

# Disclosing Invisible Attributes is Subject to Discrimination: Conjoint Analysis\*

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## Abstract

Despite the voluminous literature on discrimination, there is no empirical research estimating the causal effects of minorities disclosing their *invisible* identities on others' discriminatory attitudes. This study investigates the unique case of Zainichi Koreans in Japan, whose ancestors migrated to Japan before World War II and stayed in Japan afterward with special permanent residency status. They often must choose whether or not to disclose their ethnic identity by using a Korean name called *honmyō*, or to conceal it and “pass” as Japanese by using a Japanese alias called *tsūmei*. The use of a Japanese name practically renders their status as ethnic Koreans invisible because they speak Japanese and are assimilated into Japanese society and culture. We perform two conjoint experiments with hypothetical job applicants using ethnic Korean or Japanese names to show Japanese people's strong discriminatory attitudes against Zainichi Koreans. Importantly, these discriminatory attitudes are attenuated among those who have frequent and substantive social contact with Zainichi Koreans. We use this particular case to contribute to the broader literature on social contact and discrimination on the basis of invisible identities. Our findings add to a growing body of scholarship providing evidence for invisible forms of discrimination and support for the ability of intergroup social contact to reduce prejudice toward outgroups.

**Keywords:** discrimination, Japan, Zainichi, intergroup contact theory, conjoint analysis

**Word Count:** 16,176

# 1 Introduction

Modern hiring practices are becoming conscious of the existence of so-called “invisible” identities, or identities that are not easily recognized by appearances, such as disability, religion, social class, and sexual orientation (e.g., [Clair, Beatty and Maclean, 2005](#); [Ragins, Singh and Cornwell, 2007](#); [Santuzzi et al., 2014](#)). Due to the unseen nature of invisible identities, those who hold them often feel fear and anxiety as to whether or not they should disclose their identities in settings such as the workplace. For these individuals, “passing,” or concealing their identity, can shield them from discrimination, while revealing their identity can expose them to potential discrimination. As such, many people who hold invisible identities opt to hide them ([Fountain, 2023](#); [Ragins, Singh and Cornwell, 2007](#)).

Existing research has attempted to empirically provide evidence of discrimination against those who hold and/or disclose invisible identities in hiring (e.g., [Weichselbaumer, 2003](#); [Gouvier, Sytsma-Jordan and Mayville, 2003](#); [Pierné, 2013](#)). However, identities such as these are not typically collected and observed in candidate selection processes. This means that in surveys that examine the effects of identities like sexual orientation, disability, and religion, respondents are likely to focus attention on information that would never be available in real-life candidate selection scenarios, limiting the external validity of such studies. In general, studying the effect of disclosing or concealing invisible identities on discriminatory attitudes presents significant methodological difficulties. Due to the very nature of passing, it is nearly impossible for research subjects to distinguish those who pass from those who do not hold stigmatized identities at all. On the other hand, once an individual’s identity is explicitly revealed, they are no longer passing. Therefore, it is extremely difficult to obtain quantitative or qualitative data through survey research, interviews, and case studies that effectively assess discriminatory attitudes vis-à-vis revealing invisible identities or not.

In order to examine the effects of invisible identities, research must examine a case in which information that is almost always observed in candidate selection processes either

reveals or hides a candidate’s existing identity. In addition, this case must specifically differentiate those who hold an identity from those who do not hold that identity, and it must also differentiate those who conceal their identity from those who disclose it. Such is the case of Zainichi Koreans in Japan.

Zainichi Koreans are ethnic Koreans whose ancestors came to Japan during its colonial rule over Korea and were granted “special permanent resident” status after the Second World War (Lie, 2008). Due to their long-standing history in Japan, Zainichi Koreans are visibly indistinct from the ethnic Japanese population, ostensibly rendering their identities as ethnic Koreans invisible. However, when applying for things such as employment or housing, Zainichi Koreans must choose whether or not to disclose their ethnic identity by applying with a Japanese alias or an ethnic Korean name. In spite of the use of Japanese pseudonyms to camouflage ethnic identity, Zainichi Koreans still experience discrimination once their ethnic status is known.

Based on two conjoint survey experiments (Study 1 and Study 2), we examine the case of Zainichi Koreans to determine if they are discriminated against solely on the basis of the names they choose to use. The use of conjoint analysis provides multiple advantages in these cases. Due to the sensitive nature of the topic, respondents may be subject to Social Desirability Bias (SDB), which can be mitigated by conjoint analysis (Horiuchi, Markovich and Yamamoto, 2022). Conjoint analysis also allows for the presentation of hypothetical scenarios that are still “true-to-life,” resulting in external validity of results. To our knowledge, our study is the first of its kind to effectively and quantifiably identify discrimination based on invisible attributes, as well as examine this unique case in which those who hold an invisible identity must actively choose whether to hide or disclose it in all personal, professional, and official circumstances.

Study 1 consisted of a national sample of Japanese respondents. Results from Study 1 suggest that Zainichi Koreans are indeed discriminated against based solely on their names. These findings imply that concealing an invisible identity that cannot be visibly recognized

may be an effective strategy that so-called “invisible minorities” can use to mitigate the effects of discrimination. However, this solution does not address discrimination that is entrenched in applicant selection processes, indicating the need for further anonymization of names and other attributes that potentially signal invisible identities to others in such processes. Preliminary findings from Study 1 also suggested that preferences against Zainichi Korean applicants were less strong among respondents residing in regions where the proportion of the population that is Zainichi Koreans is high, suggesting that discriminatory attitudes against Zainichi Koreans might be mitigated by contact with Zainichi Koreans. These findings prompted us to conduct Study 2.

Study 2 was nearly identical to Study 1, except it contained additional measures of intergroup social contact and targeted only Japanese citizens living in the Kansai region of Japan: where the population of Zainichi Koreans is highest. Results from Study 2 suggest that respondents’ preference against Zainichi Korean applicants is conditional on the amount of contact that they have with Zainichi Koreans. Such findings are consistent with [Allport’s \(1954\)](#) contact hypothesis, which stipulates that under certain conditions, contact between two groups is conducive to the reduction of intergroup prejudice. The results of Study 2 indicate that fostering positive interaction with those who hold marginalized identities might be another effective means to mitigate discrimination.

The findings of this study contribute to the broader literature on the role of invisible identities, as they find clear, externally valid evidence for the existence of discriminatory attitudes on the basis of invisible identities. Our results also are novel, as they suggest that concealing an invisible identity may mitigate discrimination against those who hold invisible identities. Finally, the present research adds to a vast and growing body of scholarship that supports [Allport’s \(1954\)](#) contact hypothesis by providing evidence for the conditional effect of one’s intergroup social contact on outgroup prejudice. Broader implications of this study include the need for modern hiring practices to adopt methods to limit the effect of discrimination based on invisible identities on hiring and the need for further examination

of intergroup social contact's role in the reduction of intergroup prejudice.

## 2 Historical Background

In 1910, Japan annexed Korea, beginning the era of Japanese colonial rule, under which Koreans became imperial subjects. This era also marked the first wave of mass migration of rural workers from Korea to the Japanese archipelago, primarily due to economic push and pull factors (Lie, 2009; Weiner, 2013). Japan's rapid industrialization during World War I further increased the demand for cheap labor under poor working conditions—work that often only Korean migrants were willing to perform (Kashani, 2006). Following the end of WWII, Japan gave up its claims to its imperial territories, including the Korean peninsula, and many Koreans soon repatriated. However, due to economic and logistical difficulties, some remained in Japan and placed down roots (Sonia Ryang and John Lie, 2009). Their descendants are Zainichi Koreans.

The transition into Japan's post-colonial era saw a transformation in discourse relating Japan to its various Asian colonial subjects. During Japan's colonial reign, the nation adopted an assimilationist philosophy called the common descent thesis, or *dōshoron*. *Dōshoron* posited that Japan and Korea were of the same ilk, and justified annexation of Korea as a reconciliation between the two separated nations (Suzuki, 2016, p. 26). Under this ideology, all colonial subjects of Japan were granted Japanese citizenship (Shin, 2011). However, after WWII, Japan shifted to an exclusionary framework of Japanese monoethnicity and demarcation of non-Japanese as foreign. Throughout the mid to late-twentieth century, extant imperial subjects in Japan who did not repatriate, such as Koreans and Taiwanese, successively lost their rights in a series of policy. From 1945 to 1952, they were deprived of rights such as voting and social welfare and ultimately lost their status as Japanese citizens (Dunlop, 2011). In one fell swoop, all previous colonial subjects living in Japan were deemed to be “foreigners.” To this day, most Zainichi Koreans still do not possess Japanese

citizenship. Instead, they hold a “special permanent resident status,” established by the Japanese government in 1991 and afforded to all “persons who have lost Japanese national identity under the Treaty of Peace with Japan” and their descendants ([Ministry of Justice, Japan, 1991](#)). Special permanent residents in Japan are protected from deportation, save for select extreme cases. However, they are controversially barred from certain rights such as suffrage and the ability to hold public service positions ([Lie, 2008](#)).

The post-war myth of Japanese monoethnicity continues to color the treatment of minority groups in the current day. Japan has a number of minority groups, such as the Ainu, Burakumin, and Zainichi Koreans. However, these groups are largely ignored in discursive practices about Japan ([Howell, 1994](#); [Siddle, 2012](#); [Shimahara, 1984](#)). Contemporary imaginings of the Japanese nation-state associate it with a single Japanese culture, a single group of Japanese people, and a single Japanese identity. Multiple Japanese government officials have sparked controversy by describing Japan as being “homogeneous” or having “one race” in separate incidents in 1986, 2005, and 2020 ([Burgess, 1986](#); [Japan Times, 2005](#); [Yamaguchi, 2020](#)). Scholars such as [Tai \(2004\)](#) argue that this “ideology of monoethnicity” has deterred Zainichi Koreans from making their ethnic identity known. Instead, they are tacitly encouraged to attempt to blend in with the majority ethnic Japanese population.

