asked to self-report their preference towards cisgender people and transgender people using a scale from 1 (“I strongly prefer transgender people to cisgender people”) to 7 (“I strongly prefer cisgender people to transgender people”), with the midpoint 4 (“I like cisgender people and transgender people equally”) indicating no preference (Axt, 2018).

Procedures

Participants completed the transgender IAT and explicit attitude scale survey in a random order.

Results

Figures 1.1 and 1.2 display the mean scores on attitudes towards transgender people across six racial groups. In addition, Figures 1.3 and 1.4 show transprejudice attitudes mean scores across seven religious affiliation groups. Since mean differences exist within racial and religious groups, follow-up comparison tests were applied. Because the majority of participants self-identified as White people, the other five racial groups are compared against the average attitudes of White participants. Meanwhile, the non-religion people are dominant in seven religious identities, so the six other religious groups are compared against them.

Figure 1. Mean and standard error attitudes towards transgender targets across participants' racial and religious groups.

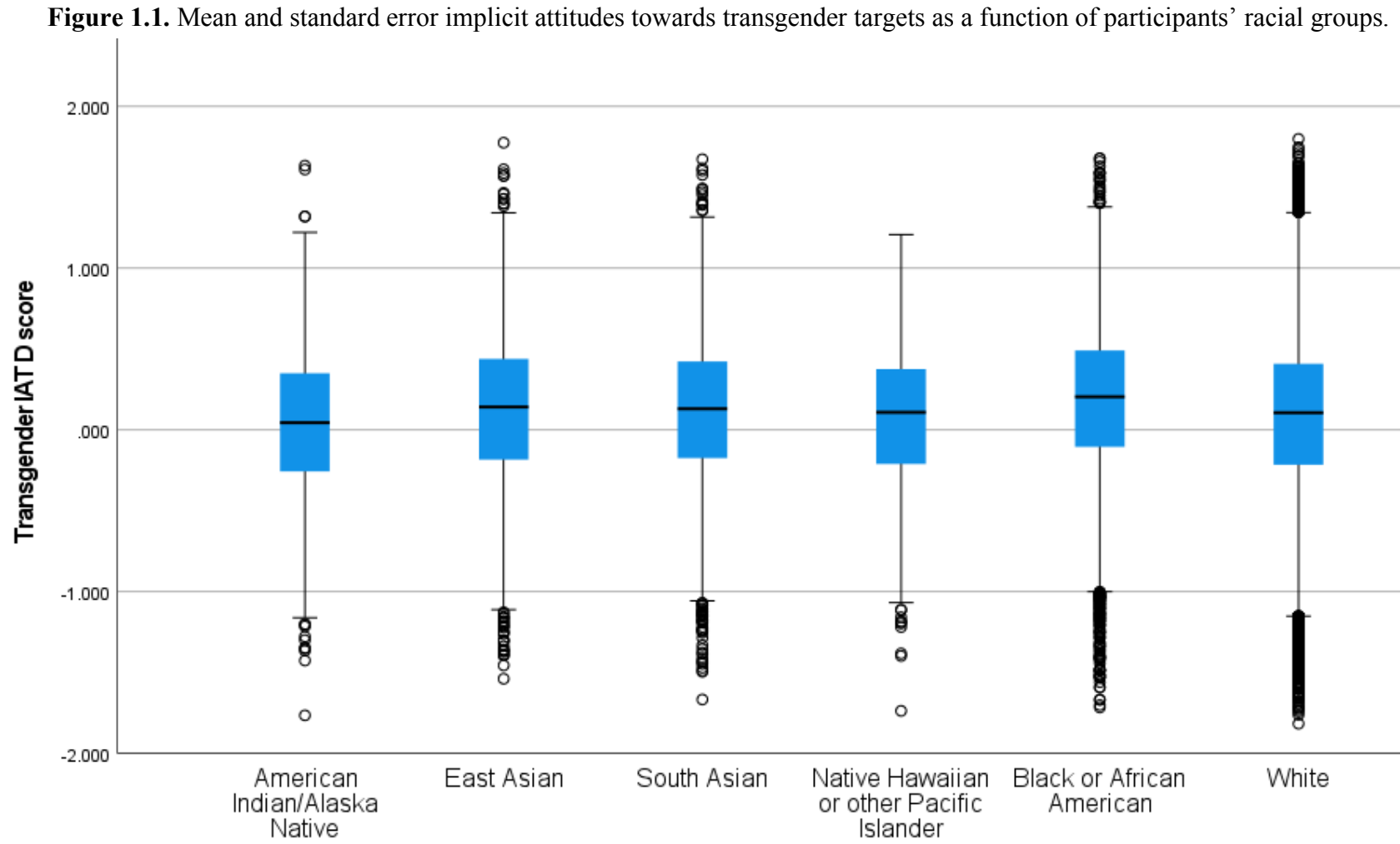


Figure 1.2. Mean and standard error implicit attitudes scores towards transgender targets as a function of participants' religious affiliations.

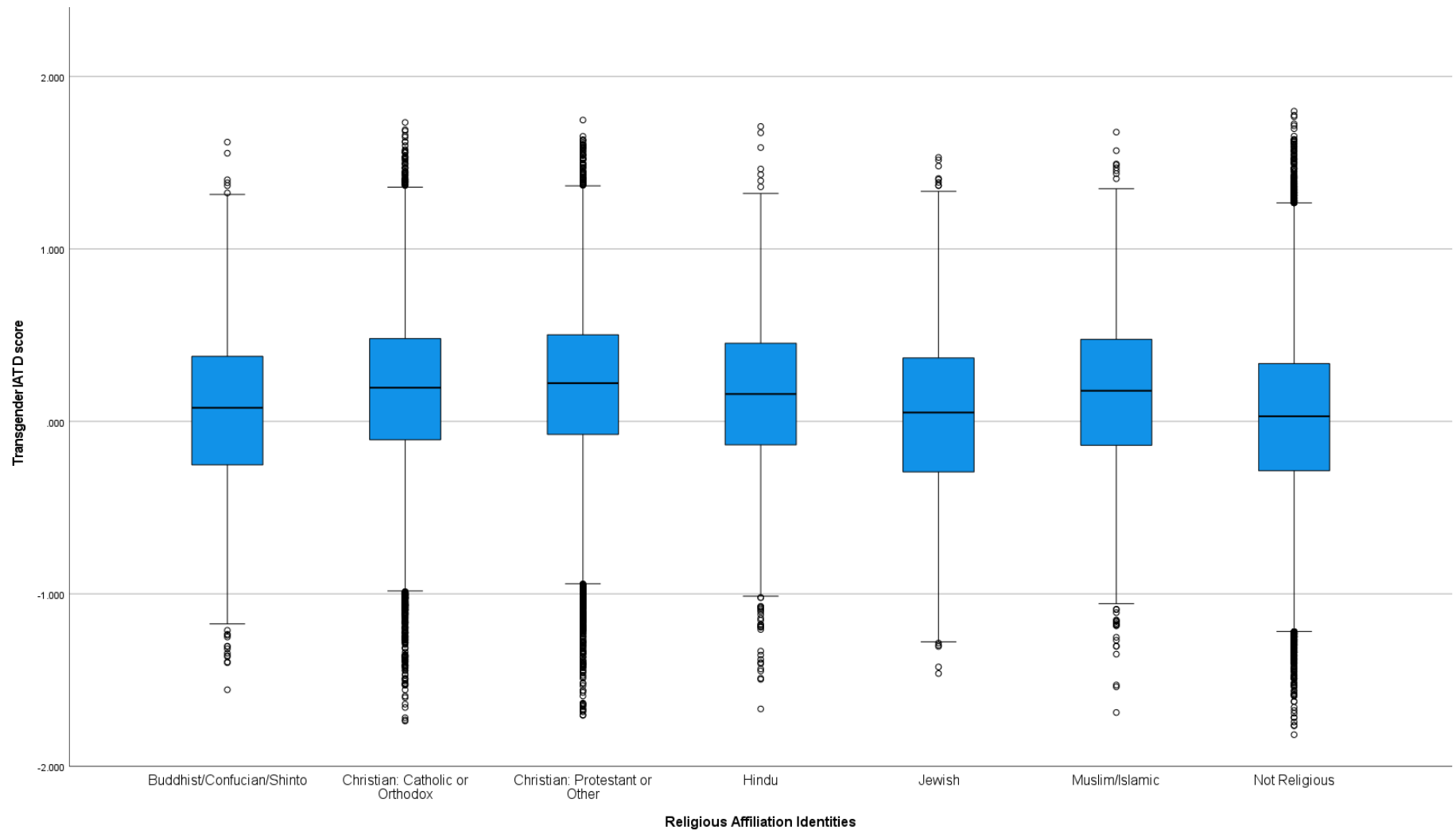


Figure 1.3. Mean and standard error explicit attitudes towards transgender targets as a function of participants' racial groups.

