RIETI Discussion Paper Series 22-E-091

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September 2022

How do Racial Cues Affect Attitudes toward Immigrants in a Racially Homogeneous Country? Evidence from a survey experiment in Japan*

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Abstract

In the United States, race plays an important role in shaping intergroup relations. African Americans, for example, are highly disadvantaged. Yet, little is known about how race affects the formation of intergroup attitudes in non-U.S. contexts. Two conflicting possibilities have been raised: either non-U.S. countries follow the U.S. racial hierarchy and it is spreading throughout the world, or each society has develops its own norms through its unique history and institutions, and racial hierarchies are not shared in non-U.S. contexts. To examine these possibilities, we chose a homogeneous, predominantly non-white, and non-U.S. context, Japan, and conducted a survey experiment to measure Japanese people's attitudes toward immigrants from White, African, and Asian American backgrounds. The results showed that Japanese do not prefer White Americans over African Americans as immigrants. Rather, they exhibited a preference for African Americans. These results indicate that the racial hierarchy that shapes intergroup attitudes in the U.S. is not necessarily shared in Japan.

Keywords: race, Japan, survey experiments
JEL classification: J15, D91

* We would like to thank seminar participants at the Research Institute of Economy, Trade and Industry (RIETI) for their helpful comments. For financial support, we would like to thank RIETI and the Japan Society for the Promotion of Science (Grants-in-Aid for Scientific Research: 18H00813, 19H01449, 19H00584, and 20H00059). This research is part of the project "Advanced Technology and Democracy: Does new technology help or hurt democracy?" at RIETI.

Introduction

In the United States (U.S.), African Americans are socioeconomically and politically disadvantaged. Compared to others, they are less likely to be employed (e.g., Quillian, Pager, Hexel, & Midtbøen, 2017) and elected (e.g., Hajnal, 2009), and more likely to experience policing (e.g., Edwards, Lee, & Esposito, 2019; Gelman, Fagan, & Kiss, 2007) and discriminatory sentencing (e.g., Arnold, Dobbie, & Yang, 2018; Rehavi & Starr, 2014). Consistent with these findings, a considerable number of studies demonstrate that Whites in the United States respond strongly to racial cues and form negative attitudes toward African Americans (e.g., Mendelberg, 2001; Stephens-Dougan, 2021; Valentino, Neuner, & Vandenbroek, 2018). There is little doubt that race plays a central role in intergroup relations of American citizens.

Owing to the importance of race in intergroup relations in the United States, scholars frequently criticize intergroup studies in non-U.S. contexts for not fully embracing the concept of race (e.g., Gorodzeisky & Semyonov, 2016) and call on researchers to explore race relations in these contexts (Bonilla-Silva, 1997; Christian, 2019). Underlying these debates is the assumption that Whites are the racially preferred group, as exemplified by "White supremacy" and "White privilege." Indeed, one review study stated that "throughout the world, ideas of White or light-skin supremacy have long been associated with status and privilege for light-skinned individuals and disdain for dark-skinned ones" (Dixon & Telles, 2017: 33.1). However, research in non-U.S. contexts has rarely examined whether race is an important cue for ethnic and racial majorities in shaping attitudes toward out-group members.

One possible reason for this is that Western European countries, the center of intergroup relations research, consider race taboo (Siebers, 2016) and instead rely on ethnicity and country of origin (with a few important exceptions, e.g., Gorodzeisky & Semyonov, 2016; Laniyonu, 2021). In addition, the racial majority in Western European countries is White, suggesting that preferences for White out-groups can indicate racial hegemony, which, in turn, can indicate preferences for racial in-groups. Therefore, in this study, we examine whether racial cues play an important role in shaping attitudes toward out-groups and immigrants, using the Japanese case. As the majority group in Japan is not White, the country is well suited for testing whether citizens in non-U.S. contexts prefer Whites to other racial groups, especially Blacks.

We propose two competing hypotheses on how people in non-U.S. societies respond to race in shaping intergroup attitudes. One hypothesis is that due to the "White privilege" thesis, these citizens may prefer Whites over other racial groups. In contrast, the other is that because race is a socially constructed concept (Richeson & Sommers, 2016), different societies have different racial values and Japanese citizens do not respond to such racial cues in shaping intergroup attitudes.

To test these two hypotheses, we conducted a survey experiment with Japanese respondents. In this experiment, respondents were presented with face photos of African, Asian, and Caucasian Americans as hypothetical prospective immigrants to Japan, and asked to rate them. As attractiveness is often associated with race (Monk, Esposito, & Lee, 2021), we varied the attractiveness of each race in the photos. To prereview the results, our findings suggest that attitudes toward White Americans are not more positive than those toward African and Asian Americans. Although African Americans are highly disadvantaged in the U.S., our results show that race is not necessarily an important cue in shaping universally negative attitudes in non-U.S. contexts.

Race in non-U.S. contexts

How do people react to race in non-U.S. societies? Bonilla-Silva (1997: 476), an important figure in the structural theory of racism, proposed exploring whether non-U.S. societies "have specific mechanisms, practices and social relations that produce and reproduce racial inequality." There, are two possible explanations for people's racial perceptions in non-U.S. contexts.

First, even in non-U.S. contexts, race is an important cue in shaping citizens' attitudes toward out-groups. This idea has been embraced by scholars in the U.S. For example, Christian (2019) argues that racial hierarchies are shared throughout the world and that "whiteness and white supremacy are the bedrock of all national racial social systems" (p. 181). Economically, politically, and culturally powerful countries are composed of White dominant groups, while other non-white countries follow a racial order in which Whites are superior and Blacks are subordinate. In particular, American cultural norms and values are so influential that other countries follow the racial hegemony in the U.S. In support of this argument, Giani and Méon (2021) demonstrate that the election of Donald Trump contagiously increased racist attitudes in European countries, indicating that changes in racial norms in the U.S. signal that citizens in non-U.S. countries can also express negative attitudes.

Second, on the contrary, race is not the decisive determinant of intergroup relations in non-U.S. contexts. For example, Suzuki (2017: 297) argues that "race is a phenomenon that is deeply affected by particular historical developments in specific junctures" and that racial groups are treated differently in each society. Intergroup norms are formed through cultural, historical, and institutional experiences specific to each society (e.g., Licht et al., 2007; Nunn and Wantchekon, 2011). Each society has its home-grown intergroup norms and relations that are unique to that society. Even though the U.S. is influential in racial hegemony, countries that have not experienced Black oppression may not have internalized White-Black racial hegemony.