For the most part, the modern generation of Zainichi Koreans are assimilated into Japanese society. They are mostly second- and third-generation individuals who speak Japanese and understand Japanese culture and social norms. According to [Shin \(2011\)](#), over 90% of Zainichi Koreans do not speak Korean and have never visited Korea. They are also considered distinct from a subset of Koreans who immigrated to Japan at the latter end of the 20th century, often referred to as “newcomers” ([Nozaki, Inokuchi and Kim, 2006](#)). Furthermore, while some Korean students receive ethnic education at *Chōsen Gakko*, or schools for Korean communities, most Zainichi Korean children attend Japanese schools due to the fear of becoming victims of hate and violence, in addition to the prohibitive costs of attending the ethnic schools ([Okamura and Saito, 2022](#)). Meanwhile, many Zainichi adults

marry people who are ethnically Japanese to assimilate (Sonia Ryang and John Lie, 2009, p. 10). Because of this, most people are unable to differentiate Zainichi Koreans from ethnic Japanese citizens, making their Korean ethnicity an invisible identity. Although Zainichi Korean identity is invisible, anecdotal evidence suggests that it is stigmatized and that those who hold it are subject to discrimination in various forms.

### 3 Hypotheses

For the entirety of the history of ethnic Koreans living in Japan, Zainichi Koreans have weathered discrimination, which manifests in both obvious, explosive moments and smaller, repeated offenses. In this section, we discuss background information that informed our hypotheses, including the nature of discrimination against Zainichi Koreans, discrimination based on invisible identities, and the potentially mitigating effect of intergroup social contact.

#### 3.1 Zainichi Korean vs. Japanese

At the most basic level, hate speech and hate crimes committed against Zainichi Koreans provide concrete examples of anti-Zainichi bias in Japan. Japan has a long history of violence and expressions of hate toward Koreans. Notably, in 1923, Koreans in Japan were scapegoated for fires that occurred as a result of the Great Kanto Earthquake and accused of various crimes, leading to the massacre of thousands of Koreans throughout Japan (Ryang, 2003). In 2002, following the admission of Kim Jong-Il that North Korea had abducted Japanese citizens in the past, many Korean families and individuals were harassed and threatened. For instance, Korean students were assaulted and had their uniforms slashed (Sonia Ryang and John Lie, 2009, p. 62). More recently, arson in Korean ethnic enclaves, graffiti inciting violence, online hate speech, and assault against Zainichi Koreans have all been well-documented in Japan (*Worrying Spike in Hate Crimes against Korean Residents in Japan*, 2022; Nammo, 2022; Sato, 2022).



Furthermore, far-right nationalist groups such as the *Zaitokukai* (“Citizen’s Association Against Zainichi Privilege”) and *Shuken kaifuku o mezasu kai* (“Group That Seeks Recovery of Sovereignty”) have been on the rise in recent years, spreading hateful messages and intimidating Zainichi Korean residents both on the streets and through online platforms and social media (Sakamoto, 2011; Robillard-Martel and Laurent, 2019). One event, in which *Zaitokukai* supporters protested outside a Korean elementary school in Kyoto, was ruled to constitute “racial discrimination” by the district court (Fackler, 2013). The internet has also become an efficient avenue for the dispersal of anti-Zainichi hate and other discriminatory ideas. For instance, in the aftermath of the assassination of ex-Japanese prime minister Shinzo Abe, online rumors spread the false notion that Abe’s assassin was a Zainichi Korean (Chatani, 2023). Scholars have suggested that such blatant and clearly visible instances of anti-Zainichi hate and discrimination have slowly decreased over time. However, many Zainichi Koreans have expressed their experiences of feeling the effects of social discrimination in subtle forms, including discrimination in hiring, promotion, marriage, and interpersonal relationships (Kim, 2011a; Sonia Ryang and John Lie, 2009, p. 95).

The Japanese government, too, engages in policy practices that many deem to be discriminatory toward Zainichi Koreans. The Government of Japan’s treatment of Korean schools supported by the *Chongryōn*, which has affiliations with North Korea, has long been met with backlash. In 2003, families and teachers of students from *Chōsen gakko* protested the continuation of a policy that would require students from Korean ethnic schools to take an additional preliminary test on top of the regular entrance exam needed in order to attend a national university (Arita, 2003). In 2013, the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) excluded Korean ethnic schools supported by the *Chongryōn* from a tuition waiver program that would increase the duration of free compulsory education to last through high school (Okamura and Saito, 2022).

Discriminatory treatment of Koreans in Japan extends into the employment sector as well. Historically, Zainichi Koreans’ official status as “special permanent residents” has withheld

them from voting in Japanese elections, running for public office, and being employed in public service positions in many prefectures (Dunlop, 2011). Until 1972, ethnic Koreans were barred from all public sector jobs (Lie, 2009, p. 17). In the modern day, Zainichi Koreans continue to have higher rates of unemployment, lower proportions of professional employment, and higher proportions of blue-collar employment, indicating a remaining disparity between the socio-economic status of Japanese and Zainichi Koreans (Kim, 2011b).

Additionally, there have been a number of recorded cases in which private and public sector employers have been accused of discriminating against Zainichi Korean applicants. Infamously, a Japanese district court ruled that Hitachi, a Japanese multinational conglomerate, had discriminated against a Zainichi Korean applicant by rescinding his job offer after it was revealed that he applied for the job with a Japanese name rather than his Korean name (Kim, 2011a). Meanwhile, in 2005, the Japanese Supreme Court ruled that a Zainichi woman could not take a test to become a supervisor at a public health center due to her nationality (Onishi, 2005). Notably, the woman had never adopted a Japanese *tsūmei* and opted to be identified by her Korean name. Cases such as these provide some examples of instances that draw attention to the role that discrimination based on ethnicity may play in hiring discrimination in Japan.

Despite these cases, the existence of discrimination against Zainichi Koreans remains difficult to prove with observational data. In Kim's (2011a) qualitative study of Zainichi Korean experiences of discrimination, one interviewee expressed the futility of attempting to attribute inequalities in employment to discrimination:

I think Japanese companies may hire a Japanese candidate if they need to hire only one out of two candidates who have similar qualifications, except that one is Japanese and the other is Korean. But in this case it's impossible to tell the existence of discrimination because no obvious evidence is available... Nobody knows the real reason why the Korean candidate was not hired. It's very difficult to tell whether the decision was made on the basis of qualification or of

discrimination (p. 296).

The sentiment expressed in this quote illustrates the impossibility of using observational data to identify hiring discrimination based on invisible attributes like that of Korean ethnic identity. This, in turn, reiterates the importance of the present research to quantitatively identify discriminatory attitudes using a controlled survey experiment.

The experiences of Zainichi Koreans in employment, along with the repeated instances of anti-Zainichi Korean hate and everyday discrimination against Zainichi Koreans lead us to form the following hypotheses:

**Hypothesis 1a:** *When respondents are asked to compare a Japanese applicant and a Zainichi Korean applicant with a Japanese name, they will choose the Japanese applicant to be hired.*

**Hypothesis 1b:** *When respondents are asked to compare a Japanese applicant and a Zainichi Korean applicant with a Korean name, they will choose the Japanese candidate to be hired.*

In other words, regardless of whether or not a Zainichi Korean applicant uses an ethnic name or a Japanese name, Japanese respondents will disfavor them and favor Japanese applicants.

### **3.2 Korean name vs. Japanese name**

Due to shared phenotypic characteristics and a multi-generational presence in Japan, Zainichi Koreans are virtually indistinguishable from the Japanese in appearance, language, and culture. This makes their status unique because their minority status is “invisible.” Due to this attribute, many Zainichi Koreans are able to engage in ethnic “passing,” or a performance in which they conceal their Korean heritage by blending in with the Japanese majority (Lie, 2008, p. 18-19).

The phenomenon of passing has been observed in many marginalized communities including those discriminated against on the basis of race, ethnicity, and sexual orientation. These

groups participate in a “performance” through which they conceal parts of their identity in order to be perceived by others as part of a certain majority or minority group (DeJordy, 2008; Leary, 2012). For example, since the era of Jim Crow to the present day, Black and white biracial Americans have been noted to accentuate and conceal various aspects of their appearance or cultural expression to pass as either Black, to avoid stigmatization in their own communities, or white, to avoid becoming the targets of discrimination. Gay and transgender individuals may choose to pass as straight and/or cisgender for similar reasons (Khanna and Johnson, 2010; Kennedy, 2001). Clair, Beatty and Maclean (2005) stress that revealing and passing are *choices* made by individuals after weighing factors such as social context and consequences. To borrow a phrase originated by Clair, Beatty and Maclean (2005), invisible identities are “out of sight but not out of mind,” as those who hold them must constantly be conscious of how they present or do not present stigmatized identities.

Because of their unique ability to blend in with the Japanese population based on visual, cultural, and social characteristics, many Zainichi Koreans are able to pass by adopting unofficial Japanese names called *tsūmei*, derived from the Chinese characters that their Korean names are written with. For many Japanese, the only way to identify a Zainichi Korean is by seeing if they have an ethnically Korean name, called *honmyō*, or by intuiting whether a seemingly Japanese name is a *tsūmei* (Sonia Ryang and John Lie, 2009). For Zainichi Koreans, the choice between using a Japanese or Korean name is a fraught one, as it has deep implications on personal identities related to ethnicity, nation, and self. There is much literature that discusses the deep connection that one’s name has with self-identity, so it is unsurprising that choosing between two different names leads to internal conflict for many Zainichi Koreans. Interviews featured in qualitative studies performed by Aoki (2012) and Fukuoka and Tsujiyama (2011) show multiple perspectives, with some Zainichi individuals feeling disconnected from their Korean ancestry and expressing more comfort using *tsūmei*. Meanwhile, others find that using a Korean ethnic name is an empowering act of resistance against assimilation. Outside influences also play a role in how Zainichi Koreans choose to

represent their names. Even before the end of Japanese imperialism, the Japanese wartime policy of *kōminka* included forced household registration, which required that Koreans adopt Japanese names over their ethnic Korean ones (Chapman, 2007). However, in post-colonial Japan, Zainichi Koreans have been encouraged to use their ethnic names by instructors, acquaintances, and employers (Aoki, 2012; Fukuoka and Tsujiyama, 2011, p. 95). In 1998, the Osaka Board of Education introduced policies to encourage Korean students to use their Korean names with the intent of allowing them to strengthen their personal identities (Minorities at Risk Project, 2024). Some ethnic organizations have even initiated “real name” movements that urge the renunciation of *tsūmei* in favor of *honmyō* (Lie, 2008, p. 111), making it all the more imperative that research is conducted as to whether disclosing one’s ethnic name leaves them vulnerable to discrimination.