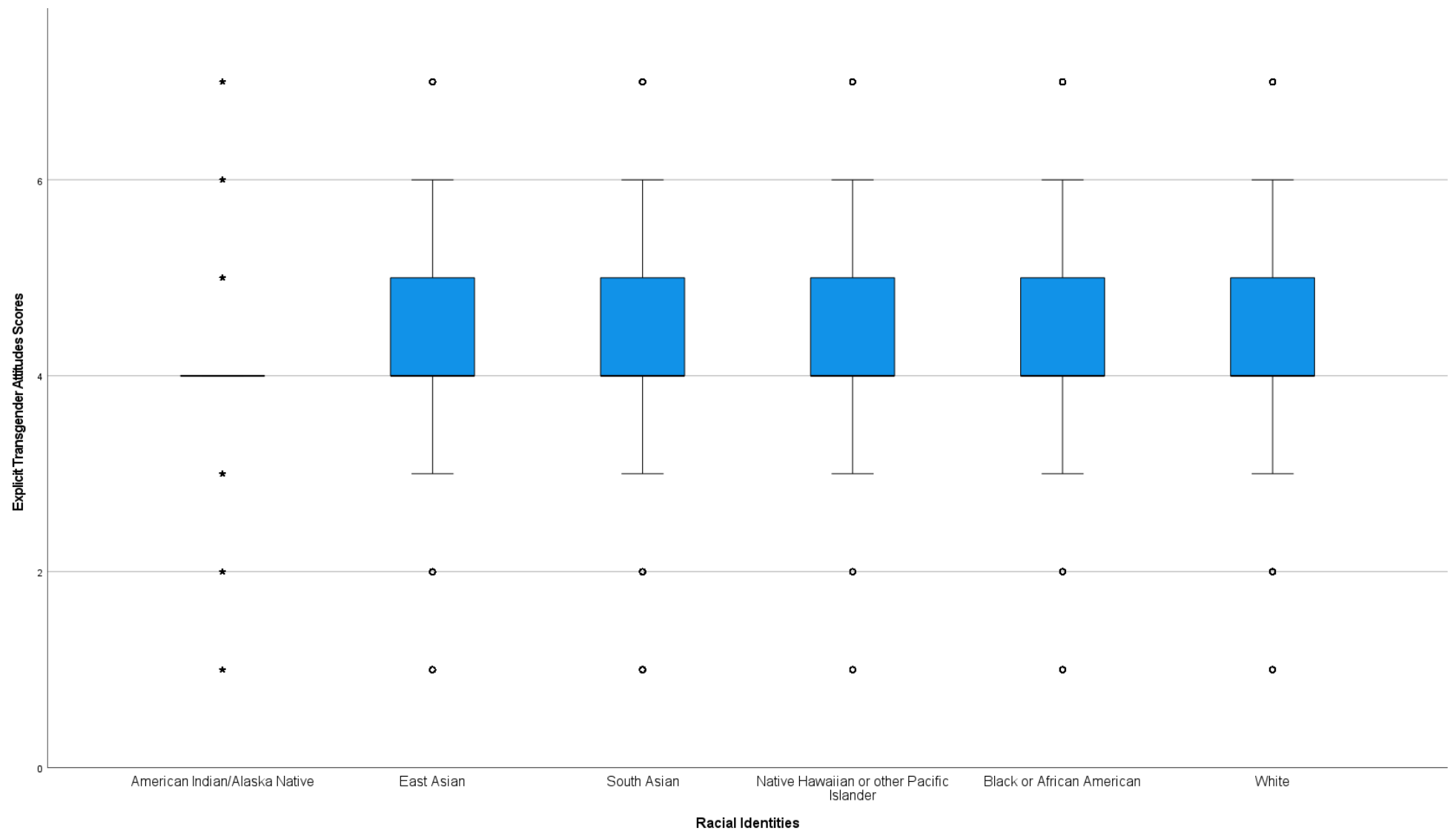
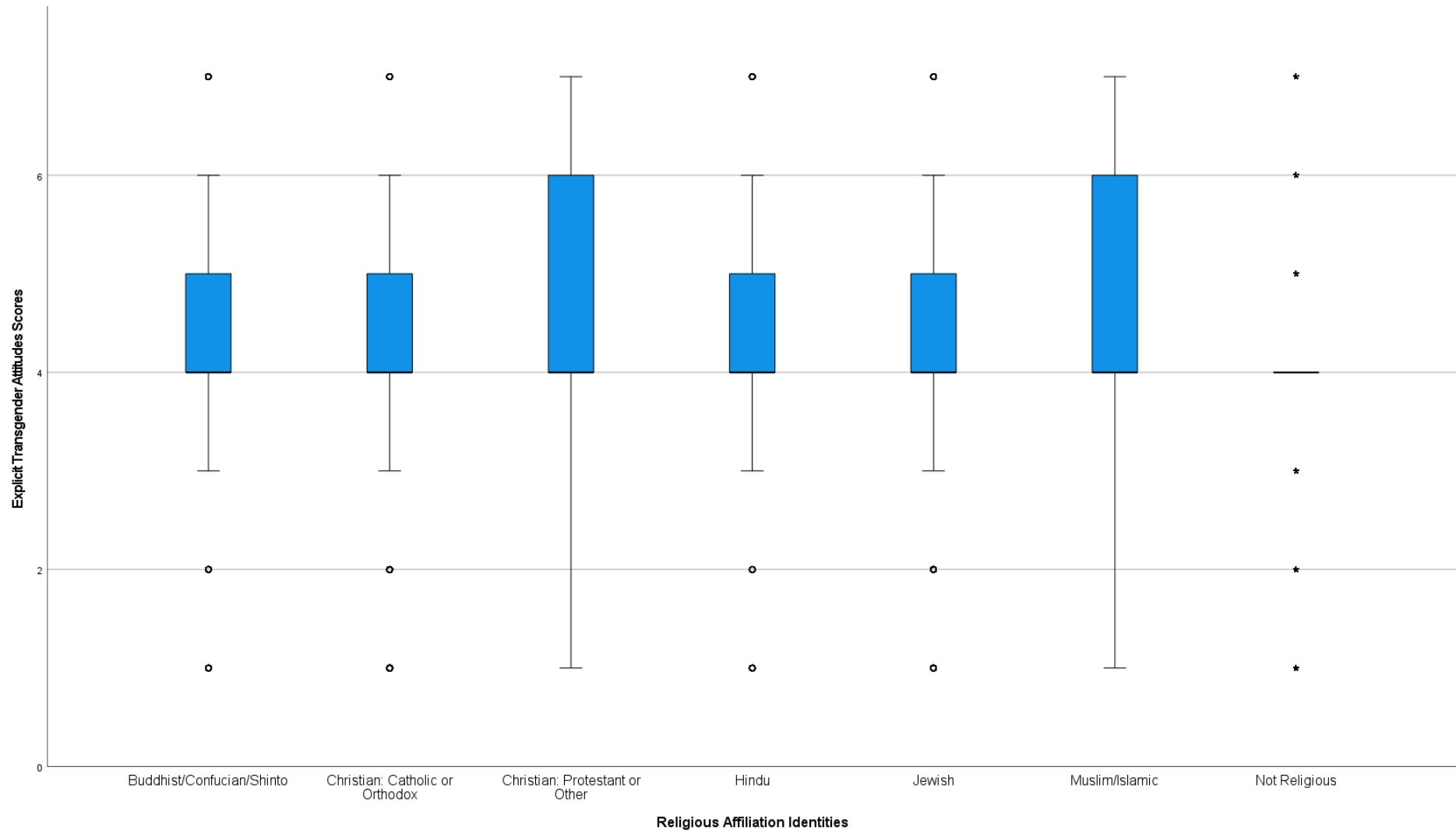


Figure 1.4. Mean and standard error explicit attitudes scores towards transgender targets as a function of participants' religious affiliations.



Mean Comparison

Differences Across Racial Groups

Overall, White participants (Implicit attitudes: $M = 0.10$, $SD = 0.45$; Explicit attitudes: $M = 4.40$, $SD = 1.11$) had significantly different attitudes from four of five other racial groups in both implicit and explicit attitude measures.

Implicit attitudes: A positive IAT D score indicates positive attitudes towards cisgender people. Despite all racial groups showing evidences of implicit preferences for cisgender over transgender people, White participants had relatively less biased attitudes against transgender people than three of five other racial groups: South Asian participants ($t = -4.59$, $p < 0.001$, $d = -0.06$), East Asian participants ($t = -6.33$, $p < 0.001$, $d = -0.08$) and Black or African American participants ($t = -24.52$, $p < 0.001$, $d = -0.20$). In contrast, White participants were significantly less supportive than Indian/Alaska Native participants ($t = 4.27$, $p < 0.001$, $d = 0.10$) towards transgender people.