Despite these two competing theoretical possibilities, there is little research on the role racial cues play in shaping attitudes toward out-groups in non-U.S. contexts. Even the few existing studies do not directly answer this question. For example, Fraser and Cheng (2022) attempted to show that Japanese citizens prefer high-skilled immigrants regardless of racial group, but their operationalization depends on the ethnicity and citizenship of the immigrant, and not on race. A series of experimental studies using morphed photos (Iyenger et al., 2013; Valentino et al., 2019) tested the effects of skin-color tone, but not racial groups.

Since people's preference for Whites over Blacks in American and European societies may indicate both internalized White supremacy and racial in-group preferences, non-White-dominated societies are more suitable for testing the two competing theoretical possibilities. Therefore, we use the case of Japan, where Asians are the racial majority, immigration is growing in size (Laurence, Igarashi, & Ishida, 2021), and the economy is compatible with Western societies.

Research design

In June 2020, we conducted an online survey experiment described below.[1] We recruited eligible Japanese voters from the Rakuten Insight's panel for this survey, applying quotas to ensure that respondents' gender, age, and prefecture of residence were distributed in the

[1] The details of the survey, including question wording, are shown in Appendix A.

same way as in the census. After excluding inattentive respondents who failed to answer several trap questions correctly, a total of 2,227 valid responses were obtained.

In the survey, we measured respondents' preferences for people of different races as immigrants via a random conjoint experiment (Hainmueller, Hopkins, & Yamamoto, 2014). Respondents were presented with six pairs of hypothetical immigrant profiles with photos (for a total of 12) in turn and asked to rate each in two ways.[2] The attributes, which are commonly used in previous similar studies, of hypothetical immigrants that appear in the profiles are listed in Table 1. The photo/profile combinations were independently randomized. To control for differences by attractiveness, we fixed the immigrant's gender to that of the visually implied male.[3] To prevent respondents from inferring the origin of immigrants from their race, we asked them to assume that all immigrants were from the U.S., which is the most plausible scenario in Japan for all races considered in this study. Previous studies conducted in the U.S. have focused on attitudes toward and discrimination against African-American residents rather than immigrants; however, due to the small size of such minority populations in Japan, we use attitudes toward immigrants as the outcome variable.

[Table 1 about here]

For each pair of hypothetical immigrants, the respondents were asked to answer two questions. First, we asked respondents to imagine if they were an immigrant officer and had to accept one of the two potential immigrants, which would they give a work visa to. Second, we asked respondents to rate the acceptability of each potential immigrant on a six-point bipolar scale, labeling the two poles "should never be approved" and "should definitely be approved." We analyzed the results of these choices and ratings separately. The choice results were treated as dummy variables and the rating results as continuous variables (six levels with "should never be approved" as 1).

The face photos in this experiment were taken from the Chicago Face Database (CFD) (Ma, Correll, & Wittenbrink, 2015).[4] The CFD provides a variety of people's face photos rated by perceived racial group, gender, age, attractiveness, and other characteristics. Perceived gender and race are rated from 0 to 1, while attractiveness is rated from 1 to 5. The people

[2] We presented respondents with face photos of hypothetical prospective immigrants and asked them to imply their race. Many studies in the U.S. have manipulated the name of a hypothetical person and asked respondents to infer the person's race, but this method is not appropriate for our study because the Japanese are not familiar with what names are common among African and White Americans. Another possible approach would be to explicitly indicate the race of the immigrant in the text, but some studies suggest that textual information may overemphasize the influence of race (e.g., Abrajano, Elmendorf, & Quinn, 2018, who address the influence of ethnicity rather than race).

[3] One drawback of using facial photos may be that one cannot completely control the information that the photo conveys to the respondents. In particular, for our research purposes, it is important to distinguish between attractiveness and race because facial attractiveness might be related to race and skin color. For example, a study using a large representative survey has shown that African Americans are less likely to be rated as attractive than White Americans (Monk, Esposito, & Lee, 2021). However, experimental studies have revealed mixed results when skin tone of the same face are varied (Lewis, 2011; Stepanova & Strube, 2018; Stepanova, Strube, & Mazur, 2021; Vera Cruz, 2018). In any case, in examining which race is more preferred, it is necessary to separate race and attractiveness.

[4] https://www.chicagofaces.org/

in the photos uniformly wear similar white shirts and have neutral facial expressions. From this database, we selected photos of people whose gender was male (scored 0.9 or higher), perceived age was 22-27 years, and race was Caucasian, African, or Asian (scored 0.85 or higher for each). From these, we further selected the two most and two least attractive individuals by race. A total of 12 different photos were prepared.[5] In the experiment, each respondent was shown each photo once paired with another randomly selected photo.

Results

The results of the choice and rating outcomes are illustrated in Figures 1 and 2, respectively. We report the estimated marginal mean for each attribute level, which is the average of the outcome of the profiles that include the attribute level in question (Leeper, Hobolt, & Tilley, 2020). The difference in marginal means across attribute levels corresponds to the average marginal component effect (AMCE), which is also a quantity of interest (Hainmueller, Hopkins, & Yamamoto, 2014). Robust standard errors clustered by respondent were used in the analysis.

[Figures 1 and 2 about here]

Consistent with previous immigration research, respondents' preferences for immigrants were highly dependent on immigrants' language proficiency, occupation, income level, and travel history. More importantly, for the purposes of this study, when focusing on the choice outcomes, African-American immigrants were preferred over White and Asian American immigrants, albeit by a small margin of approximately 2.5 percentage points. Statistical tests for the differences in marginal means between African Americans and the rest of the racial groups (i.e., AMCEs with African Americans as the baseline) were significant at the 0.1% level ($p < 0.01$). Regarding the rating outcomes, race did not have a statistically significant effect on respondents' immigrant acceptance, but it at least indicates that respondents do not necessarily dislike African Americans.