From the existing literature on passing to evade discrimination and the unique choice of Zainichi Koreans regarding the disclosure of their ethnicity, we derive the following hypothesis:

**Hypothesis 2:** *The probability that respondents will choose a Japanese applicant to be hired is higher when they compare a Japanese applicant to a Zainichi Korean applicant with a Korean name vs. when they compare a Japanese applicant to a Zainichi Korean applicant with a Japanese name.*

Namely, when comparing Zainichi Korean and Japanese applicants, Japanese respondents will disfavor Zainichi Korean applicants less when they use *tsūmei* than when they use an ethnic name.

### **3.3 Effects conditional on intergroup contact**

The intergroup contact hypothesis, first proposed by Allport (1954), stipulates that under certain conditions, intergroup social contact is conducive to the reduction of prejudice between groups. Although the logic that drives the contact hypothesis is intuitive, a number

of additional factors complicate the underlying theory. For instance, Allport also posits several additional variables that complicate contact's role in prejudice reduction. These factors include quantitative measures of contact such as frequency and duration, the relative social status of those involved in contact interactions, and attributes of the environment that contact takes place in, among others (Allport, 1954, pp. 262-263). Since its conception, Allport's hypothesis has spawned a plethora of formalized models attempting the mechanisms by which contact may reduce prejudice, including Brewer and Miller's (1984) decategorization model, Gaertner et al.'s (1989) recategorization model, and Brown and Hewstone's (2005) model which emphasizes intergroup salience. Decategorization argues that prejudice-reducing social contact builds connections on a personal level, so boundaries between groups can be dissolved. Recategorization suggests that social contact works by redrawing the boundary lines between groups, potentially creating an overarching common category by which members across groups can both identify. Finally, Brown and Hewstone's model stresses the importance of intergroup salience, stating that intergroup contact works best when participants are aware of the group boundaries (Christ and Kauff, 2019). This body of literature makes up what is largely regarded as intergroup contact theory.

Much scholarship has been conducted with the aim of further clarifying the mechanisms by which intergroup contact can lead to the reduction of prejudice. In a meta-analysis of the literature on the intergroup theory, Pettigrew and Tropp (2008) find evidence that several factors mediate the relationship between intergroup contact and prejudice. These factors include the building of empathy between groups and sponsorship of intergroup learning. Dovidio, Gaertner and Kawakami (2003) contend that empathy leads individuals not only to have more positive views of others, but also to support others in an altruistic way. On the other hand, Pettigrew (1998) suggests that learning about other groups can bring about cultural understanding, increased recognition of outgroup members as personalized individuals, and the allaying of negative stereotypes. Another compelling explanation for how social contact works is through the reduction of anxiety or perception of outgroups as threats. In-

tergroup anxiety is strongly associated with negative attitudes toward outgroups including discrimination (Stephan, 2014). However, Stephan and Stephan (1985) note that intergroup anxiety is often experienced by those who have not yet interacted with outgroup members. Research has found that individuals who do interact with outgroup members exhibit less anxiety about them. For example, Horiuchi and Ono (2023) find that in Japan, individuals who experience more social contact with foreigners are less likely to respond to media frames that paint foreign refugees as a threat.

However, Halperin et al. (2012) find that the converse of the contact hypothesis may also be true: that the reduction of anxiety can lead to increased social contact, making understanding how contact and anxiety interact similarly difficult to understanding the directional relationship between contact and prejudice. Since its conception, scholars of intergroup contact theory have grappled with the issue of causality. Even in his initial proposal of the contact hypothesis, Allport (1954) conceded the equal likelihood of social contact leading to decreased prejudice in individuals and individuals who already have lower prejudice seeking out social contact with outgroups at a higher rate. In other words, there is ambiguity as to whether social contact causes reduced prejudice or if reduced prejudice causes more social contact. Referring to this complexity as the “causal-sequence problem,” Pettigrew (1998) notes methods to help isolate causality when studying intergroup contact, including the use of situations where participants are unable to choose whether or not they engage in social contact with an outgroup and longitudinal studies which track individuals’ attitudes before and after being exposed to intergroup social contact.

This is not to say that social contact always contributes to reducing prejudice in some form. Many studies have found that mere physical proximity to an outgroup is not enough to reduce prejudice (Horiuchi and Ono, 2023; Clayton, Ferwerda and Horiuchi, 2021). Other studies show that when there is active conflict or extremely contentious sentiment between two groups, no amount of social contact can mitigate the negative feelings. However, qualifications such as these are complicated by competing factors. For instance, Mousa (2020)

finds that although “near optimal” contact may not entirely mitigate negative beliefs about outgroups, it can reduce individual-level prejudice in even the most fraught of intergroup conflicts.

Based on previous scholarship which supports the validity of intergroup contact theory, we posit the following hypotheses:

**Hypothesis 3a:** *Respondents with low social contact are more likely to choose a Japanese applicant than a Zainichi Korean applicant with a Japanese name.*

**Hypothesis 3b:** *Respondents with low social contact are more likely to choose a Japanese applicant than a Zainichi Korean applicant with a Korean name.*

**Hypothesis 3c:** *The difference between the probability of choosing a Japanese applicant over a Zainichi Korean applicant with a Korean name and the probability of choosing a Japanese applicant over a Zainichi Korean applicant with a Japanese name is larger for respondents with low social contact.*

## 4 Research Design

To test these hypotheses, we fielded two survey experiments through the PureSpectrum platform. In order to quantifiably measure discriminatory attitudes held by respondents that are potentially hidden, we use two conjoint experiments in which respondents compared hypothetical job applicants who vary by several attributes. In addition, respondents were asked several exploratory Likert-type and free-response questions to gauge sentiments that may affect their tendency toward discriminatory attitudes. As both studies were interested in the discriminatory attitudes of Japanese citizens toward Zainichi Koreans, all respondents who were not Japanese citizens were filtered out via a screener question at the beginning of the surveys. The surveys were administered in Japanese and results presented in this paper were translated into English. The collection period for Study 1 was from May 16, 2023 to



May 17, 2023. The collection period for Study 2 was from February 14, 2024 to February 23, 2024. Both surveys received  $\sim 1,000$  valid responses, respectively.

The motivation for Study 2 necessitated oversampling of respondents with greater amounts of social contact with Zainichi Koreans. Therefore, the distribution of the survey associated with Study 2 targeted the Kansai, or Kinki, region of Japan, as it is home to the prefectures with the highest populations of Koreans in Japan. This survey also contained an additional screener question that prevented respondents residing in prefectures outside of the Kansai region from submitting the survey.

Hypotheses and research designs for Studies 1 and 2 were pre-registered through the Open Science Framework (OSF) prior to data collection. The full pre-registrations can be found in Appendix A.

## 4.1 Conjoint Design

When researching discrimination, there is concern about the role that Social Desirability Bias (SDB) may play in influencing subjects to conceal their true attitudes. Many studies on discrimination have effectively limited the effects of SDB by observing subjects who do not know they are being examined, much less that they are being evaluated on their discriminatory attitudes (Fang, Guess and Humphreys, 2019). However, SDB is an obstacle in survey experiments, as respondents will often avoid self-reporting behavior or attitudes that are popularly deemed to be undesirable such as racism, xenophobia, anti-semitism, or other forms of discrimination when they are aware that they are responding to a socially-sensitive topic and have the potential to answer in a socially undesirable way (Krumpal, 2013; Tourangeau and Yan, 2007). Recent studies in political science use fully randomized conjoint designs to limit the effect of SDB on respondents' answers. Through this design, respondents are unable to perceive the socially sensitive variable being tested and are able to rationalize their answers based on the other varying attributes, allowing researchers to field honest responses that can reveal hidden, potentially socially undesirable behavior (Carey

et al., 2020; Horiuchi, Markovich and Yamamoto, 2022). Discrimination against Zainichi Koreans is no different from any other forms of discrimination, in that it is indeed a sensitive topic. Thus, the risk of SDB influencing survey responses is substantial.

To limit the effects of SDB on the results of these experiments, we employ a conjoint design. In the present study, respondents were presented with two hypothetical job descriptions in two fully randomized conjoint tasks. The first of the job descriptions detailed an open position at a private company as a member of the research and development team. The second position detailed an open position as a school teacher at a public elementary school. These positions were chosen due to their status as both private and public sector jobs which might have different implications for discrimination, as well as the likelihood that an average Japanese citizen would be familiar with the job’s content and responsibilities. Full descriptions of the jobs can be found in Appendix B.3.

For each task, respondents were presented with eight pairs of hypothetical applicants described by names, which were selected to suggest either Japanese or Zainichi Korean ethnicity, and several other attributes pertinent to the job positions. Numerous studies have used names to signal a hypothetical candidate’s race to survey respondents in an attempt to identify discrimination. For example, a large body of audit studies primarily uses distinctive names rather than appearance or explicit disclosure to telegraph marginalized identity to subjects (e.g., Gaddis, 2015; Kugelmass, 2016; Neumark, 2012). Though some scholars have expressed concern as to whether or not a signal can influence respondents into considering only race and not other inferable confounding factors such as socioeconomic status (Landgrave and Weller, 2022), empirical research finds that names that convey a hypothetical candidate’s race influence subjects into making decisions solely based on the inferred race when carefully selected (Gaddis, 2015; Crabtree and Chykina, 2018; Butler and Homola, 2017).

As such, names that connote hypothetical applicants’ ethnic backgrounds were presented to respondents rather than explicit indications of the applicants’ ethnicity to further obfus-

Table 1: Attributes, Levels, and Weights

Attribute	Level	Weight
Name	Japanese for Japanese	60%
	Korean for Zainichi	20%
	Japanese for Zainichi	20%
Gender	Man	50%
	Woman	50%
Education	The University of Tokyo	25%
	Waseda University	25%
	Nihon University	25%
	Chiba University	25%
Experience	3 Years	33%
	5 Years	33%
	7 Years	33%
Preliminary Screening Results	Excellent	50%
	Particularly Excellent	50%

*Note:* Names also telegraph the gender of the hypothetical applicants. Respondents were not explicitly told the gender of the applicant.

cate the socially sensitive variable of interest. Ultimately, ten different names were used. Six of them are common Japanese names, intended to connote Japanese ethnicity. Two names are common Korean names, signaling Korean ethnicity. Two more are Japanese names, which appear to be adapted from Korean ethnic names, signaling Korean ethnicity and the use of a Japanese pseudonym.