Additionally, there was no significant mean difference between White people and Native Hawaiian or other Pacific Islander people ($t = 0.66$, $p > 0.05$, $d = 0.02$).

Explicit attitudes: A score of four indicates no preference for transgender or cisgender individuals, and a higher score indicates positive attitudes towards cisgender people. The explicit attitudes variable exhibited identical patterns as the implicit attitudes variable. Specifically, in explicit attitudes, the difference between White and Native Hawaiian or other Pacific Islander people ($t = 0.47$, $p > 0.05$, $d = 0.02$) is similar as which in implicit attitudes

($t = 0.66, p > 0.05, d = 0.02$), which is not significant. Despite the fact that people from all different racial groups reported preferences for cisgender over transgender people in explicit attitudes, White people showed less prejudice for transgender people than South Asian people ($t = -3.30, p < 0.001, d = -0.04$), East Asian people ($t = -8.66, p < 0.001, d = -0.10$), or Black or African American people ($t = -14.51, p < 0.001, d = -0.13$), the pattern of results were identical to the implicit attitude analyses. Similarly, the American Indian/Alaska Native group ($t = 4.43, p < 0.001, d = 0.11$) was found to have more positive explicit transgender attitudes relative to White participants.

Differences Across Religious Affiliation Groups

In general, people who identified themselves as not religious held more positive attitudes towards transgender people than six other religious affiliations identified groups (Implicit Attitudes: $M = -0.02, SD = 0.45$; Explicit Attitudes: $M = 4.18, SD = 1.00$).

Implicit attitudes: Non-religious people had more positive implicit attitudes toward transgender individuals compared with six other religious affiliation groups: Jewish people ($t = -2.44, p < 0.001, d = -0.03$), Buddhists/Confucians/Shintos ($t = -4.66, p < 0.001, d = -0.08$), Hindus ($t = -13.00, p < 0.001, d = -0.27$), Muslims ($t = -15.90, p < 0.001, d = -0.30$), Catholics or Orthodox Christians ($t = -60.60, p < 0.001, d = -0.35$) and Protestants or other Christians ($t = -76.43, p < 0.001, d = -0.40$).

Explicit attitudes: Atheists self-reported a minor prejudice towards transgender individuals despite they exhibited positive implicit attitudes towards transgender individuals.

Nonetheless, non-religious individuals reported significantly more positive explicit attitudes than did Jewish individuals ($t = -2.74, p < 0.05, d = -0.07$), Buddhists/Confucians/Shintos ($t = -4.93, p < 0.001, d = -0.10$), Hindus ($t = -12.40, p < 0.001, d = -0.27$), Catholics or Orthodox Christians ($t = -74.65, p < 0.001, d = -0.45$), Muslims/Islamic ($t = -24.33, p < 0.001, d = -0.56$) and Protestants or other Christians ($t = -105.97, p < 0.001, d = -0.58$).

Though there were small differences between the implicit and explicit analyses, the pattern of results was largely the same across the two outcomes.

Table 2. Descriptive Statistics and Independent *t*-tests values for Transgender Attitudes Analyses

Groups	IAT <i>D</i> scores					Self-reported Attitudes				
	Mean	SD	Comparison to White people	Comparison to Non-Religious people	Cohen's <i>d</i>	Mean	SD	Comparison to White people	Comparison to Non-Religious people	Cohen's <i>d</i>
1.All	0.10	0.45	—	—	—	4.41	1.11	—	—	—
2.American Indian/Alaska Native	0.05	0.45	4.27**	—	0.10	4.28	1.20	4.43**	—	0.11
3.East Asian	0.13	0.45	-6.33**	—	-0.08	4.51	1.10	-8.66**	—	-0.10
4.South Asian	0.12	0.44	-4.59**	—	-0.06	4.45	1.10	-3.30**	—	-0.04
5.Native Hawaiian or other Pacific Islander	0.08	0.44	^{ns} 0.66	—	0.02	4.38	1.21	^{ns} 0.47	—	0.02
6.Black or African American	0.18	0.45	-24.52**	—	-0.20	4.54	1.18	-14.51**	—	-0.13
7.White	0.09	0.45	—	—	—	4.40	1.11	—	—	—

8.Buddhist/Confucian/Shinto	0.06	0.46	—	-4.66**	-0.08	4.28	1.14	—	-4.93**	-0.10
9.Christian: Catholic or Orthodox	0.18	0.43	—	-60.60**	-0.35	4.64	1.11	—	-74.65**	-0.45
10.Christian: Protestant or Other	0.20	0.43	—	-76.43**	-0.40	4.79	1.17	—	-105.97**	-0.58
11.Hindu	0.14	0.45	—	-13.00**	-0.27	4.45	1.10	—	-12.40**	-0.27
12.Jewish	0.04	0.46	—	-2.44**	-0.03	4.22	1.16	—	-2.74*	-0.07
13.Muslim/Islamic	0.16	0.45	—	-15.90**	-0.30	4.75	1.13	—	-24.33**	-0.56
14.Not Religious	-0.02	0.45	—	—	—	4.18	1.00	—	—	—

Note. ^{ns} indicates $p > .05$. Statistically significant findings are presented in boldface. * $p < .05$; ** $p < .001$.

IAT = Implicit Association Test

Study 2

Study 2 compares attitude disparities towards gay people between White participants and various racial-ethnic as well as non-religious versus other religious groups.

Method

Participants:

A total of 253,150 participants completed the sexuality IAT at Project Implicit (<https://implicit.harvard.edu>) between January 1st 2021 and December 31st, 2021. Since this study primarily focuses on racial and religious comparisons, only participants who self-identified as following six racial identities (American Indian/Alaska Native, East Asian, South Asian, Native Hawaiian or other Pacific Islander, Black or African American) and following six religious affiliations (Buddhist/Confucian/Shinto, Catholic/Orthodox, Protestant, Hindu, Jewish, Muslim/Islamic) and non-religious participants are retained for analysis. As in Study 1, data from participants who had reaction times faster than 300ms on more than 10% of the trials were removed from the analysis (Greenwald, Nosek, & Banaji, 2003; Nosek, 2007), resulting in a sample of $N = 229,133$ (racial groups; $MAge = 28.88$, $SD = 12.87$; 79.0% USA residents; other descriptive data see Table 3) and $N=235,687$ (religious groups; $MAge = 30.78$; $SD = 12.9$; 76.2% USA residents; other descriptive data see Table 3).

Table 3. Descriptive Statistic of Participants In Study 2

Groups	Count	Percentage
Racial Groups		
American Indian/Alaska Native	2196	0.9%
East Asian	11093	4.8%
South Asian	9357	4.0%
Native Hawaiian or other Pacific Islander	1523	0.7%
Black or African American	20309	8.8%
White	184655	80.8%
Religious groups		
Buddhist/Confucian/Shinto	3502	1.5%
Christian: Catholic or Orthodox	50117	21.3%
Christian: Protestant or Other	56315	23.9%
Hindu	3126	1.3%
Jewish	5471	2.3%
Muslim/Islamic	3446	1.5%
Not Religious	113710	48.2%

Measures

Implicit sexuality attitudes. Implicit sexuality attitudes were measured through a seven-block IAT from Nosek et al. (2007), in which four black-and-white symbols that represented gay people and straight people were paired with four word labels (e.g., Straight, Heterosexual, Gay, Homosexual), and did not include any training block. The scoring calculation followed the *D* scoring algorithm (Greenwald et al., 2003). A more positive *D* score indicated a more positive association with straight people versus gay people.

Explicit Attitudes. Participants were asked to self-report their preference towards cisgender people and transgender people using a scale from 1 (“I strongly prefer I strongly prefer gay people to straight people.”) to 7 (“I strongly prefer gay people to straight people”), with the midpoint 4 (“I like gay and straight people equally”) indicating no preference (Axt, 2018).

Procedures

Participants completed the sexuality IAT and explicit attitude survey in a random order.

Results

Mean Comparison

Figures 2.1 and 2.3 demonstrate the mean scores on sexuality attitudes among six racial groups. Figures 2.2 and 2.4 show mean scores for attitudes across seven religious groups. Mean differences could be seen in participants' racial and religious groups; therefore, follow-up comparison tests were applied. Because the majority of participants identified as White, five other racial groups were compared to White participants. In addition,

non-religious people are the dominant religious identities in our study, so six other religious groups were compared against non-religious participants.

Differences Across Racial Groups

Implicit attitudes: All racial groups had negative implicit attitudes against gay people; nonetheless, White people held the least biased implicit attitudes towards gay people than did East Asian people ($t = -15.01, p < 0.001, d = -0.14$), South Asian people ($t = -13.87, p < 0.001, d = -0.14$) and Black or African American people ($t = -44.67, p < 0.001, d = -0.33$).

Additionally, there was no significant mean difference between White people and American Indian/Alaska Native people ($t = -1.72, p = 0.085, d = 0.04$) nor Native Hawaiian or other Pacific Islander people ($t = -1.91, p = 0.056, d = -0.05$).