Is this Black advantage (or at least the absence of Black disadvantage) prevalent regardless of the respondent's attributes? To answer this question, we split the sample based on the basic attributes of respondents, that is, gender, age, education, and partisanship, and estimated the marginal means for each race. We also measured respondents' nationalistic sentiment scores prior to the experiment. Based on these scores, we divided the respondents into three roughly equal groups for analysis.[6]

The results for choice and rating outcomes are illustrated in Figures 3 and 4, respectively. The top, middle, and bottom panels present the marginal means for Whites, African Americans, and Asian Americans, respectively. To make comparisons between subgroups, we subtracted the grand means for each subgroup from the estimated marginal means when presenting the results for the rating outcomes. Analysis of the results of choice outcomes reveals that while there is some variation in the estimates, the tendency to welcome African Americans as immigrants is common regardless of the subgroup. Analysis of the results of rating outcomes identified ambiguous differences by race, but no subgroup disliked African Americans. *F*-tests for the interaction between the effects of race and respondent attributes revealed no significant interactions for either outcome.[7]

[5] More detailed information on the selected photos can be found in Appendix B.

[6] The details of the classification are explained in Appendix A.

[7] The details of the *F*-tests and the estimates of the conditional AMCE are presented in Appendix C.

[Figures 3 and 4 about here]

Conclusion

To test whether race preferences exists in non-U.S. contexts, we conducted a conjoint survey experiment with Japanese respondents. While race is one of the most salient issues in the U.S., it is rarely addressed as a subject of study in non-U.S. contexts. Although American researchers seem to consider race to be a universal issue, few studies have examined whether non-Americans have similar racial preferences. Using face photos, we conducted an experiment in which we asked Japanese people to express their preferences for Caucasian, African-American, and Asian-American immigrants. The results suggest that people do not hold more negative attitudes toward African-American immigrants. Rather, when presented with a forced-choice question, they were shown to have somewhat more positive attitudes toward such immigrants.

Japanese respondents preferred African Americans when asked to evaluate with a dichotomous forced-choice question rather than with a continuous rating question. This is presumably because Japanese people tend to choose the middle category when answering surveys, and by forcing them to choose one of the categories other than the middle, they are prevented from providing ambiguous answers. If so, this question captures the "true" attitudes of Japanese people toward African Americans, that is, their preference for African Americans over White Americans. This conclusion must be tested in a more robust way, but at the very least, our experiment indicates that African Americans are not viewed negatively in Japan as they are in the U.S.

Given the prominence of racial issues in the U.S., this result seems surprising. However, different countries have different histories, environments, and institutions, all of which shape racial norms and attitudes differently in different countries. Unlike the U.S., where people are routinely exposed to discourses that have more negative attitudes toward African Americans (e.g., Lane, Williams, Hunt, & Paulk, 2020; Mobasseri, 2019), Japanese people are rarely exposed to these discourses. In addition, Japan did not import slaves or colonize predominantly Black countries, both of which resulted in racial hegemony (Acharya, Blackwell, & Sen, 2016; Bonds & Inwood, 2016). Instead of racial cues, Japanese people tend to form negative attitudes in response to the ethnicity and nationality of immigrants, such as Koreans and Chinese being evaluated negatively, and Americans being viewed positively (Igarashi & Ono, 2019), which may reflect colonial experiences and media framing. Thus, racial norms in the U.S. do not affect the Japanese context, and racial hierarchies are not universally shared.

Although we attempted to maintain robustness through a subsample analysis and the use of two dependent variables, this study has some limitations. We conclude by highlighting some challenges and future directions for the study of racial attitudes. First, to maintain consistency across hypothetical immigrants, our experiment presented only immigrants from the U.S. and not from other countries. This experiment does not rule out the possibility that Black immigrants from countries other than the U.S. may be more disadvantaged than White immigrants from the same country, that is, that there may be an interaction between race and country of origin. Additional experiments to test this possibility would further our understanding of interracial relations. Second, because it is not very realistic for many Japanese residents to have ethnic minority neighbors, colleagues, or family members, we measured attitudes toward immigration as an outcome. However, attitudes toward immigration may differ depending on social distance from them, such as relatives, friends, or colleagues. Future research could elaborate on the different situations and relationships

between immigrants and natives. Third, we chose a non-White-dominated context to avoid in-group racial preference. While we believe that this decision enabled our experiment to more accurately detect White supremacy, future research would benefit from further experiments to explore the racial hierarchical situation in non-U.S. contexts, such as other East Asian or South American countries. At the very least, this study provides a rebuttal to the universality of White supremacy arguments.

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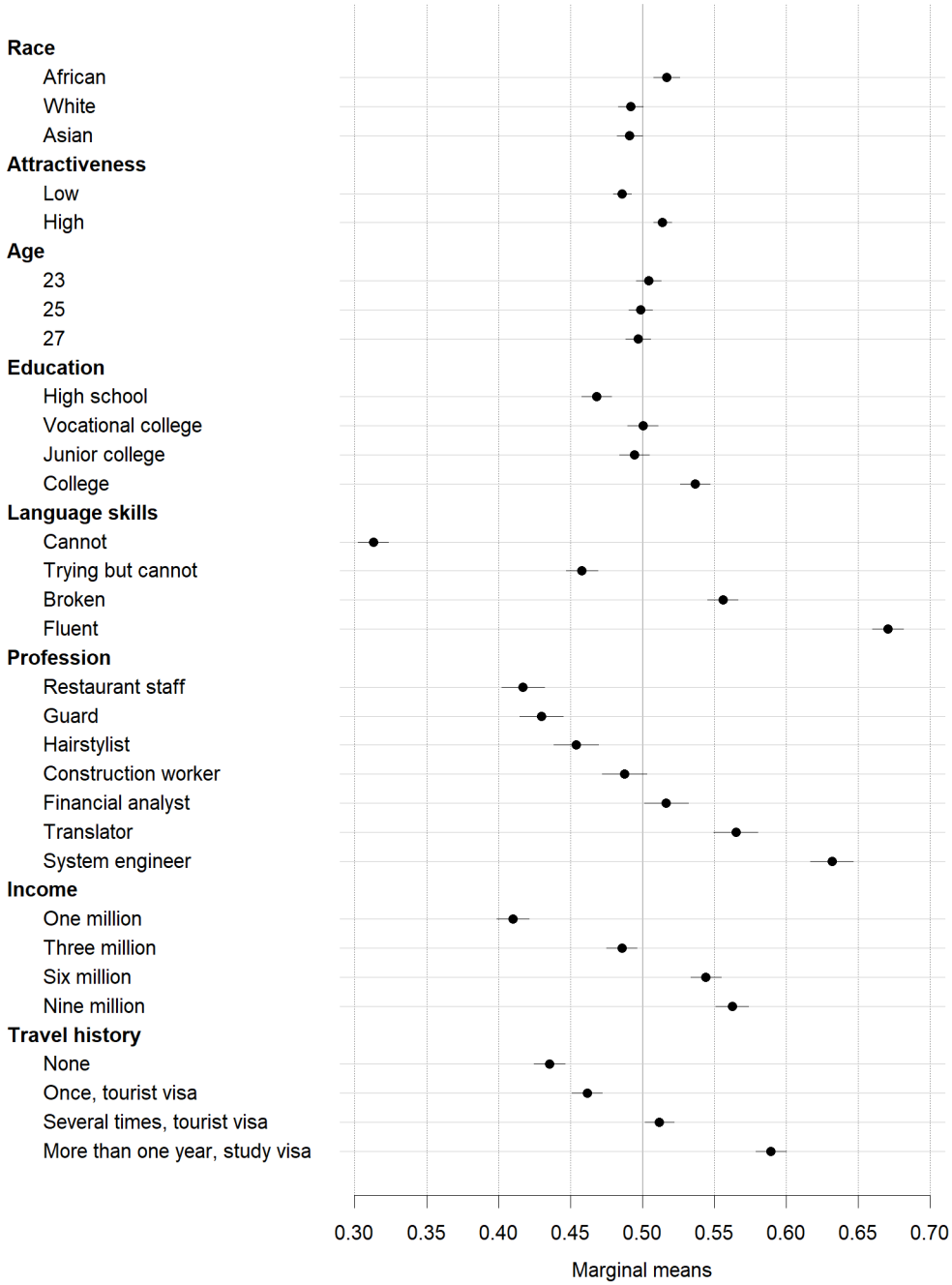
Table 1
Attributes and levels (translated into English) in the conjoint experiment