As with ethnicity, respondents were also not explicitly told the gender of each hypothetical applicant. However, for each of the three categories of names, exactly half were common names for women, and half were common names for men, allowing respondents to assume the gender of each hypothetical applicant. Each name was assigned equal weight, creating the weights described in Table 1. A full list of the names used in this experiment can be found in Appendix B.4.

Three pre-tests were administered to refine attributes and levels. Initial tests used five levels for education, which included “Doshisha University” in addition to the four levels included in the final survey, as well as three levels for screening: “fair,” “excellent,” and

“particularly excellent.” Ultimately, the “education” attribute was consolidated into the four levels shown in Table 1, with two levels representing private universities and two levels representing public universities. Meanwhile, the “fair” level was shown to have a large negative effect on respondents’ decisions, which raised concerns as to whether respondents were focusing primarily on the “screening” attribute instead of weighing each attribute, particularly the variable of interest, “name,” in making their decision. To decrease the salience of the “screening” attribute and more accurately reflect a real-life *final* selection process, the levels for “screening” were consolidated to only “excellent,” and “particularly excellent.”

All levels (except those for name) were assigned with equal weight within their respective attribute, and there was no cross-attribute constraint. Furthermore, we employ methods detailed in Clayton et al. (2023) to correct measurement error biases in our analyses, which include repeating the first pair for each conjoint task to assess intra-respondent reliability.

## 4.2 Measuring intergroup social contact

One key variable of the present study is the intergroup social contact that respondents have with Zainichi Koreans. Direct observation of an individual’s social contact with members of an outgroup is impossible through a survey experiment. Therefore, it becomes necessary to rely on observable manifestations of the unobservable latent trait to approximate a measure of the trait. Scholarship from a variety of fields, including medicine, social psychology, and others, have developed various methods of quantifying unobservable traits by using observable information such as survey or questionnaire responses.

Many previous experiments examining intergroup contact theory have used survey questions to measure social contact with outgroups by asking respondents to quantify the amount of social contact they have. Such measures require respondents to estimate the proportion of their friends, neighbors, relatives, or coworkers who are members of the outgroup in question either by assigning it a number (e.g., percentage, number of people known) or adapting qual-

itative answers (e.g., agree, disagree, all, some, none) into a continuous numeric scale (e.g., Jackman and Crane, 1986; Hewstone et al., 2006; Schlueter and Scheepers, 2010; Savelkoul et al., 2010; Brown et al., 2007).

Due to the nature of survey experiments, respondents' social contact must be self-reported, meaning that it is possible that respondents may underreport the amount of social interaction they have with outgroup members due to recall error or because they are not even aware that they have interacted with outgroup members. However, the latter does not present an issue in the study of intergroup contact theory. Brown and Hewstone (2005) theorize that group membership salience is a moderating factor in social contact's reduction of prejudice. In other words, interacting individuals should actively be cognizant of what group membership they hold in order to reduce prejudice. In the case of the present surveys, self-reported contact with Zainichi Koreans is inherently a measure of interaction with Zainichi Koreans where the group membership of respondents and those they interact with are both salient.

In the present research, to measure respondents' contact with Zainichi Koreans, we draw from studies such as Clayton, Ferwerda and Horiuchi (2021), Hewstone et al. (2006), and Yaker and Hurley (1987). These studies use similar five-point Likert-scale questions to assess survey and questionnaire respondents' amount of social contact with members of an outgroup. We adapted four Likert-scale items from these studies to measure respondents' contact with Zainichi Koreans. Each of these items takes the form of a statement regarding the respondent's self-reported contact with Zainichi Koreans and is measured on a five-point scale, with the typical options of "strongly agree," "agree," "neither agree nor disagree," "disagree," and "strongly disagree." The precise wording of these items can be found in Appendix B.5. Half of these items were forward-coded, with agreement correlating to higher values (5), and half were reverse-coded, with agreement correlating to lower values (1). To develop survey items, we administered a pre-test survey in the US, examining respondents' intergroup social contact with Jewish Americans and performed analysis using concepts from

Item Response Theory (IRT). Further discussion can be found in Appendix C.

To prepare for analysis, we calculated the aggregate contact score for each respondent by taking the average of their scores for each item. Then, we separated respondents based on their aggregate scores into three tercile groups: “high,” “medium,” and “low” contact to compare results for respondents fitting in these three groups.

### 4.3 Further exploratory analysis

In order to get a sense of what kind of respondents hold discriminatory attitudes toward Zainichi Koreans and what variables might moderate one’s decision to choose either a Japanese or Zainichi Korean candidate over the other, respondents were also asked several exploratory questions including questions that collected demographic information and measured their tendency toward nationalism, acknowledgment of discrimination against Zainichi Koreans, and resentment against Zainichi Koreans. One exploratory question also directly asked respondents to freely write their thoughts about Zainichi Koreans. Questions directly related to discrimination or Zainichi Koreans were asked after respondents concluded the conjoint tasks to limit their awareness of the measured variable and the possible influence of SDB on their responses.

Some sources raise alarms that Japanese nationalist ideologies have risen in recent years. As evident by the discriminatory rhetoric hostile to Zainichi Koreans that is leveraged by nationalist groups like the *Zaitokukai*, nationalist ideologies contribute heavily to anti-foreigner, anti-immigrant, and other discriminatory attitudes. The present research uses a five-point nationalism scale, adapted from a few questions used by the [GESIS Leibniz Institute for the Social Sciences \(2013\)](#) in surveys on national identity. Wordings for questions on nationalism are found in Appendix B.2

In much of the Japanese population, discriminatory attitudes toward Zainichi Koreans are not overt enough to manifest in violence or hate speech. However, the covert discrimination described by interviewees featured in studies by [Kim \(2011a\)](#) and [Aoki \(2012\)](#) more

closely resemble a modern expression of discrimination that scholars often refer to as racial resentment. To quantify resentment towards Zainichi Koreans, the present research uses a five-point Zainichi Korean Resentment Scale, adapted from the racial resentment scale proposed by [Kinder and Sanders \(1997\)](#) and used in many studies which examine racial resentment in the United States (e.g., [Agadjanian et al., 2021](#); [Abramowitz and McCoy, 2019](#); [Feldman and Huddy, 2005](#)). Wordings for questions on resentment can be found in [Appendix B.5](#).

## 5 Results

In this section we present results from Studies 1 and 2 and assess their support for the pre-registered hypotheses.

### 5.1 Zainichi Korean vs. Japanese

Results from this study suggest that Japanese citizens hold strong discriminatory attitudes toward Zainichi Koreans in hiring processes. The top portion of [Figure 1](#) shows the marginal means of selecting an applicant with a Japanese name across two different types of match-ups. The first row of this portion refers to instances in which respondents were presented with one hypothetical job applicant with an ethnic Japanese name and one with an ethnic Korean name. As shown in the figure, the marginal mean of selecting the Japanese applicant in this match-up was 0.61. This means that in approximately 61% of instances in which respondents were presented with a choice between hiring a candidate with an ethnically Japanese name and one with an ethnically Korean name, they preferred the applicant with the Japanese name to be hired. As such, we find support for Hypothesis 1a. The second row marginal mean refers to cases in which respondents selected between applicants with ethnically Japanese names and Korean applicants with Japanese pseudonyms, or *tsūmei*. In this match-up, respondents preferred the Japanese applicant in about 54% of instances in

which it appeared. Therefore, our results show similar support for Hypothesis 1b.

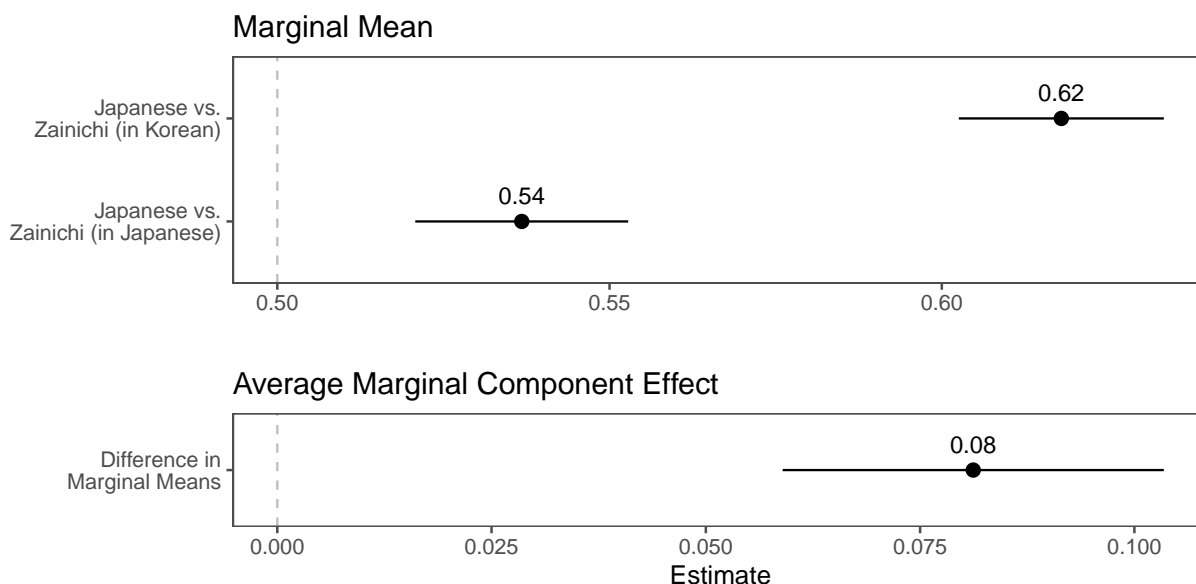


Figure 1: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and Average Marginal Component Effect of Korean Names

Results from Study 2 are consistent with the results of Study 1 for both Hypothesis 1a and 1b. Respondents were likely to prefer Japanese applicants over Zainichi applicants regardless of whether or not they use *tsūmei* or *honmyō*. Marginal means and AMCEs based on data from Study 2 and data from both Study 1 and Study 2 can be found in Figures E.2 and E.1, respectively.