Explicit attitudes: White people self-expressed positive attitudes about gay people on the direct scale, as opposed to the slightly negative attitudes reported in the implicit measure. In explicit measures, White people showed pro-gay attitudes compared to other five racial groups: Native Hawaiian or other Pacific Islander people ($t = -2.69, p = 0.002, d = -0.08$), American Indian/Alaska Native people ($t = -3.26, p < 0.001, d = -0.08$), South Asian people ($t = -18.65, p < 0.001, d = -0.21$), East Asian people ($t = -23.72, p < 0.001, d = -0.23$), and Black or African American people ($t = -32.87, p < 0.001, d = -0.27$).

The pattern for self-reported attitudes towards gay versus straight people was different than what was found in implicit attitudes; previously, people of Native Hawaiian or other Pacific Islanders and American Indian or Alaska Native are not significantly different from White people but now they are held more biases compared with White participants; South Asian or East Asian people were ranked as fourth and third respectively before, but now they

are ranked third and fourth. Only Black people's position in the attitudes ranking order relative to White people remained unaltered.

Differences Across Religious Affiliation Groups

In general, people who identified themselves as not religious (Implicit Attitudes: $M = -0.01$, $SD = 0.48$; overall Explicit Attitudes: $M = 3.66$, $SD = 1.18$) held significantly less bias towards gay people than the other six religious identities.

Implicit attitudes: Except for non-religious people, people identified with all kinds of religious affiliations held negative attitudes against gay people. Atheists had more pro-gay implicit attitudes compared with the other six religious groups: Jewish people ($t = -5.59$, $p < 0.001$, $d = -0.07$), Buddhists/Confucians/Shintos ($t = -13.65$, $p < 0.001$, $d = -0.22$), Hindus ($t = -25.84$, $p < 0.001$, $d = -0.44$), Catholics or Orthodox Christians ($t = -96.27$, $p < 0.001$, $d = -0.49$), Protestants or other Christians ($t = -106.08$, $p < 0.001$, $d = -0.52$) and Muslims ($t = -35.11$, $p < 0.001$, $d = 0.57$).

Explicit attitudes: As in explicit attitudes, across seven religiously identifiable groups, only non-religious participants had positive attitudes towards gay people. Non-religious participants had more positive attitudes towards gay people than Jewish participants ($t = -7.57$, $p < 0.001$, $d = -0.10$), Buddhist/Confucian/Shinto participants ($t = -18.47$, $p < 0.001$, $d = -0.30$), Hindu participants ($t = -32.82$, $p < 0.001$, $d = -0.59$), Catholic or Orthodox participants ($t = -115.58$, $p < 0.001$, $d = -0.59$), Protestant or other Christian participants ($t = -131.35$, $p < 0.001$, $d = -0.65$) and Muslim/Islamic participants ($t = -43.06$, $p < 0.001$, $d = -0.88$). The analysis of explicit attitudes yielded a pattern identical to the implicit attitude analysis.

Figure 2. Mean and standard error attitudes towards gay targets across participants' racial and religious groups

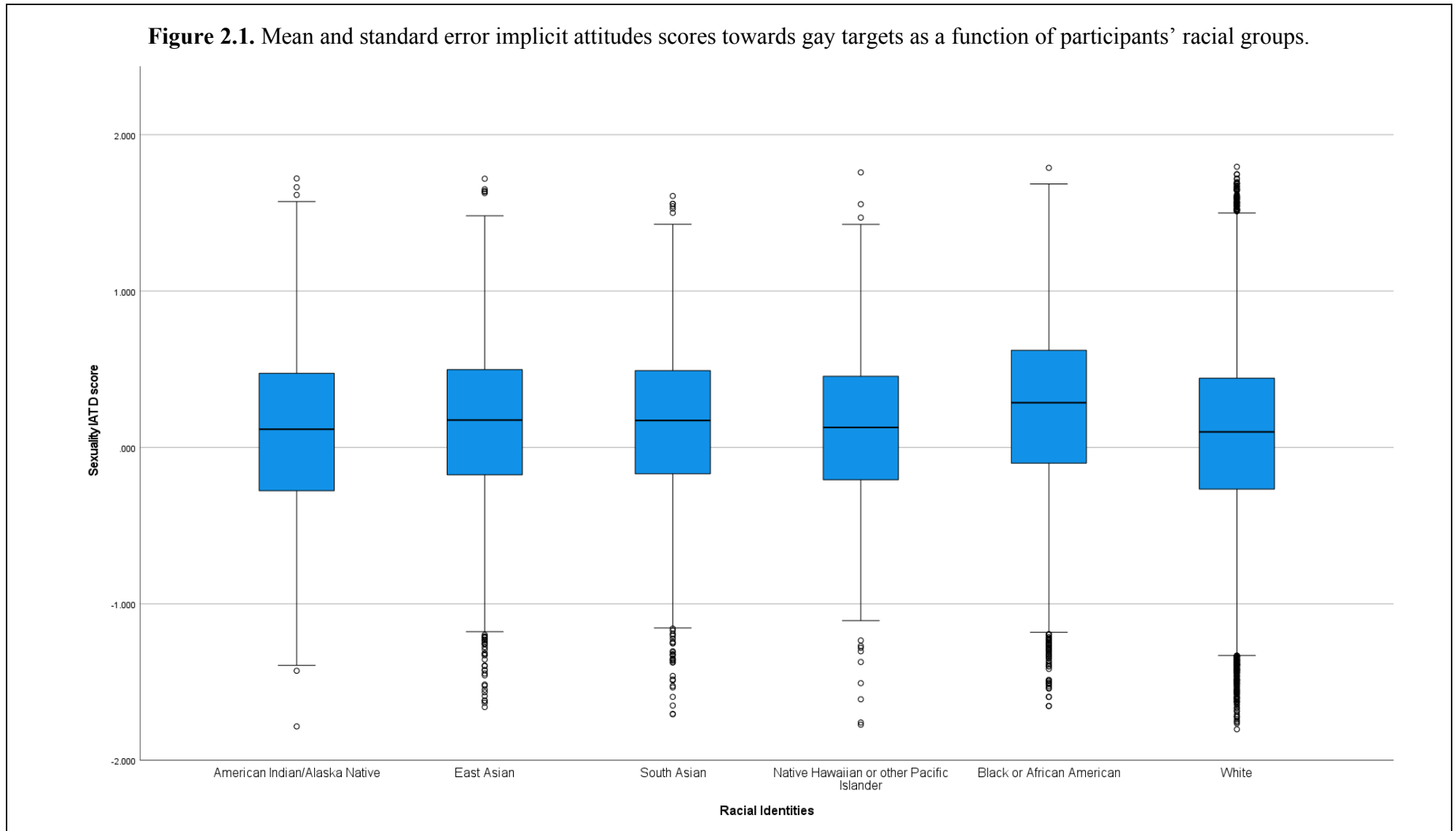


Figure 2.2. Mean and standard error implicit attitudes scores towards gay targets as a function of participants' religious affiliations.