Attributes	**Levels**
Race	● White
	● African
	● Asian
Attractiveness	● Low
	● High
Age	● 23
	● 25
	● 27
Education	● High school
	● Vocational college
	● Junior college
	● College
Language skills	● Cannot speak Japanese
	● Trying to speak Japanese but still cannot
	● Can speak broken Japanese
	● Can speak fluent Japanese
Profession	● Restaurant staff
	● Guard
	● Hairstylist
	● Construction worker
	● Financial analyst
	● Translator
	● System engineer
Income	● One million yen in the U.S.
	● Three million yen in the U.S.
	● Six million yen in the U.S.
	● Nine million yen in the U.S.
Travel history	● Has not stayed in Japan before
	● Has stayed in Japan once on a tourist visa
	● Has stayed in Japan several times on a tourist visa
	● Has stayed in Japan for more than one year on a study visa

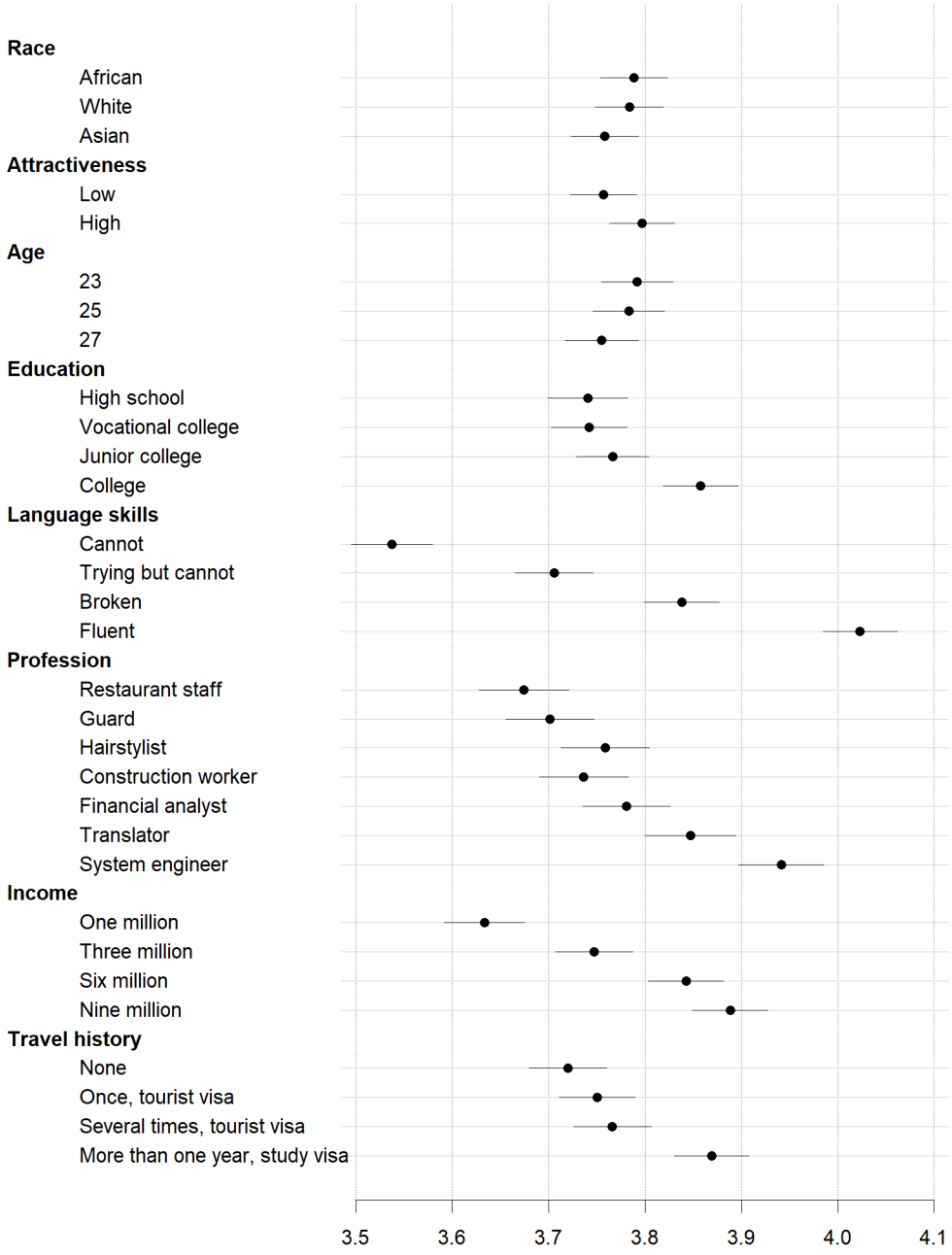
Notes: Race and attractiveness were manipulated by face photos.