## 5.2 Korean name vs. Japanese name

The bottom portion of Figure 1 shows the average marginal component effect (AMCE) of applicants using an ethnic Korean name compared to using a Japanese pseudonym as a baseline. Put simply, it is the difference in the marginal means of the two types of matchups described in the section above. As shown in the figure, the AMCE for using a Korean name is 0.08, indicating for Zainichi Korean applicants, using a Korean ethnic name, as opposed to a Japanese pseudonym, is associated with a 0.08 point increase in the likelihood that they will not be selected, in favor of an applicant with an ethnically Japanese name.



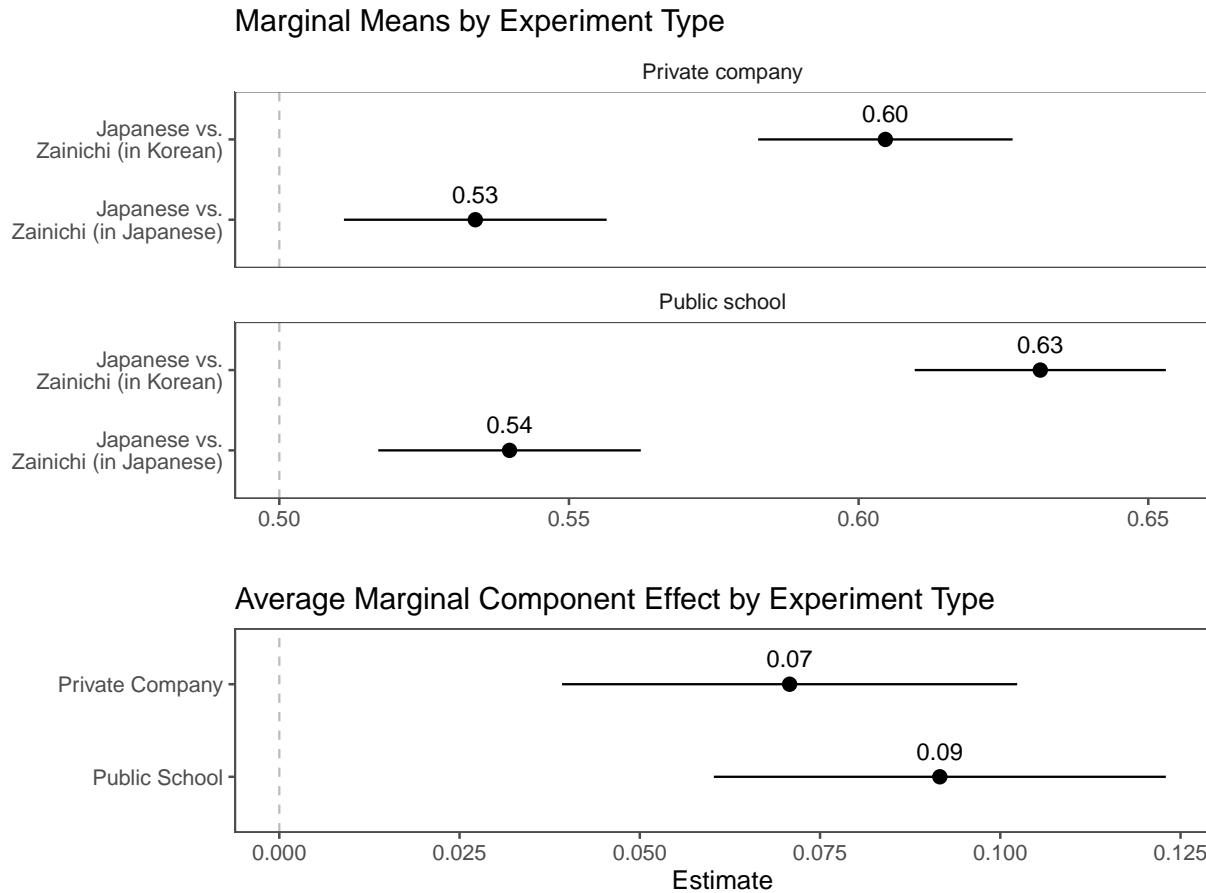


Figure 2: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Experiment Type

While in both matchups, respondents are more likely to select the applicant with a Japanese name than an applicant with any kind of Zainichi Korean name, they are even more likely to choose the Japanese-named applicant when the Zainichi Korean applicant uses a Korean name than when they use a Japanese *tsūmei*. These findings suggest that discrimination toward Zainichi Koreans who use *tsūmei* is less strong than discrimination toward those who use their ethnic Korean names. Results from Study 2 are also consistent with the results of Study 1 for Hypothesis 2.

### 5.3 Private sector job vs. public sector job

As seen in Figure 2, there are no significant differences in results between experiment types, meaning respondents similarly favored Japanese applicants over Zainichi applicants regardless of whether they were being considered for a position at a private company or public school. This might indicate an essentialist nature of discrimination against Zainichi Koreans in Japan. Even though the nature and responsibilities of the hypothetical positions are quite different, preference against Zainichi applicants was the same across both, suggesting that rather than provoking specific fears or discriminatory beliefs, inferred Korean ethnicity incites a general negative sentiment that leads Japanese individuals to disfavor applicants with Korean names or *tsūmei*.

### 5.4 Effects conditional on intergroup contact

While the results of Study 2 are largely consistent with Study 1, disaggregating by respondent intergroup contact with Zainichi Koreans highlights differences between respondents with different amounts of interaction with Zainichi Koreans. Figure 3 shows the same marginal means and AMCEs as above, but for Study 2 and disaggregated by respondent's aggregate intergroup contact score. Respondents were placed into one of three groups based on their score: low, medium, and high contact. Across all three groups and both match-up types, marginal means for Japanese applicant names were greater than 0.5, providing additional evidence for overall discriminatory preferences against Zainichi Koreans.

However, comparing the marginal means of respondents with different levels of contact with Zainichi Koreans shows significant differences between the groups. The marginal mean for choosing a Japanese applicant over a Zainichi Korean applicant with a Korean name was approximately 0.53 for respondents with high measured contact with Zainichi Koreans, indicating a slight preference for ethnically Japanese candidates. This preference is lower than that of respondents with medium or low contact, showing support for Hypothesis 3a.

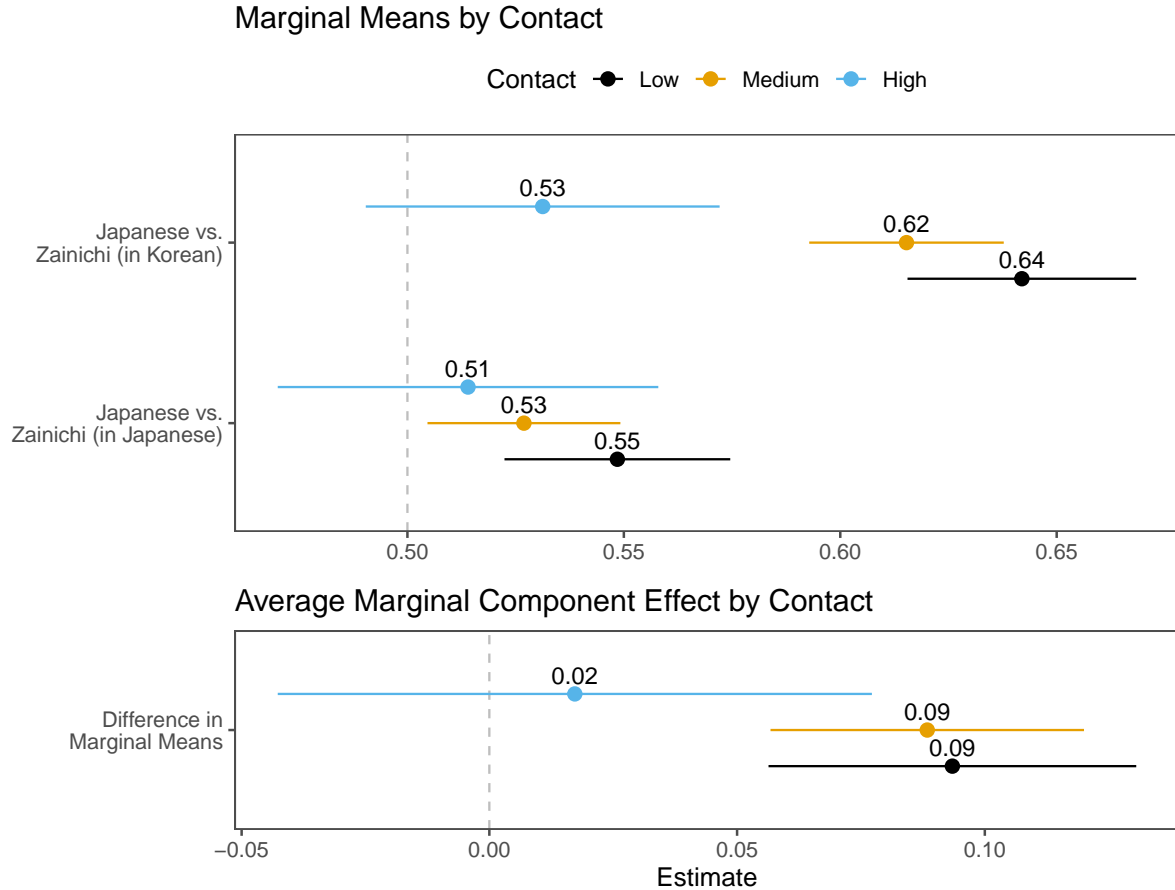


Figure 3: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondents' Social Contact with Zainichi Koreans

For the same comparison, marginal means for medium- and high-contact respondents were higher at 0.62 and 0.64, respectively.

We see similar support for Hypothesis 3b. Compared to the marginal means for selecting a Japanese applicant over a Zainichi applicant using a Korean name, the difference in marginal means for choosing a Japanese applicant over a Zainichi applicant using a *tsūmei* for the different levels of contact is smaller. However, they show that high-contact respondents still chose Japanese candidates over Zainichi candidates with Japanese names at a slightly lower rate than both medium- and low-contact individuals.