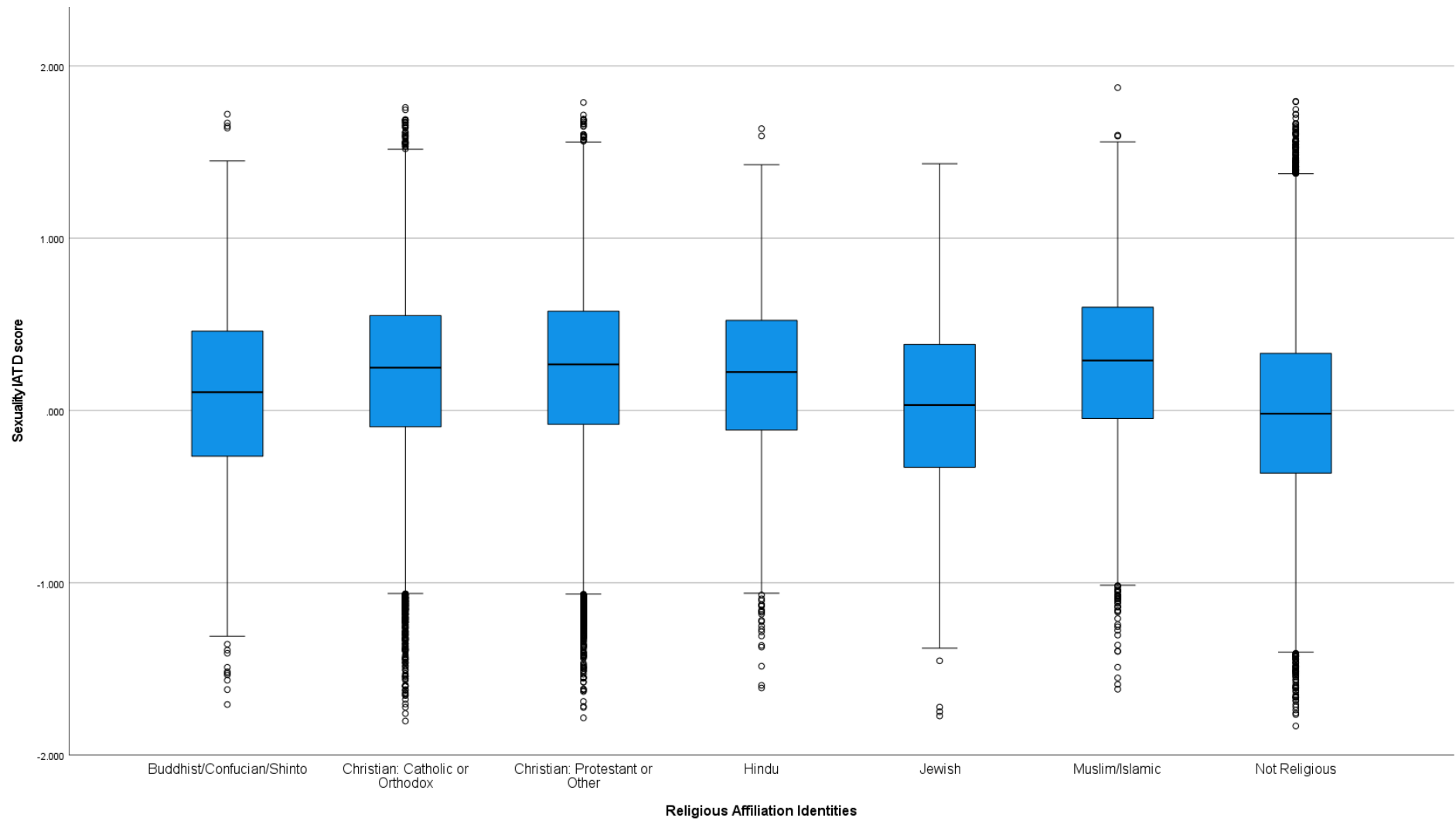


Figure 2.3. Mean and standard error explicit attitudes scores towards gay targets as a function of participants' racial groups.

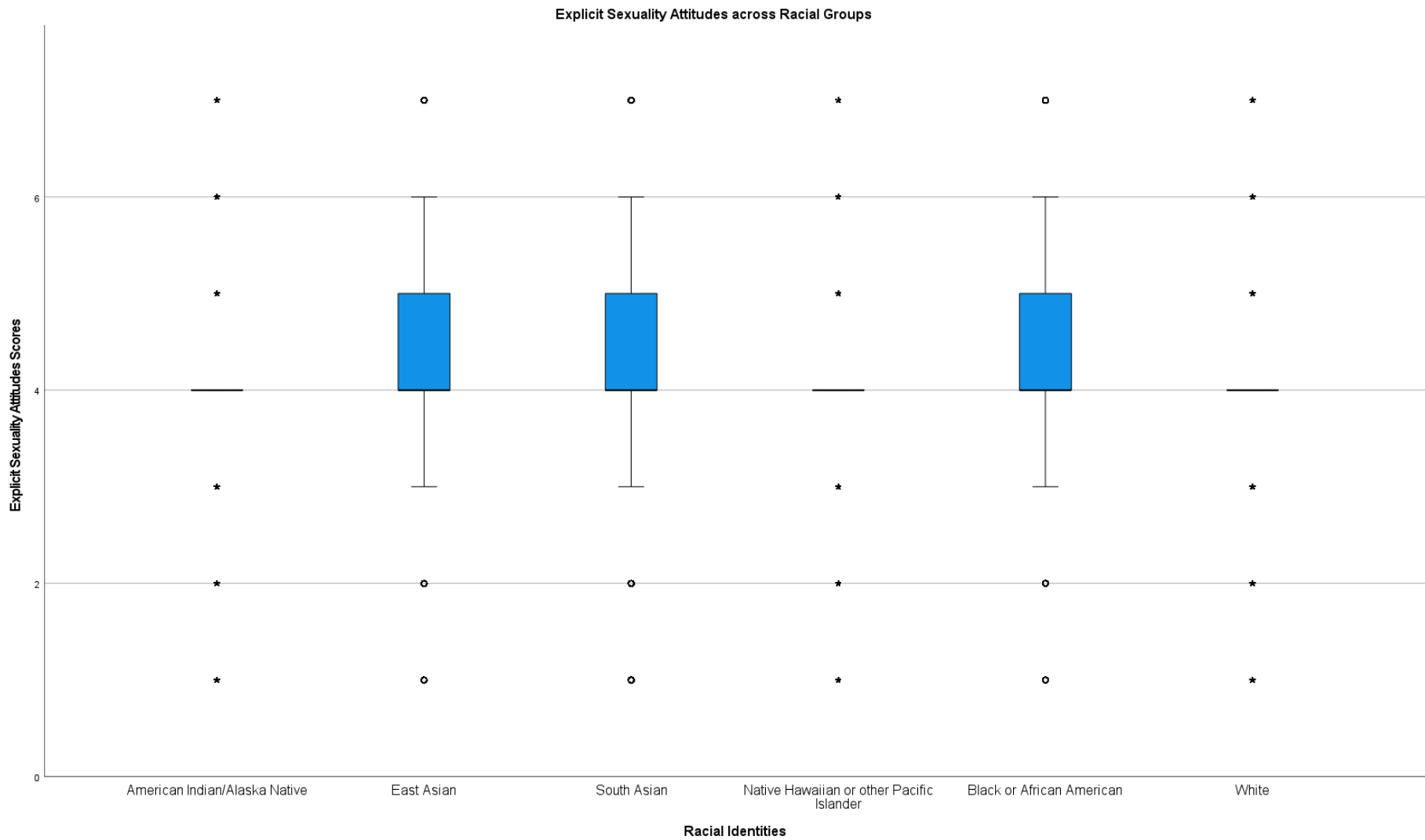


Figure 2.4. Mean and standard error explicit attitudes scores towards gay targets as a function of participants' religious affiliations.

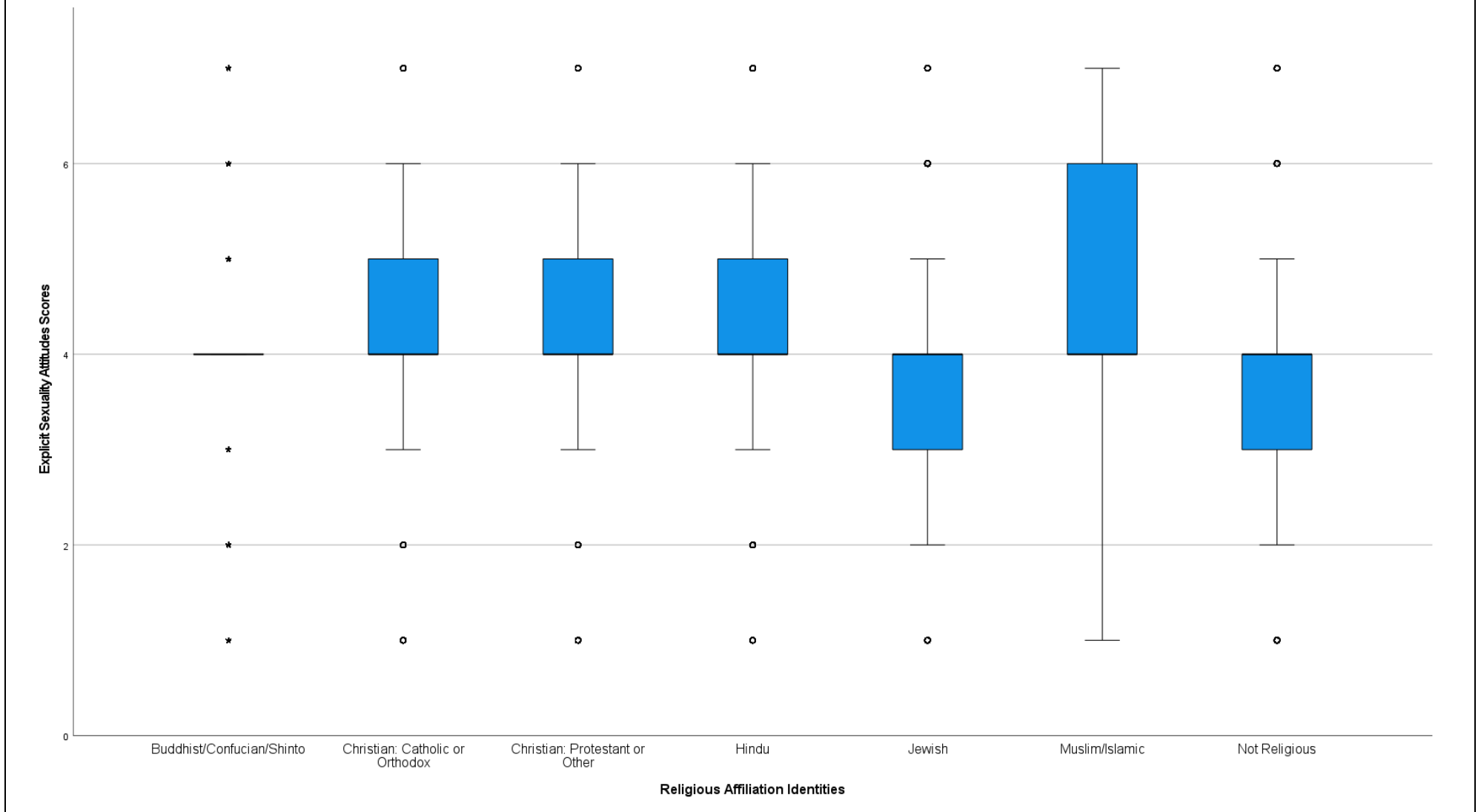


Table 4. Descriptive Statistics and Independent *t*-tests values for Sexuality Attitudes Analyses