Figure 1
Estimated marginal means for the entire sample using the choice outcome



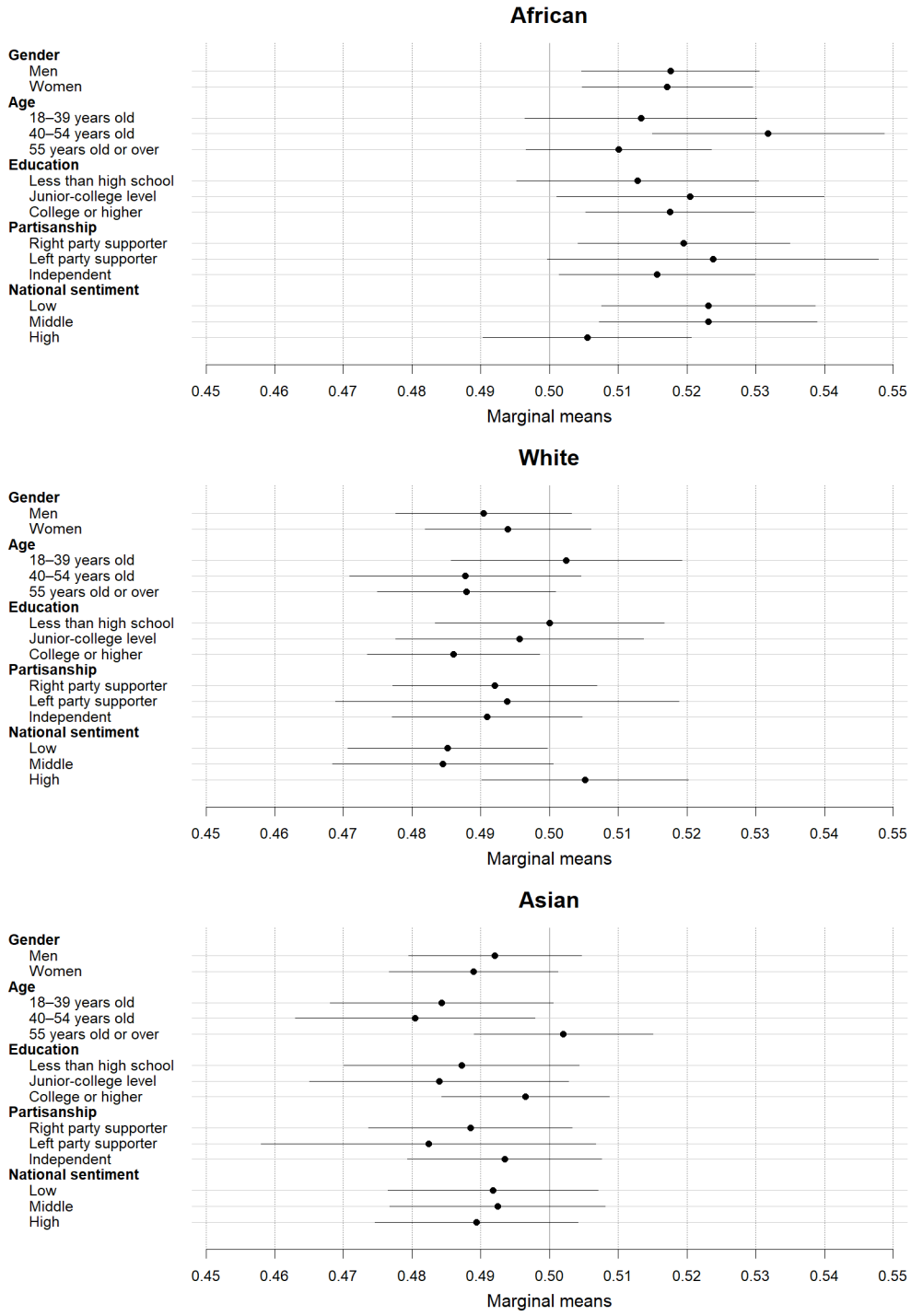
Notes: Dots represent point estimates and segments represent 95% confidence intervals.

Figure 2
Estimated marginal means for the entire sample using the rating outcome



Notes: Dots represents point estimates and segments represent 95% confidence intervals.

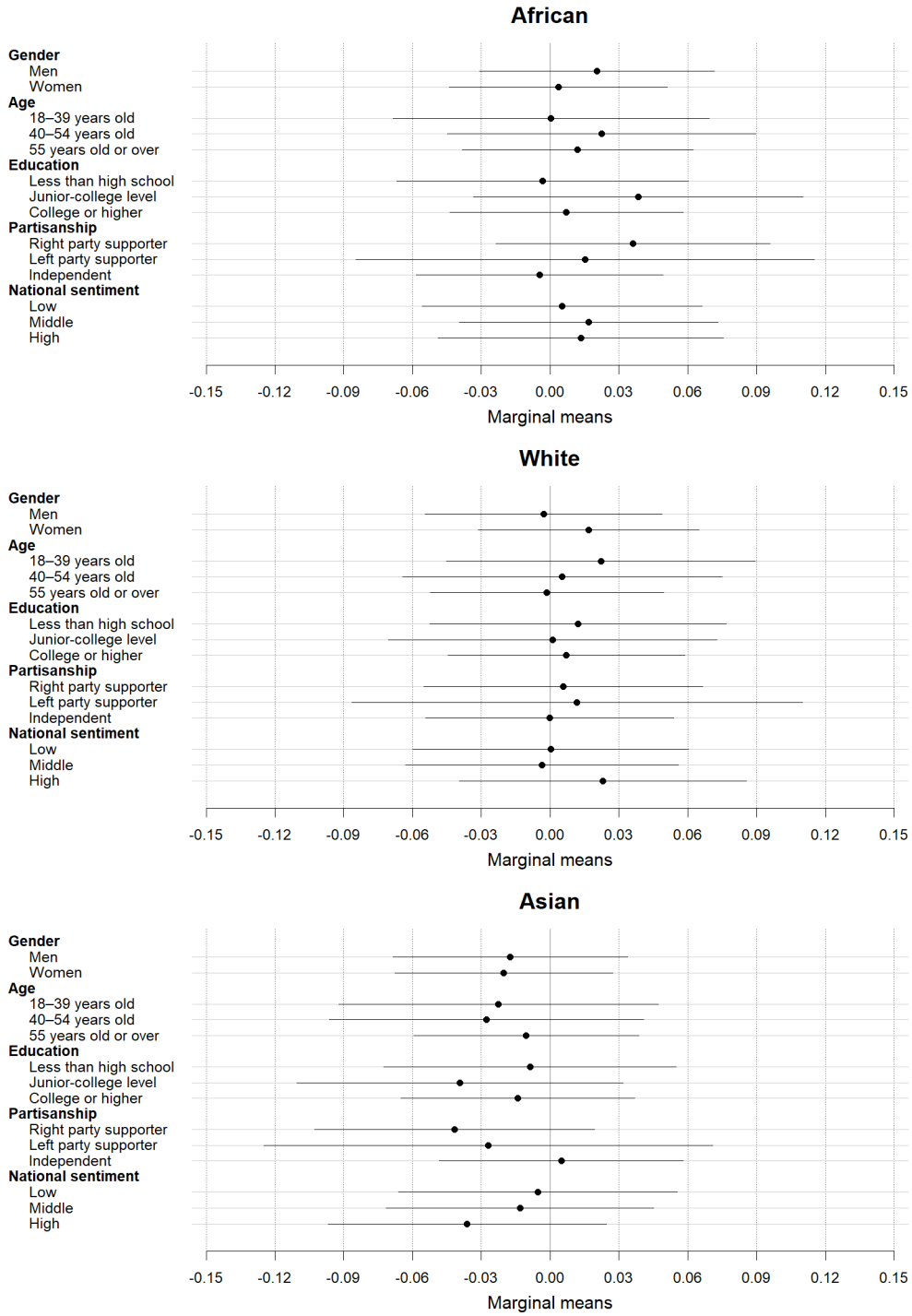
Figure 3
Estimated marginal means of the levels of the race attribute for subgroups using the choice outcome