Results from Study 2 also support Hypothesis 3c. The lower portion of Figure 3 shows

AMCEs separated by respondents' aggregate social contact scores. As seen in the figure, AMCEs for both medium and low-contact respondents are similar at approximately 0.09 for both. Meanwhile, the AMCE for high-contact individuals is significantly lower at about 0.02, illustrating that the preference for Japanese applicants over Zainichi applicants using *tsūmei* and the preference for Japanese applicants over Zainichi applicants using *honmyō* are more similar for individuals with higher contact.

## 5.5 Further exploratory analysis

One key exploratory finding from this study is the conditional effect of a respondent's resentment on their likelihood of choosing a candidate with a Japanese name over Zainichi Korean names, both in Korean and in Japanese. Figure 4 shows the same results as Figure 1 separated by low-, medium-, and high-resentment terciles from the 5-point resentment scale derived from the responses to the Zainichi resentment scale questions. The data shows that individuals with high resentment are more likely to disfavor Zainichi Korean names than other respondents, regardless of whether the Zainichi names are represented in Korean or Japanese. Similarly, while low-resentment respondents still favored Japanese names in all matchups with Zainichi Korean names, marginal means for selection of Japanese names were lowest among these individuals. These results suggest that anti-Zainichi resentment is positively correlated with the selection of Japanese-named candidates over Zainichi-named candidates, implying that high resentment leads to greater outward expression of discriminatory attitudes.

This is perhaps unsurprising due to the nature of resentment against Zainichi Koreans. Individuals with high resentment scale scores' answers to the free-response question reveal several common discriminatory beliefs about Zainichi Koreans:

1. Zainichi Koreans demand and receive undeserved resources and privileges  
(e.g., "...they are taking advantage of the fact that they are in Japan and using it for their own convenience," "They are the privileged class who are sucking up the

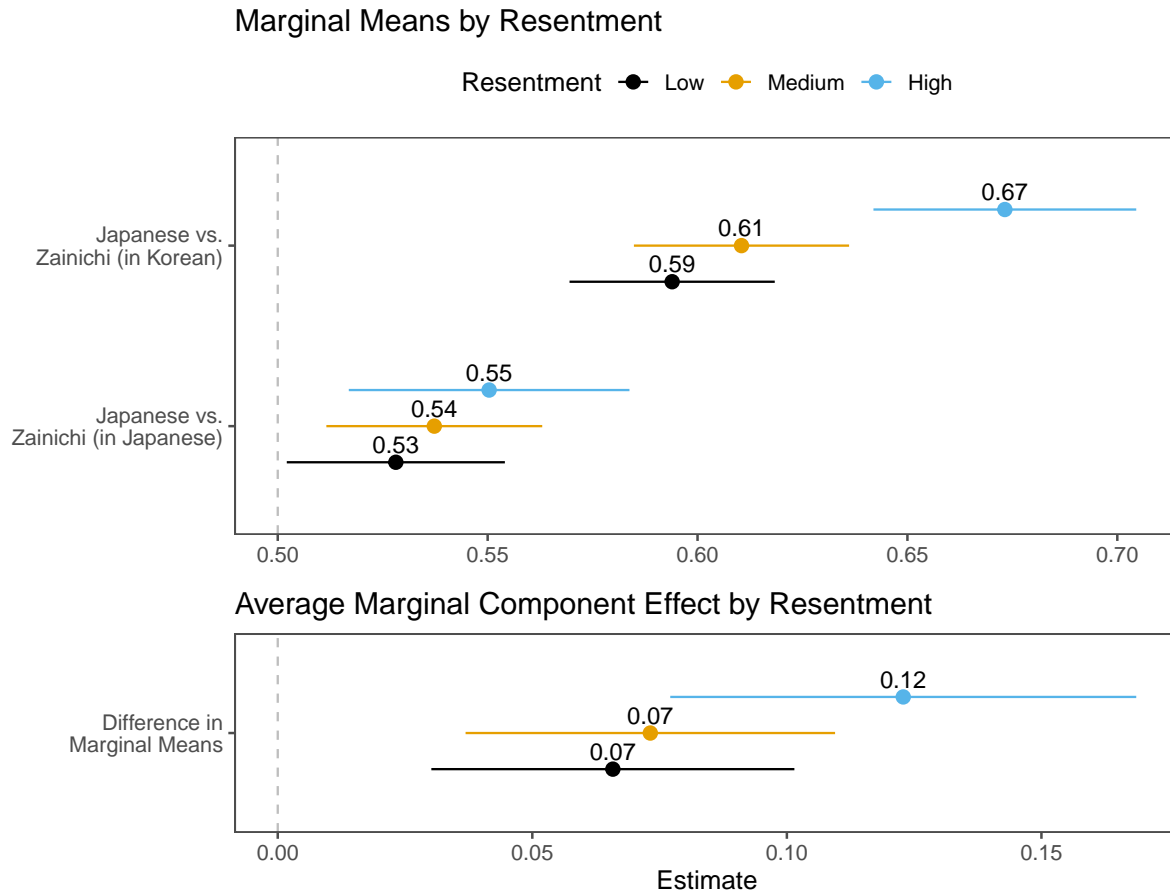


Figure 4: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Resentment

taxpayers' money without going back to their country of origin...")

2. Zainichi Koreans are predisposed to crime and dishonesty

(e.g., "I don't trust them," "I don't trust Zainichi Koreans at all from a human point of view because I have met with terrible deception in business.")

3. Zainichi Koreans have loyalties outside of Japan and are anti-Japanese

(e.g., "They have a strong sense of victimization and a strong complex toward Japan. As a result, they tend to be extremely aggressive toward Japan and Japanese people," "Most, if not all, are anti-Japanese.")

These statements demonstrate extremely discriminatory views which may be able to be traced back to anxiety and fear of a threat that Zainichi Koreans are perceived to pose to

ethnic Japanese.

We performed a similar analyses to those for resentment, separating results by respondent gender (E.5), age (E.6), education (E.7), political leaning (E.8), region of residence (E.9), and aggregate nationalism score (E.10). The additional analysis included similar calculations with results separated by the gender matchups of hypothetical applicants (E.11). Marginal means for all attribute levels for Study 1 and Study 2 are displayed in Figures E.3 and E.4, respectively.

## 6 Conclusion

The results of these studies confirm that Japanese citizens strongly prefer ethnically Japanese job applicants over Zainichi Korean applicants. However, this discriminatory preference was less pronounced when Zainichi applicants used Japanese pseudonyms rather than ethnic Korean names, suggesting that Zainichi Koreans can effectively lessen the effects of discrimination by using a Japanese *tsūmei* to conceal their ethnicity and pass as Japanese. However, continuing to conceal an invisible identity is not an adequate solution to discrimination overall. Not only do these findings validate the discrimination suggested by cases such as *Pak v. Hitachi*, but they also have broader implications on hiring practices both inside and outside of Japan. For instance, these results quantitatively suggest that those who hold invisible identities may be subject to discrimination even if they choose to conceal that invisible identity. Our results are consistent across both public and private sector hiring scenarios, indicating their validity across multiple fields. The lack of significant differences across job types may also highlight strong, general discriminatory attitudes toward Zainichi Koreans that are agnostic to specific stereotypes or perceived traits.

Findings from Study 2 demonstrate some key differences between respondents with high contact with Zainichi Koreans and respondents with low contact. In all cases, high-contact individuals were less likely than low-contact individuals to choose Japanese applicants over

Zainichi applicants, suggesting that contact may have a conditional effect on discriminatory attitudes toward Zainichi Koreans. Overall, this finding supports Allport's (1954) contact hypothesis and contributes to the expanding body of literature that seeks to verify intergroup contact's ability to reduce outgroup prejudice. While the standing literature on intergroup contact theory examines contact's role in a variety of social situations, this study is novel in that it looks at the complex interplay between intergroup contact and invisible identities. Brown and Hewstone's (2005) integrative theory of intergroup contact poses that group identities must be salient to have a prejudice reduction effect. In the present study, respondents' social contact was self-reported through their answers to the Likert scale questions about their interaction with Zainichi Koreans. This means that the survey instruments effectively measured the amount of contact respondents had with Zainichi Koreans in which group identities were salient. Otherwise, respondents would not have known they were interacting with Zainichi Koreans. Meanwhile, the measures of discrimination were collected in the conjoint portion of the survey, where group identities were intentionally obfuscated to limit the influence of SDB. This unique attribute of the current experiment suggests that intergroup social contact in situations where invisible identities are revealed might have implications for reduced prejudice in situations where invisible identities may be hidden or unclear.

Furthermore, high-contact respondents' preferences for Japanese applicants in match-ups with Zainichi applicants using Korean names and their preferences for Japanese applicants in match-ups with Zainichi applicants using Japanese names were more similar than those of lower-contact respondents. While this might suggest that high-contact individuals simply have less salient discriminatory attitudes, it may also have implications on the effects of concealing a marginalized identity. High-contact individuals may be more familiar with the tactics employed by those who hold invisible identities to conceal them. Therefore, hiding an invisible marginalized identity is less effective at mitigating discrimination among those who frequently interact with others who hold that identity.

Additionally, the findings of this study contribute to and expand upon existing literature

on racial resentment, as a similar concept of ethnic resentment is shown to correlate strongly with discriminatory attitudes. Specifically, the significant association between resentment and respondents' tendency to pick Japanese applicants over Korean applicants suggests that anti-Zainichi resentment plays a key role in the expression of one's discriminatory attitudes toward Zainichi Koreans. Furthermore, sentiments expressed by high-resentment respondents in textual responses suggest that resentment toward Zainichi Koreans is largely driven by a fear of violence and crime committed by an out-group threat, as well as anxiety regarding the out-group's use of resources.

Empirical analysis through choice experiments to study discrimination and research examining discrimination against invisible identity attributes have both been performed before. However, the case of Zainichi Koreans remains notable even among groups who hold invisible marginalized identities for a number of reasons:

First, Zainichi Koreans are phenotypically indistinguishable from the Japanese population in appearance, language, and cultural characteristics. This gives them the ability to conceal their ethnic backgrounds with relative ease, simply by using a Japanese pseudonym. Their ethnic background is an invisible characteristic, making this case different than that of discrimination on the basis of age, race, or sex, which are visible characteristics. The effects of invisible characteristics are nearly impossible to study using observational data. However, through the use of conjoint analysis, this study provides empirical evidence for the presence of discriminatory attitudes based on the invisible attribute of Korean ethnicity.