Groups	IAT <i>D</i> scores					Self-reported Attitudes				
	Mean	SD	Comparison to White people	Comparison to Non-Religious people	Cohen's <i>d</i>	Mean	SD	Comparison to White people	Comparison to Non-Religious people	Cohen's <i>d</i>
1.All	0.10	0.49	—	—	—	4.01	1.25	—	—	—
2.American Indian/Alaska Native	0.10	0.51	-1.72 ^{ns}	—	0.04	4.06	1.45	-3.26**	—	-0.08
3.East Asian	0.15	0.48	-15.01**	—	-0.14	4.24	1.34	-23.72**	—	-0.23
4.South Asian	0.15	0.47	-13.87**	—	-0.14	4.22	1.35	-18.65**	—	-0.21
5.Native Hawaiian or other Pacific Islander	0.11	0.48	-1.91 ^{ns}	—	-0.05	4.05	1.37	-2.69*	—	-0.08
6.Black or African American	0.25	0.49	-44.67**	—	-0.33	4.29	1.39	-32.87**	—	-0.27
7.White	0.08	0.49	—	—	—	3.96	1.21	—	—	—

8.Buddhist/Confucian/Shinto	0.09	0.50	—	-13.65**	-0.22	4.01	1.35	—	-18.47**	-0.30
9.Christian: Catholic or Orthodox	0.21	0.47	—	-96.27**	-0.49	4.35	1.17	—	-115.58**	-0.59
10.Christian: Protestant or Other	0.23	0.47	—	-106.08**	-0.52	4.43	1.20	—	-131.35**	-0.65
11.Hindu	0.19	0.46	—	-25.84**	-0.44	4.36	1.28	—	-32.82**	-0.59
12.Jewish	0.02	0.49	—	-5.59**	-0.07	3.78	1.22	—	-7.57**	-0.10
13.Muslim/Islamic	0.26	0.48	—	-35.11**	0.57	4.70	1.54	—	-43.06**	-0.88
14.Not Religious	-0.01	0.48	—	—	—	3.66	1.18	—	—	—

Note. ^{ns} indicates $p > .05$. Statistically significant findings are presented in boldface. * $p < .05$; ** $p < .001$.

IAT = Implicit Association Test

General Discussion

This study reveals that the level of explicit and implicit biases towards transgender and sexuality vary significantly by religious affiliation and race/ethnicity. In socially sensitive areas such as race, sexual orientation, disability, and age, implicit attitudes frequently show stronger prejudices than self-reported attitudes (Nosek et al., 2007). Similar tendencies were identified in Study 2 with sexuality attitudes but, curiously, not true for attitudes related to transgender people (Transgender implicit attitudes: Cohen's $d = 0.22$, Transgender explicit attitudes: Cohen's $d = 0.37$; Sexuality implicit attitudes: Cohen's $d = 0.21$, Sexuality explicit attitudes: Cohen's $d = 0.01$). The fact that explicit attitudes towards transgender individuals had a moderate effect size (Cohen's $d = 0.37$) suggests that there may be some trans-biases that are more apparent in self-reported measures of attitudes. It is possible that individuals may not be fully aware of their own biases towards transgender individuals since many people may not have had much exposure to these gender minorities or issues in their personal lives. These lower levels of exposure may contribute to a lack of transgender identities understanding and one's biases awareness towards transgender individuals; hence, these biases may not be represented in the implicit measures. However, further research would be needed to fully understand the underlying reasons for this finding (e.g., tracking transgender prejudices as people start to have more sustained personal contact with transgender people).

We discovered significant racial disparities in attitudes against gay people and transgender individuals both implicitly and explicitly. Even though people of all races held negative opinions towards gay people, White people's attitudes towards these groups were significantly less prejudiced than other five racial groups explicitly and than four of those

racial groups studied here implicitly. This finding is consistent with previous studies that investigated correlates of implicit preferences for straight individuals over lesbians and gays (Westgate et al., 2015); in which the investigators used data from 683,976 visitors to Project Implicit who completed the IAT between February 2006 and August 2013. Results showed that race/ethnicity was one of the strongest moderators of implicit sexuality attitudes, with White and Hispanic individuals displaying less implicit bias towards lesbian and gay individuals than Asian and Black individuals. Concerning attitudes towards transgender people, White people displayed weak implicit and explicit biases towards transgender individuals relative to most other racial groupings, with the exception of American Indian people/Alaska Native people and Native Hawaiian people or other Pacific Islander people. Black people had the highest negative attitudes towards transgender and gay people in both Study 1 and Study 2. These results are consistent with some prior work; for instance Durrell, Chiong, and Battle (2007) showed in a quantitative study on homophobia in the New York population that Black people self-reported having the most anti-gay attitudes, followed by Latino people, Asian people, and White people, and the present data extend that finding to a measure of implicit sexuality attitudes as well.

Our research also provides consistent evidence for the idea that religious identification (i.e., self-classification as a religious person) is associated with more negative attitudes against gay and transgender people (e.g., Nagoshi et al., 2008; Tee & Hegarty, 2006). The vast majority of past research concentrated on Christian, Jewish, and Muslim identities; we extended this work by incorporating seldom studied religious identities such as Confucian and Shinto that originated from East Asia. In both studies, the large samples of participants

who voluntarily completed the Transgender and Sexuality IATs demonstrated implicit transgender and sexuality biases among racial and religious groups. Non-religious people, however, held positive attitudes toward transgender people implicitly and expressed implicitly and explicitly pro-gay attitudes. Atheists also self-reported a preference for transgender people over cisgender people. These findings are consistent with Adams and colleagues' (2016) results showing that fundamentalists of all worldwide faiths were more likely to express discomfort with gender and sexual heteronormativity violations, as well as show more significant levels of sexual prejudice and transphobia for both men and women, though the present work suggests that people who are non-religious or atheist show markedly no prejudice based on sexuality and gender identity.

In conclusion, religious values and race/ethnicity are associated with variations in attitudes about the gay and transgender population. The significance of evaluating race, ethnicity, and religion in relation to gay and transgender attitudes is emphasized by the current findings, which extends earlier work in this area. According to prior research, racial/ethnic identification influences experiences of discrimination and prejudice, which in turn can affect attitudes towards the LGBT community (Herek, 2020). As a result, one implication of this work is that people from minority racial/ethnic groups may encounter intersectional discrimination on the basis of their racial/ethnic or religious identity and sexual orientation (Diaz et al., 2001). That is, individuals from racial, ethnic or religious minority groups who identify as LGBT may face rejection and marginalization from both mainstream LGBT communities and their own racial/ethnic or religious communities.

Limitations

First, it is important to note that only 63.8% of participants who completed the Sexuality IAT self-identified as heterosexual, and the sexual orientation of Transgender IAT participants was not collected. However, the LGBT identifies only account for 8% population in the world in 2022 (World Population Review, 2023). A prior study showed that gay participants showed implicit ingroup favoritism (Jones & Devos, 2014; Westgate et al., 2015), so having 36.2% gay and lesbian participants very likely impacted the overall results of the Sexuality IAT. It is possible that in the real world with a more representative sample, the overall attitudes towards gay people would be more negative than in this study, and replicating these results with more representative samples is a clear priority for this line of research.

Second, there is no fine-grained measure of religiosity in the current study, although religiosity may explain our results for both religious and racial groups. Multiple studies have found that religiosity is a significant predictor of negative attitudes towards transgender people (Acker, 2017; Worthen et al., 2017; Herek, 2016). Members of religious groups with strong anti-gay and anti-transgender attitudes may be more likely to possess comparable opinions, even if they do not personally accept these views (Whitley, 2009). It is expected that people who received more frequent religious education and internalized patriarchal gender norms from their culture would show more negative implicit and explicit attitudes towards the LGBT community, and accounting for religiosity likely would be very illuminating in explaining the observed results.