Notes: Dots represent point estimates and segments represent 95% confidence intervals.

Figure 4

Estimated centered marginal means of the levels of the race attribute for subgroups using the choice outcome



Notes: This figure illustrates the estimated centered marginal means; that is, the grand mean in the concerned subgroup was subtracted from the estimated marginal means. Dots represent point estimates and segments represent 95% confidence intervals.

Appendix A
Details of the survey

This section describes the wording of the survey questions. We also explained how each variable was processed for the analysis when applicable.

Age
Please tell us your age. (あなたの年齢を教えてください。)

We provided a drop-down list whose options were “17 or below,” “18,” ..., “69,” and “70 or over.” Respondents who chose “17 or below” did not proceed with the survey.

Gender
Please tell us your gender. (あなたの性別を教えてください。)

- Male (男性)
- Female (女性)
- Other (その他)

When we sub-grouped respondents based on their gender, six respondents who chose “Other” were excluded.

Prefecture Of Residence
Please tell us the prefecture you currently reside in. (あなたが現在お住まいの都道府県名を教えてください。)

We provided a drop-down list whose options were 47 prefectures and “Overseas.” Respondents who chose “Overseas” were excluded from the survey.

Education
From the list shown below, which school did you most recently attend (or you belong to now)? (あなたが最後に在籍した（または現在、在籍している）学校はこの中のどれにあてはまりますか。)

- Elementary school/Junior high school (小学校／中学校)
- High school (高校)
- Vocational college (専門学校)
- Junior college (短期大学)
- Technical college (高専)
- College (大学)
- Graduate school (大学院)

We classified “Elementary school/Junior high school” and “High school” into a “Less than high school” category, “Vocational college,” “Junior college,” and “Technical college” into a “Junior-college level” category, and “College” and “Graduate school” into a “College or higher” category.

Citizenship

Do you have Japanese citizenship? (あなたは日本国籍をお持ちですか。)

- Yes (はい)
- No (いいえ)

Respondents who chose “No” were eliminated the survey.

Partisanship

Which party do you usually support? (あなたは、ふだん、どの政党を支持していますか。)

- Liberal Democratic Party (自由民主党)
- Constitutional Democratic Party (立憲民主党)
- Democratic Party for the People (国民民主党)
- Komeito (公明党)
- Japanese Communist Party (日本共産党)
- Japan Innovation Party (日本維新の会)
- Social Democratic Party (社民党)
- Reiwa Shinsengumi (れいわ新選組)
- Other political organizations (その他の政治団体)
- I don’t support any parties (どの政党も支持しない)
- I don’t know/I don’t prefer to answer (わからない・答えたくない)

When we sub-grouped respondents based on their partisanship, we categorized the Liberal Democratic Party, Komeito, and Japan Innovation Party as the right parties, and the Constitutional Democratic Party, Democratic Party for the People, Japanese Communist Party, Social Democratic Party, and Reiwa Shinsengumi as the left parties. Those who chose “I don’t support any parties” were classified as “Independent,” and those who chose “Other political organizations” or “I don’t know/I don’t prefer to answer” were omitted.

Nationalistic Sentiment

以下に示すそれぞれの文章に対して、あなたはどのくらい賛成または反対ですか。

- 他のどんな国の国民であるより、日本国民でいたい。
- 日本人であることを誇りに思う。
- 他の国の人たちが日本人のようになれば、世界はもっとよくなるだろう。

- 一般的に言って、他の多くの国々より日本は良い国だ。
- たとえ自分の国が間違っている場合でも、国民は国を支持すべきだ。

- Strongly agree (強く賛成)
- Agree (賛成)
- Somewhat agree (どちらかと言えば賛成)
- Somewhat disagree (どちらかと言えば反対)
- Disagree (反対)
- Strongly disagree (強く反対)

We coded “Strongly agree” as 5 and “Strongly disagree” as 0. We summed up the responses to five items and divided the respondents into three roughly equal parts. As a result, respondents who scored 13 or lower (34%) were assigned to a “Low” group, those who scored 17 or higher (35%) were assigned to a “High” group, and the remaining respondents (31%) were assigned to a “Middle” group.

Instrumental Manipulation Check

We are interested in what sections people like to read in newspapers. What people read in newspapers may affect their opinions on current events. We also want to see whether people read the questions carefully. To show that you’ve read this carefully, please mark both the “Advertising” and “Business” boxes below. Select these two options only. (私たちは、あなたが新聞のどの欄を好んでお読みになるのかということに関心があります。あなたが新聞で何を読むのかによって、昨今の政治的な事柄に対する考えが異なる可能性があります。そして、私たちは、あなたが質問文を丁寧にお読みになっているかどうかということも確かめたいと考えています。あなたがこの文章をよくお読みになった証拠として、下の選択肢のうち「広告欄」と「経済面」の両方を答えとして選んでください。ただこの 2 つの選択肢を選んでいただくだけで結構です。)

- Politics (政治面)
- Business (経済面)
- Science and technology (科学・技術面)
- Society (社会面)
- Local (地域面)
- Sports (スポーツ記事)
- Advertising (広告欄)
- Opinion (投書欄)
- None of the above (上記のどれでもない)

If a respondent did not follow the instruction, we show them the same question again, with the sentence “please mark both the `Advertising’ and `Business’ boxes” highlighted in bold. Those who failed the second check were excluded from the survey.