Second, when self-reporting identity as one does in housing, job, or other official applications, Zainichi Koreans have a compulsory choice: whether or not to claim Korean ancestry. As [Lie \(2009\)](#) writes,

...not passing for Zainichi requires a decision to be out of the ethnic closet: one must consciously assert ethnic distinction by using a Korean name or divulging Korean ancestry (p. 19).

When applying for jobs, seeking housing, and all other official matters, Zainichi Koreans



*must choose* whether to disclose or hide their ethnic background by either using their ethnic name or a Japanese *tsūmei*.

Third, the use of names to convey ethnic identity leads this experiment to have high external validity. Since Korean ethnicity must be either disclosed or concealed by which name an individual chooses to use, the case of Zainichi Koreans' ethnic identity is unlike other invisible identities such as sexual orientation, disability, and religion. The latter attributes are typically not collected and considered in such application processes. In fact, in the US, it is illegal to require such information (U.S. Equal Employment Opportunity Commission, N.d.). Previous experiments have used empirical methods to test the effect of such invisible attributes in various scenarios (e.g., Weichselbaumer, 2003; Gouvier, Sytsma-Jordan and Mayville, 2003; Pierné, 2013), but in most cases, especially hiring, this information is not available to those who are evaluating candidates in reality, making the external validity of such studies limited. Meanwhile, names are almost always collected by employers accepting job applications, making the results of this experiment applicable to the real world. Additionally, while many studies that prime respondents on a candidate's race or gender exist, they are not suitable to determine if respondents are more likely to discriminate against those who disclose marginalized identities than those who pass. On the other hand, the present research uses both Zainichi Korean names in Korean *and* Japanese to signal both applicants who disclose their identities and those who attempt to pass, providing insight on whether respondents prefer individuals who pass over those who do not.

Due to this unique set of characteristics, our findings contribute to research on discrimination and passing. They suggest with empirical evidence that concealing marginalized identities is an effective strategy to mitigate discrimination that is otherwise undetectable.

These findings also suggest that candidate selection processes must adopt measures to limit discrimination against certain invisible identities that can be recognized to some extent by name. A suggested potential policy proposal to lessen the extent of ethnic discrimination based on name plays in hiring is the utilization of a third-party organization that generates

applicant IDs to conceal applicants' names. HR departments of companies will then be able to evaluate applications and supplemental materials without knowing the applicant in question's name, lowering the risk of discrimination affecting the process.

This study is the first of its kind to examine the unique case of Zainichi Koreans and discrimination in Japan. Furthermore, it is novel in its use of conjoint methodology to quantitatively study discrimination based on invisible identity and the effects of intergroup social contact. Our results prompt further awareness and research into the issue of discrimination inside and outside of Japan.

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# Supporting Information

## Disclosing Invisible Attributes is Subject to Discrimination: Conjoint Analysis

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# A OSF Pre-Registrations

## A.1 Study 1

### Data collection

(Have any data been collected for this study already? Note: ‘Yes’ is a discouraged answer for this preregistration form.)

No, no data have been collected for this study yet.

### Hypothesis

The present research’s central question is whether Zainichi Koreans are discriminated against based only on names. We will ask survey respondents to do two sets of eight conjoint tasks to examine this question. We first present the hypothetical job advertisement in each experiment before each set. One is about a job opening in a private company, and another is about a job opening in a public school. Then, we will ask respondents to choose which applicant should be hired.

Based on preliminary research and analysis of pre-test data, we derive the following hypotheses:

Hypothesis 1a (Marginal Mean of Using Japanese Name): When respondents are asked to compare a Japanese applicant and a Zainichi Korean applicant with a Japanese name, they will choose the Japanese applicant to be hired.

Hypothesis 1b (Marginal Mean of Using Korean Name): When respondents are asked to compare a Japanese applicant and a Zainichi Korean applicant with a Korean name, they will choose the Japanese candidate to be hired.

Hypothesis 2 (Average Marginal Component Effect of Using Korean Name): The probability that respondents will choose a Japanese applicant to be hired is higher when they compare a Japanese applicant to a Zainichi Korean applicant with a Korean name vs. when they compare a Japanese applicant to a Zainichi Korean applicant with a Japanese name.

### Dependent variable

The primary dependent variable of this experiment is which hypothetical applicant survey respondents choose. To obtain this information, survey respondents will be asked for each of

the 16 pairs of applicants: "Which applicant do you think should be hired?" They will then choose between Applicant 1 or Applicant 2. This is a binary forced response question.

## Conditions

How many and which conditions will participants be assigned to?

Respondents will be asked to choose between two applicants eight times (16 times total) for each of the two conjoint experiments.

The candidates that will be presented to respondents will have the following attributes and levels. There is no cross-attribute constraint. [名前 - Name]

- “山口明日香” “Asuka Yamaguchi”
- “竹内里奈” “Rina Takeuchi”
- “青木遥” “Haruka Aoki”
- “田中海斗” “Kaito Tanaka”
- “前田颯太” “Souta Maeda”
- “斉藤拓也” “Takuya Saito”
- “張本美咲” “Misaki Harimoto”
- “金田颯太” “Shouta Kaneda”
- “朴恩智” “Eunji Park”
- “金智勳” “Ji-Hoon Kim”

[学歴- Educational Background]

- “東京大学” “Tokyo University”
- “日本大学” “Japan University”
- “千葉大学” “Chiba University”
- “早稲田大学” “Waseda University”

[実務経験 - Professional Experience]

- “3 年” “3 years”
- “5 年” “5 years”
- “7 年” “7 years”

[一次選考の結果 - Preliminary Screening Results]

- “優秀” “Excellent
- “特に優秀” “Particularly Excellent”

The levels for the “name” attribute have been selected to imply a candidate’s ethnic background and sex. For example, while six of the names (Asuka Yamaguchi 山口明日香, Rina Takeuchi 竹内里奈, Kaito Tanaka 田中海斗, Haruka Aoki 青木遥, Souta Maeda 前田颯太, Takuya Saito 齊藤拓也) represent typical Japanese names, two of them (Eunji Park 朴恩智, Ji-Hoon Kim 金智勳) are typical Korean names, and two more (Misaki Harimoto 張本美咲, Shouta Kaneda 金田颯太) are identifiable as *tsuumei*: Japanese names with surnames adapted from typical Korean surnames. Of all these names, exactly half of the names include first names that are male names, and the other half consists of names containing female first names. For both conjoint experiments, the first and last (eighth) candidate pairing will be the same to measure intra-respondent reliability, while the order of pairings 2 through 7 is randomized. The order of the attributes for each profile is fixed in order to preserve the image of a real job application. In each profile pair, the names are always different between the two profiles. But the other attributes can be the same or different between them. We use equal weight for all the attributes.

## Analyses

We use the following attributes for our analysis: (1) a Japanese application’s name, a Zainichi Korean applicant’s name in Japanese, or a Zainichi Korean applicant’s name in Korean. (2) an applicant’s sex (male or female), (3) educational background (one of the four options), (4) professional experience (one of the three options), and (5) preliminary screening results (one of the two options). We follow the methods proposed by Clayton et al. (2023), available at <https://gking.harvard.edu/conjointE>. Specifically, we calculate the marginal means (MMs) with their error correction for Hypotheses 1a and 1b. We then calculate the average marginal component effect (AMCE) with the error correction. For our main tests, we pool the responses in the two sets of conjoint tasks (16 tasks total).

## **Outliers and Exclusions**

We will exclude any responses in which respondents do not agree to participate in the study, fail to answer the attention check question, and/or answer that they are not Japanese citizens. Pre-test data will also not be included in the final tests.

## **Sample Size**

We aim to collect a sample size of about 1,000. This number is due to financial reasons.

## **Other**

We will undertake the following analysis to examine further exploratory research questions.

- Are the estimated MMs and AMCE different between the two experiments?
- Are the estimated MMs and AMCE different without the bias correction Clayton et al. (2023) suggested?
- Are the estimated MMs and AMCE different depending on respondents' responses to questions aimed at measuring respondents' resentment toward Zainichi Koreans?
- Are the estimated MMs and AMCE different depending on respondents' responses to questions aimed at measuring respondents' nationalism?
- Are the estimated MMs and AMCE different depending on respondents' demographic attributes and their (general) political attitudes?
- Are the estimated MMs and AMCE different depending on the hypothetical applicants' sex (male or female)?

## **Name**

Discrimination against Zainichi Koreans in Japan

## **Finally**

Experiment

## **Other**

*No response*



## A.2 Study 2

### Summary

**Provide a narrative summary of what is contained in this registration or how it differs from prior registrations. If this project contains documents for a preregistration, please note that here.**

We add the following Hypothesis 3.

Hypothesis 3a (Marginal Mean Conditional on Social Contact): Respondents with low social contact are more likely to choose a Japanese applicant than a Zainichi Korean applicant with a Japanese name.

Hypothesis 3b (Marginal Mean Conditional on Social Contact): Respondents with low social contact are more likely to choose a Japanese applicant than a Zainichi Korean applicant with a Korean name.

Hypothesis 3c (Average Marginal Component Effect Conditional on Social Contact): The difference between the probability of choosing a Japanese applicant over a Zainichi Korean applicant with a Korean name and the probability of choosing a Japanese applicant over a Zainichi Korean applicant with a Japanese name is larger for respondents with low social contact.

We measure the level of social contact and test these hypotheses by taking the following steps. First, we ask four Likert-type questions about respondents' contact and interactions with Zainichi Koreans. Second, we aggregate the responses and split them into three groups: low, medium, and high contact. Finally, we compare the MMs and AMCEs across these groups to test the additional hypotheses.

Additionally, we will use an Item Response Theory (IRT) graded model as an additional measure of each respondent's level of social contact. We follow the same procedure above to check the robustness of the results.

For Study 2, we aim to collect a sample size of about 1,000. This number is due to financial reasons.

We will undertake the following analysis to examine further exploratory research questions. (1) Are measures of social contact different when measured using IRT compared to aggregated scores? (2) Is there a correlation between resentment toward Zainichi Koreans and social contact with Zainichi Koreans?

**Add supplemental files or additional information**

*No files selected*

## B Survey Design and Wording

This section details the design of the survey, as well as the exact wording of survey questions in both Japanese and English.