Finally, a separate but related factor to religion is political orientation. Depending on a different degree of religious proliferation in certain nations and regions, the relationship between religion and attitudes towards LGBT people might even vary. Indeed, it has been proposed that unfavourable sentiments against transgender people in Italy, Spain, and Greece are more likely to stem from political than religious convictions (Worthen, 2017). Future studies may investigate how these politics and religion interact to produce prejudice. For instance, in contrast to certain Western countries, we might anticipate that attitudes towards LGBT group members in some East Asian countries would be strongly linked to government legislation, particularly in countries where religion is not as widely practiced and where the proportion of religious individuals in the population is known to be lower (Japan: Kavanagh & Jong, 2019; China: Wenzel-Teuber, 2017). In this context, LGBT-inclusive policies and programs would influence perceptions of the LGBT community. When LGBT rights are not protected by government legislation, negative national attitudes towards LGBT group members are projected. Subsequent studies will do a better job of exploring these issues by using more geographically diverse samples.

Future Directions

As mentioned above, future research on implicit sexuality and transgender attitudes should focus more on race/ethnicity and religion, with incorporating other political and social factors. Diverse regulations pertaining to sexual orientation and gender identity may influence a shift in religious sentiments about the LGBT community. For example, laws and policies that protect the rights of LGBT individuals or provide marriage equality may lead to increased acceptance of the LGBT community among religious individuals who previously

held negative attitudes (Whitley, 2009). In contrast, policies that restrict the rights of LGBT individuals or reinforce negative stereotypes can contribute to a continuation of negative attitudes among religious groups. For example, Axt et al. (2020) discovered that a relative implicit preference for cisgender over transgender individuals was associated with lower support of inclusive policies regarding the treatment of transgender individuals. Therefore, future research could be conducted on the interactive effect of local government policies and religions on attitudes towards LGBT groups across different countries (Ofosu et al., 2019).

The current work could also be extended to the question of changes over time. For instance, a previous study investigating implicit and explicit racial attitudes change during the “Black Lives Matters” Movement showed that antiracist mass social movements reduced societal-level racial bias (Sawyer & Gampa, 2018). In light of this evidence, we might expect to see transgender and sexuality attitudes moving towards neutrality (Charlesworth & Banaji, 2021) in the coming years, particularly in areas that are expanding policy efforts to fight discrimination on the basis of sexual orientation or gender identity. It is likely that transprejudice and anti-gay prejudice could be lessened globally through the influence of legislation such as Marriage equality, The Canadian Human Rights Act, the removal of “Bathroom Bills”, and efforts that are all aimed at protecting the rights of LGBT individuals.

Finally, future studies could adopt a longitudinal approach to better understand how changes in cultural environments impact transgender and sexuality implicit attitudes. Prior research on immigrants' attitudes towards gay people, for instance, indicated that home countries' beliefs about homosexuality play a significant role in European first-generation immigrants' attitudes towards those marginalized people, but not in immigrants who migrated

over twenty years (Soehl, 2017). As a result, future research might compare the influence of immigration on implicit transgender attitudes and sexuality attitudes before and after migration. With race and religion remaining the same, such analyses with attitudes change could better clarify the causal and correlational relationship between race/ethnicity, religion and attitudes.

Conclusion

The results indicated that sentiments towards gay and transgender people varied based on race and religions. White participants showed relatively lower levels of prejudice, and non-religious people held the most positive transgender and sexuality attitudes. These findings underscore the importance of accounting for racial and religious factors in future research on attitudes towards the LGBT community, as well as promoting greater acceptance and inclusion of the LGBT community in religious contexts. The study also emphasizes the importance of using a variety of measures, both explicit and implicit, in order to gain a more comprehensive understanding of people's attitudes towards various social groups. Furthermore, we hypothesize that other factors, such as the impact of policies, may also be significant in predicting attitudes related to LGBT people.

References

- Acker, G. M. (2017). Transphobia Among Students Majoring in the Helping Professions. *Journal of Homosexuality*, 64(14), 2011–2029.
<https://doi.org/10.1080/00918369.2017.1293404>
- Adams, K. A., Nagoshi, C. T., Filip-Crawford, G., Terrell, H. K., & Nagoshi, J. L. (2016). Components of gender-nonconformity prejudice. *International Journal of Transgenderism*, 17(3-4), 185–198. <https://doi.org/10.1080/15532739.2016.1200509>
- Anderson, J., & Koc, Y. (2015). Exploring patterns of explicit and implicit anti-gay attitudes in Muslims and Atheists. *European Journal of Social Psychology*, 45(6), 687–701.
<https://doi.org/10.1002/ejsp.2126>
- Axt, J. R., Conway, M. A., Westgate, E. C., & Buttrick, N. R. (2020). Implicit Transgender Attitudes Independently Predict Beliefs About Gender and Transgender People. *Personality and Social Psychology Bulletin*, 47(2), 014616722092106.
<https://doi.org/10.1177/0146167220921065>
- Axt, J. R., Moran, T., & Bar-Anan, Y. (2018). Simultaneous ingroup and outgroup favoritism in implicit social cognition. *Journal of Experimental Social Psychology*, 79, 275–289.
<https://doi.org/10.1016/j.jesp.2018.08.007>
- Balsam, K. F., Molina, Y., Beadnell, B., Simoni, J., & Walters, K. (2011). Measuring multiple minority stress: The LGBT People of Color Microaggressions Scale. *Cultural Diversity and Ethnic Minority Psychology*, 17(2), 163–174.
<https://doi.org/10.1037/a0023244>
- Baumeister, R. F. (1991). *Meanings of life*. Guilford Press.

- Campbell, M., Hinton, J. D. X., & Anderson, J. R. (2019). A systematic review of the relationship between religion and attitudes towards transgender and gender-variant people. *International Journal of Transgenderism*, 20(1), 21–38.
<https://doi.org/10.1080/15532739.2018.1545149>
- Charlesworth, T. E. S., & Banaji, M. R. (2019). Patterns of Implicit and Explicit Attitudes: I. Long-Term Change and Stability From 2007 to 2016. *Psychological Science*, 30(2), 174–192. <https://doi.org/10.1177/0956797618813087>
- Cragun, R. T., & Sumerau, J. E. (2014). The Last Bastion of Sexual and Gender Prejudice? Sexualities, Race, Gender, Religiosity, and Spirituality in the Examination of Prejudice towards Sexual and Gender Minorities. *The Journal of Sex Research*, 52(7), 821–834. <https://doi.org/10.1080/00224499.2014.925534>
- Davis, N. B., & Yeung, S. T. (2022). Transgender Equity in the Workplace: A Systematic Review. *SAGE Open*, 12(1). <https://doi.org/10.1177/21582440221082863>
- Dean, L., Meyer, I. H., Robinson, K., Sell, R. L., Sember, R., Silenzio, V. M. B., Bowen, D. J., Bradford, J., Rothblum, E., White, J., Dunn, p., Lawrence, A., Wolfe, D., & Xavier, J. (2000). Lesbian, Gay, Bisexual, and Transgender Health: Findings and Concerns. *Journal of the Gay and Lesbian Medical Association*, 4(3), 102–151.
<https://doi.org/10.1023/a:1009573800168>
- Diaz, R. M., Ayala, G., Marin, B. V., Henne, J., & Bein, E. (2001). The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: findings from 3 US cities. *American Journal of Public Health*, 91(6), 927–932.
<https://doi.org/10.2105/ajph.91.6.927>

- Durrell, M., Chiong, C., & Battle, J., (2007). Race, gender expectations, and homophobia: A quantitative exploration. *Race Gender and Class*, *14*(1/2), 299-317. Doi: www.jstor.org/stable/41675211
- Elischberger, H. B., Glazier, J. J., Hill, E. D., & Verduzco-Baker, L. (2016). “Boys Don’t Cry”—or Do They? Adult Attitudes towards and Beliefs About Transgender Youth. *Sex Roles*, *75*(5-6), 197–214. <https://doi.org/10.1007/s11199-016-0609-y>
- Govan, C. L., & Williams, K. D. (2004). Changing the affective valence of the stimulus items influences the IAT by re-defining the category labels. *Journal of Experimental Social Psychology*, *40*(3), 357–365. <https://doi.org/10.1016/j.jesp.2003.07.002>
- Grant, J. M. (2015). *National Transgender Discrimination Survey: Full Report*. National Center for Transgender Equality. http://transequality.org/PDFs/NTDS_Report.pdf
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, *102*(1), 4–27.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*(6), 1464–1480. <https://doi.org/10.1037/0022-3514.74.6.1464>
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, *85*(2), 197–216. <https://doi.org/10.1037/0022-3514.85.2.197>

Herek, G. M. (1987). Can Functions Be Measured? A New Perspective on the Functional Approach to Attitudes. *Social Psychology Quarterly*, 50(4), 285.