Additionally, we included one directed question (“Choose the fifth option from the left” [左から 5 番目の答えを選択してください。]) in a matrix-form question battery that is not related to this study. We excluded the data of respondents who did not follow this instruction from the analysis.

Conjoint Experiment

We will show you the profiles of six pairs of 12 men who wish to work in Japan. Please examine each profile carefully and answer the questions. (これから日本での就労を希望している男性 12 人のプロフィールを 2 人ずつ 6 組お見せします。それぞれのプロフィールをよく見て、質問にお答えください。)

The following men from the United States wish to work in Japan and are applying for a 3- to 5-year residency status visa. (次に示すアメリカ合衆国出身の男性が、日本での就労を希望し、3〜5 年の在留資格を申請しています。)

[Conjoint table here]

If you were an immigration officer and you had to give a work visa to one of the two applicants, which one would you give it to? (もしあなたが審査官で、どちらかに在留許可を与えなければならないとしたら、どちらの申請者に許可を与えますか。)

- Applicant 1 (申請者 1)
- Applicant 2 (申請者 2)

How would you rate each of the two applicants on a scale of 1 to 6, from “should never be granted” to “should definitely be granted” work visas? (在留許可を「絶対に与えるべきでない」から「絶対に与えるべきである」までの 6 段階で評価すると、あなたは 2 人の申請者をそれぞれどのように評価しますか。)

Appendix B

Information of photos

ID	Race (ratings)	Age ratings	Attractiveness
WM-206	White (1.0)	23.323	1.806
WM-010	White (0.968)	27.398	2.283
WM-009	White (0.867)	23.696	4.076
WM-004	White (0.989)	25.817	4.663

BM-003	African American (0.978)	23.813	2.385
BM-238	African American (0.926)	24.481	2.407
BM-215	African American (0.962)	22.423	4.115
BM-043	African American (0.933)	24.719	4.852
AM-203	Asian (0.958)	26.542	2.458
AM-206	Asian (0.857)	26.9286	2.286
AM-229	Asian (0.923)	24.769	3.480
AM-231	Asian (0.931)	26.931	3.571

The Asian group is slightly less attractive than other racial groups, but we do not believe that this difference affects our conclusions.

Appendix C

Detailed results of the subgroup analysis

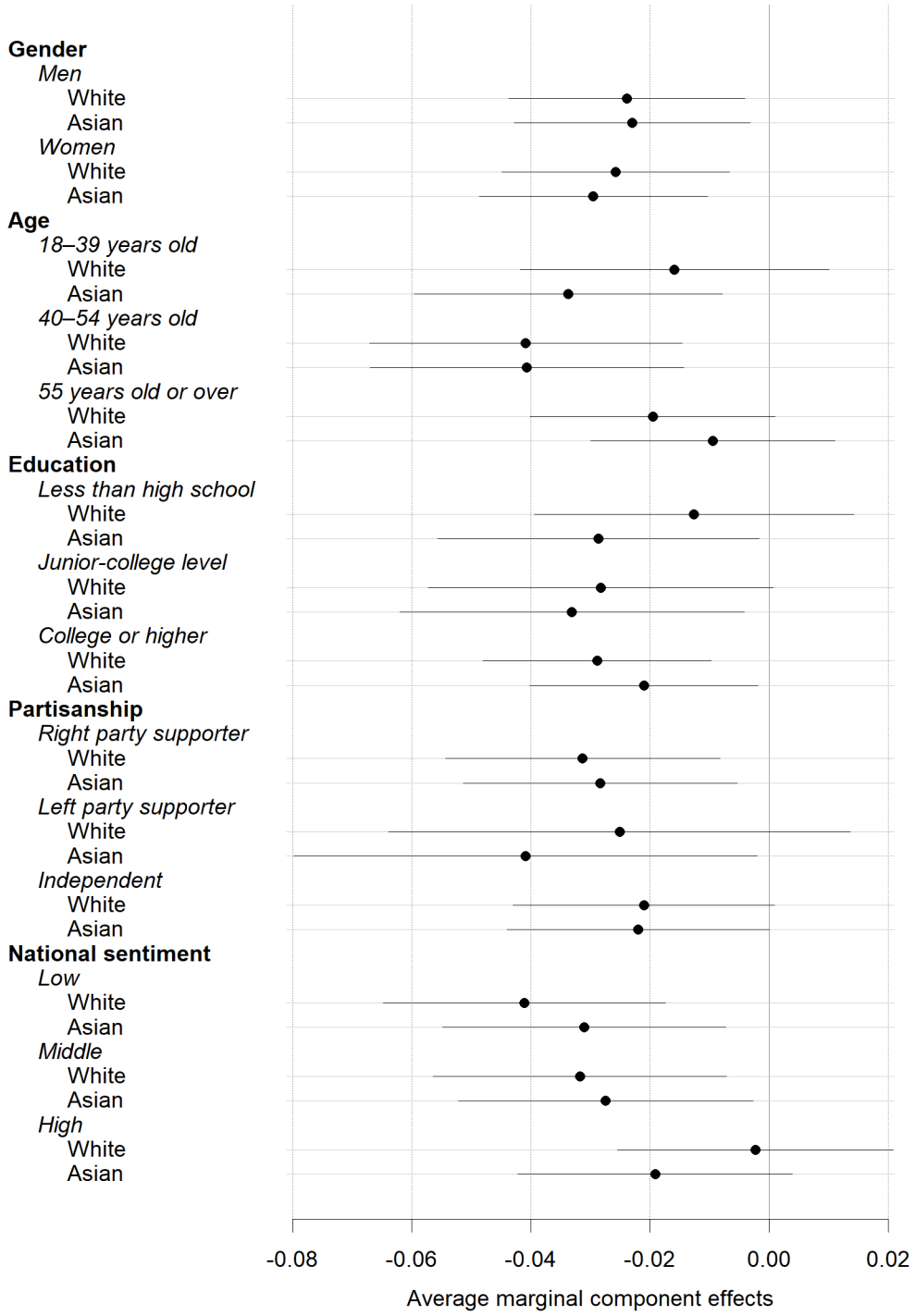
To formally examine whether the effects of race defer across subgroups, we conducted *F*-tests comparing two linear regression models, where the dependent variable is respondents' choice or rating of immigrants. The independent variables in the first model are a set of dummy variables for attributes and a dummy variable (or variables) for covariates (e.g., when testing for heterogeneous effects of race by respondent's gender, we included a dummy variable indicating that the respondent is male). In the second model, we added interaction terms between the dummy variables representing immigrant race and a covariate dummy (or dummies). The covariate dummies are based on the subgroupings used in the analysis in Figure 2 in the main text.