<https://doi.org/10.2307/2786814>

Herek, G. M. (2000). The Psychology of Sexual Prejudice. *Current Directions in Psychological Science*, 9(1), 19–22. <https://doi.org/10.1111/1467-8721.00051>

Hunsberger, B., & Jackson, L. M. (2005). Religion, Meaning, and Prejudice. *Journal of Social Issues*, 61(4), 807–826. <https://doi.org/10.1111/j.1540-4560.2005.00433.x>

Jones, K., & Devos, T. (2013). Gay men’s implicit attitudes towards sexual orientation: Disentangling the role of sociocultural influences and social identification.

Psychology & Sexuality, 5(4), 322–338.

<https://doi.org/10.1080/19419899.2013.790320>

Journalists attacked, hurt in Georgia at anti-LGBT protest. (2021). AP NEWS.

<https://apnews.com/article/europe-georgia-religion-journalists-c0dcfe6fc11b0d899583e5044e3251d9>

Judge stops Idaho from enacting ban on transgender athletes. (2021). AP NEWS.

<https://apnews.com/article/boise-lawsuits-politics-gender-identity-courts-89b70fd5f82812c9368f985e389c485d>

Kanamori, Y., Pegors, T. K., Hulgus, J. F., & Cornelius-White, J. H. D. (2017). A comparison between self-identified evangelical Christians’ and nonreligious persons’ attitudes towards transgender persons. *Psychology of Sexual Orientation and Gender Diversity*, 4(1), 75–86. <https://doi.org/10.1037/sgd0000166>

- Kavanagh, C. M., & Jong, J. (2019). Is Japan Religious? *Journal for the Study of Religion, Nature and Culture*, 14(1), 152–180. <https://doi.org/10.31234/osf.io/qyt95>
- Kurdi, B., Seitchik, A. E., Axt, J. R., Carroll, T. J., Karapetyan, A., Kaushik, N., Tomezsko, D., Greenwald, A. G., & Banaji, M. R. (2019). Relationship between the Implicit Association Test and intergroup behavior: A meta-analysis. *American Psychologist*, 74(5), 569–586. <https://doi.org/10.1037/amp0000364>
- LGBTQ+ Population by Country 2023*. (2023). World Population Review. <https://worldpopulationreview.com/country-rankings/lgbtq-population-by-country>
- Liptak, A. (2015). Supreme Court Ruling Makes Same-Sex Marriage a Right Nationwide. *New York Times*. <https://www.nytimes.com/2015/06/27/us/supreme-court-same-sex-marriage.html>
- Lombardi, E. (2009). Varieties of Transgender/Transsexual Lives and Their Relationship with Transphobia. *Journal of Homosexuality*, 56(8), 977–992. <https://doi.org/10.1080/00918360903275393>
- Lottes, I. L., & Kuriloff, P. J. (1992). The effects of gender, race, religion, and political orientation on the sex role attitudes of college freshmen. *Adolescence*, 27(107), 675–688. <https://pubmed.ncbi.nlm.nih.gov/1414577/>
- Morgan, H., Lamprinakou, C., Fuller, E., & Albakri, M. (2020). *Attitudes to transgender people*. https://www.equalityhumanrights.com/sites/default/files/attitudes_to_transgender_people.pdf

- Nagoshi, J. L., Adams, K. A., Terrell, H. K., Hill, E. D., Brzuzy, S., & Nagoshi, C. T. (2008). Gender Differences in Correlates of Homophobia and Transphobia. *Sex Roles, 59*(7-8), 521–531. <https://doi.org/10.1007/s11199-008-9458-7>
- Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., Smith, C. T., Olson, K. R., Chugh, D., Greenwald, A. G., & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology, 18*(1), 36–88. <https://doi.org/10.1080/10463280701489053>
- Oforu, E. K., Chambers, M. K., Chen, J. M., & Hehman, E. (2019). Same-sex marriage legalization associated with reduced implicit and explicit antigay bias. *Proceedings of the National Academy of Sciences, 116*(18), 8846–8851. <https://doi.org/10.1073/pnas.1806000116>
- Olson, L. R., Cadge, W., & Harrison, J. T. (2006). Religion and Public Opinion about Same-Sex Marriage. *Social Science Quarterly, 87*(2), 340–360. <https://doi.org/10.1111/j.1540-6237.2006.00384.x>
- Röder, A. (2015). Immigrants' Attitudes towards Homosexuality: Socialization, Religion, and Acculturation in European Host Societies. *International Migration Review, 49*(4), 1042–1070. <https://doi.org/10.1111/imre.12113>
- Sawyer, J., & Gampa, A. (2018). Implicit and Explicit Racial Attitudes Changed During Black Lives Matter. *Personality and Social Psychology Bulletin, 44*(7), 1039–1059. <https://doi.org/10.1177/0146167218757454>

- Soehl, T. (2016). From origins to destinations: acculturation trajectories in migrants' attitudes towards homosexuality. *Journal of Ethnic and Migration Studies*, 43(11), 1831–1853.
<https://doi.org/10.1080/1369183x.2016.1246178>
- Solomon, H. E., & Kurtz-Costes, B. (2017). Media's Influence on Perceptions of Trans Women. *Sexuality Research and Social Policy*, 15(1), 34–47.
<https://doi.org/10.1007/s13178-017-0280-2>
- Tee, N., & Hegarty, P. (2006). Predicting opposition to the civil rights of trans persons in the United Kingdom. *Journal of Community & Applied Social Psychology*, 16(1), 70–80.
<https://doi.org/10.1002/casp.851>
- Wang-Jones, T. T. S., Hauson, A. O., Ferdman, B. M., Hattrup, K., & Lowman, R. L. (2018). Comparing implicit and explicit attitudes of gay, straight, and non-monosexual groups towards transmen and transwomen. *International Journal of Transgenderism*, 19(1), 95–106. <https://doi.org/10.1080/15532739.2018.1428138>
- Wenzel-Teuber, Katharina. Statistics on Religions and Churches in the People's Republic of China – Update for the Year 2016. *Religions & Christianity in Today's China*. VII (2): 26–53. [extension://efaidnbmnnnibpajpcgleclefindmkaj/https://www.china-zentrum.de/fileadmin/PDF-Dateien/E-Journal_RCTC/RCTC_2020-2.21-41_Wenzel-Teuber__Statistics_on_Religions_and_Churches_in_the_PR_of_China_%E2%80%93_Update_for_the_Year_2019.pdf](https://www.china-zentrum.de/fileadmin/PDF-Dateien/E-Journal_RCTC/RCTC_2020-2.21-41_Wenzel-Teuber__Statistics_on_Religions_and_Churches_in_the_PR_of_China_%E2%80%93_Update_for_the_Year_2019.pdf)
- Westgate, E. C., Riskind, R. G., & Nosek, B. A. (2015). Implicit Preferences for Straight People over Lesbian Women and Gay Men Weakened from 2006 to 2013. *Collabra*, 1(1). <https://doi.org/10.1525/collabra.18>

- Whitehead, A. L. (2014). Politics, Religion, Attribution Theory, and Attitudes towards Same-Sex Unions. *Social Science Quarterly*, 95(3), 701–718.
<https://doi.org/10.1111/ssqu.12085>
- Whitley, B. E. (2009). Religiosity and Attitudes towards Lesbians and Gay Men: A Meta-Analysis. *International Journal for the Psychology of Religion*, 19(1), 21–38.
<https://doi.org/10.1080/10508610802471104>
- Willoughby, B. L. B., Hill, D. B., Gonzalez, C. A., Lacorazza, A., Macapagal, R. A., Barton, M. E., & Doty, N. D. (2010). Who Hates Gender Outlaws? A Multisite and Multinational Evaluation of the Genderism and Transphobia Scale. *International Journal of Transgenderism*, 12(4), 254–271.
<https://doi.org/10.1080/15532739.2010.550821>
- Wills, G., & Crawford, R. (1999). Attitudes towards Homosexuality in Shreveport-Bossier City, Louisiana. *Journal of Homosexuality*, 38(3), 97–116.
https://doi.org/10.1300/j082v38n03_06
- Worthen, M. G. F., Lingardi, V., & Caristo, C. (2017). The Roles of Politics, Feminism, and Religion in Attitudes towards LGBT Individuals: A Cross-Cultural Study of College Students in the USA, Italy, and Spain. *Sexuality Research and Social Policy*, 14(3), 241–258. <https://doi.org/10.1007/s13178-016-0244-y>

Appendix

Statement of contribution

As the primary researcher for this project, C.A. took the lead on the research project's conception, data analysis, and writing of this final paper. J.A. (faculty supervisor) supervised the student in every step of the project. Finally, J.A. made editorial contributions throughout the writing of the manuscript by C.A. This project was done independently of the other projects in the laboratory.