The results indicate no significant interaction between the effects of race and respondent characteristics. Specifically, in the analysis of choice outcomes, the *p*-values of the *F*-tests were 0.893 for gender, 0.179 for age, 0.700 for education, 0.899 for partisanship, and 0.171 for nationalistic sentiment. The corresponding values for the rating outcomes were 0.704 for gender, 0.910 for age, 0.588 for education, 0.209 for partisanship, and 0.561 for nationalistic sentiments.

In addition, we estimated the AMCEs of White- and Asian-American immigrants by subgroup, with African Americans as the base category. Although AMCE is inappropriate for between-group comparisons (Leeper, Hobolt, & Tilley, 2020), our purpose is not to compare the effects of race across subgroups, but to confirm that African Americans are generally preferred (or at least not disfavored) regardless of respondent characteristics; thus, estimating AMCEs whose baseline is African-Americans is the appropriate quantity to be estimated here.

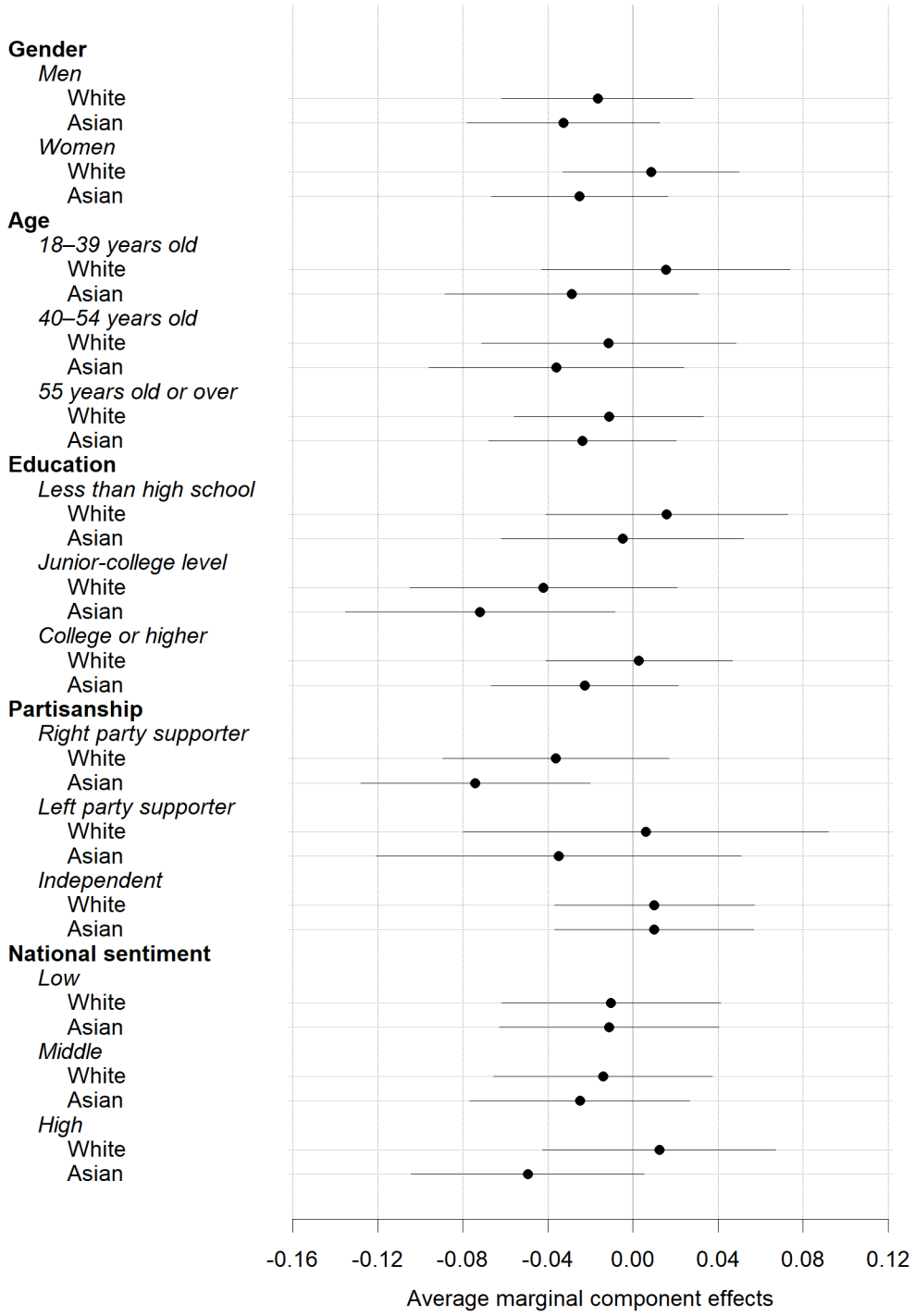
The results for choice and rating outcomes are illustrated in Figures 1 and 2, respectively. Using the choice outcomes, we observe that African-American immigrants are more welcoming than other races in most cases and that even for subgroups in which the AMCEs are not significant, the point estimates are negative in all cases. The results for the rating outcomes indicate that African Americans are more advantageous than Asian Americans, even though most conditional AMCEs are not significant and Asian-American AMCEs are significant in some subgroups.

Figure A1
Estimated AMCEs of race conditioned by respondents' characteristics using the choice outcome



Notes: The base category is African-American immigrants. Dots represent point estimates and segments represent 95% confidence intervals.

Figure A2
Estimated AMCEs of race conditioned by respondents' characteristics using the rating outcome



Notes: The base category is African-American immigrants. Dots represent point estimates and segments represent 95% confidence intervals.