### B.1 Screening

To obtain respondents' consent, they were asked the following question:

次の選択肢から一つを選んでください。もし「参加することに同意しません」を選んだ場合、調査はただちに終了します。

- 参加することに同意します
- 参加することに同意しません

Choose one of the following options: If you choose “I do not agree to participate”, the survey will be terminated immediately.

- I agree to participate
- I do not agree to participate

The survey was terminated for respondents who did not agree to participate.

To ensure that only Japanese citizens took the survey, respondents were informed:

この調査の対象者は、日本国籍をもつ方に限ります。

This survey is limited to Japanese citizens.

Respondents were then asked:

あなたの国籍を教えてください。

- 日本
- 日本以外

Please tell us your citizenship.

- Japan
- Other than Japan

The survey was terminated for respondents who answered “Other than Japan.” Respondents were then informed:

まず、社会と政治に関して、あなたのご意見を伺います。

To begin, we would like to ask some questions about your opinion on society and politics.

and asked the following screener to check their attention:

ここで、あなたがきちんと質問文を読んでいるかどうかをテストしてみたいと思います。あなたが実際にどのくらい頻繁にオンラインでニュース情報を入手しているかどうかに関わらず、選択肢のうち「毎日」と「まったくない」の両方（二つだけ）を選んでください。

- 毎日
- 週に何回か
- 月に何回か
- まったくない

This next question is to determine if the survey questions have actually been read properly. Regardless of how often you get news information online, please select both “daily” and “not at all” (only these two choices).

- Daily
- Several times a week
- Several times a month
- Not at all

The survey was terminated for all respondents who failed the attention check.

## **B.2 Demographic and Exploratory Questions**

Respondents were then prompted to respond to several questions regarding demographic information and opinion on various topics. First, they were asked three Likert-type questions related to nationalism in a randomized order. These questions were worded as follows:

あなたは、以下のような意見に賛成ですか、反対ですか。  
私は世界のどの国の国民ではなく、日本国民でいたいです。

Do you agree or disagree with the following statement?

I would rather live in Japan than any other country.

あなたは、以下のような意見に賛成ですか、反対ですか。  
他の国の人たちが日本の人たちのようなになれば、世界はもっと良くなるはず  
です。

Do you agree or disagree with the following statement?

The world would be a better place if people in other countries were like the  
people of Japan.

あなたは、以下のような意見に賛成ですか、反対ですか。  
一般的に言って、日本は他の国よりも良い国だと思います。

Do you agree or disagree with the following statement?

Generally speaking, Japan is a better country than many other countries.

Respondents were then asked questions regarding general lifestyle and politics. Wording for  
these questions is as follows:

あなたは、現在の暮らし向きに、どの程度満足していますか。

- かなり満足している
- やや満足している
- どちらとも言えない
- やや不満である
- かなり不満である

How satisfied are you with your current life?

- Quite satisfied
- Somewhat satisfied
- I can't say either

- Somewhat dissatisfied
- Quite dissatisfied

現在の暮らし向きを1年前と比べてみるとどうでしょうか。この中ではどれにあたりますか。

- かなり良くなった
- やや良くなった
- 変わらない
- やや悪くなった
- かなり悪くなった

In comparison to your lifestyle a year ago, how would you compare your current lifestyle?

- Much better
- Slightly better
- Unchanged
- Slightly worse
- Much worse

政治に関して、ときどき、「左寄り（革新）、右寄り（保守）」という表現をすることがあります。あなたご自身はどこに位置すると思いますか。

- 最も「左」
- 「左」
- やや「左」
- 中道
- やや「右」
- 「右」
- 最も「右」

In terms of politics, the terms “left-leaning” and “right-leaning” are used. How would you rate yourself based on this statement?

- Most “left”

- “Left”
- Somewhat “left”
- Middle of the road
- Somewhat “right”
- “Right”
- Most “right”

次の選挙で何党に投票するかは別にして、普段あなたは何党を支持していますか。

- 自由民主党
- 公明党
- 立憲民主党
- 国民民主党
- 日本共産党
- 日本維新の会
- その他
- どの政党も支持していない

Putting aside which party you will vote for in the next election, which party do you usually support?

- Liberal Democratic Party
- Komeito
- Constitutional Democratic Party of Japan
- National Democratic Party
- Japan Communist Party
- Japan Restoration Society
- Other
- No political party

あなたは支持している政党の熱心な支持者ですか、それともあまり熱心な支持者ではありませんか。

- 熱心な支持者
- あまり熱心でない支持者

Are you an avid supporter of the party you are supporting, or are you a less enthusiastic supporter?

- Avid supporter
- Less enthusiastic supporter

あえていえば、どの政党を最も好ましいと思っていますか。

- 自由民主党
- 公明党
- 立憲民主党
- 国民民主党
- 日本共産党
- 日本維新の会
- その他

What political party do you think is the most preferred?

- Liberal Democratic Party
- Komeito
- Constitutional Democratic Party of Japan
- National Democratic Party
- Japan Communist Party
- Japan Restoration Society
- Other

Finally, respondents were told:

次に、あなたご自身のことについてお伺いします。

Next, we would like to ask some questions about yourself.

and asked the following demographic questions:



あなたは現在おいくつですか。あなたの年齢を教えてください。

How old are you? Please indicate your age.

あなたは現在、どこにお住まいですか。住んでいる都道府県名を選択してください。

In which prefecture do you currently live?

あなたの性別を教えてください。

- 男性
- 女性

What is your gender?

- Male
- Female

あなたが最後に卒業された学校はどれですか。各種学校は含めず、中退・在学中の場合は、卒業とみなしてお答えください（例えば、大学に在学中であれば、大学を選択してください）。

- 小学校・中学校
- 高校・旧制中学校
- 専門学校
- 短大・高専
- 大学・大学院

What is the highest level of education you have completed? If you withdrew from a certain level before graduating, or are currently working towards graduation, please still indicate that level as your answer (for example, if you are in college, please select “Universities and Graduate Schools” ).

- Elementary and Junior High School
- High School and Old Junior High School
- Vocational School
- Junior College
- Universities and Graduate Schools

去年1年間のあなたとご家族の収入を合わせた世帯収入は、およそどのくらいになりますか。ボーナスや臨時収入を含めた年収（税込み）でお答え下さい。

- 0～199万円
- 200～399万円
- 400～599万円
- 600～799万円
- 800～999万円
- 1000～1199万円
- 1200～1399万円
- 1400万円以上

How much was your total household income combining your and your family's income last year? Please give the amount pre-tax, including bonuses and extra income.

- 0-1.99 million yen
- 2.00-3.99 million yen
- 4.00-5.99 million yen
- 6.00-7.99 million yen
- 8.00-9.99 million yen
- 10.00-11.99 million yen
- 12.00-13.99 million yen
- 14 million yen or more

### **B.3 Conjoint Design: Instructions and Tasks**

Respondents were presented with two different conjoint tasks in a randomized order. In the one scenario, respondents were shown a listing for a job opening at a private company, worded as follows:

これから数分間にわたって、ある民間企業（架空）の求人情報と、そのポジションに応募し最終選考に残っている応募者（架空）の情報をお見せします。

まずは次の画面で表示される求人情報を丁寧にお読みください。

Over the next few minutes, you will be shown a hypothetical job opening at a private company, as well as the information of candidates who remain in the final selection process.

First, please carefully read the job description on the following screen.

株式会社 XXX は、研究開発チームの新メンバーを募集しています。

募集職種の詳細は以下の通りです：

【仕事内容】

- 同研究開発チームのメンバーは、テクノロジーやサービスなどの市場動向や関連業界の調査、パートナーとの関係構築、データ分析インフラの構築・維持、調査戦略やフレームワークの開発に携わることになります。

【雇用形態】

- 正社員
- リモートワークも可能ですが、週に 2 回以上出社していただく必要があります。

【応募資格】

- 4 年制大学卒業
- データサイエンスまたはその他の関連分野の学位

【求める人物像】

- 強い仕事への意欲
- 成長したい、学びたいという意欲
- チームワークを大切にし、同僚と協力し合える能力

【給与】

- 75,000 円/月

A private company, XXX, is currently searching for a new member for the company's research and development team.

The details of the open position are as is described below: 【Job Description】

- Members of the research and development team will be involved in researching market trends and related industries such as technology and service, building relationships with partners, building/maintaining data analysis infrastructure, and developing research strategies and infrastructure.

【Details】

- Full-time employment
- It is possible to work remotely, but there is a requirement to come to the office at least two times a week.

【Requirements】

- Graduation from a 4-year university Degree in data science or related field

【Desired Traits】

- Strong work ethic
- Eagerness to grow and learn
- Ability to work well with a team and collaborate with co-workers

【Salary】

- 375,000 yen/month

このポジションには多くの応募があり、そのうちの数名が、応募資格を満たした上で第一次選考の面接や試験に合格し、最終選考に残っていると想定してください。

これから数分間にわたって、応募者に関する情報をお見せします。もしあなたが XXX 社の採用担当者であるとしたら、どちらの応募者を採用すべきだと思うか、教えてください。

なお、次のスクリーンから、同じような表が何度も提示されます。それぞれの表にある応募者の情報は同じものではありません。1つ1つの表を丁寧にご確認願います。

Suppose that there were many applications for this position, and of those, only a few, fulfilled the requirements, passed initial interviews and test, and remain in the final selection process.

Over the next few minutes, you will be shown information regarding the candidates. If you were the hiring manager at XXX, which candidate do you think should be hired?

You will be presented with 5 similar tables starting from the next screen. The information of the candidate in each table will not be the same. Please check each table carefully.

In the other, respondents were shown a listing for a job at a public elementary school, worded as follows:

これから数分間にわたって、ある公立小学校（架空）の求人情報と、そのポジションに応募し最終選考に残っている応募者（架空）の情報をお見せします。まずは次の画面で表示される求人情報を丁寧にお読みください。

Over the next few minutes, you will be shown a hypothetical job opening at a public elementary school, as well as the information of candidates who remain in the final selection process.

First, please carefully read the job description on the following screen.

公立小学校 XXX は、小学校教諭を募集しています。

募集職種の詳細は以下の通りです：

【仕事内容】

- 1年生から6年生までの児童に国語や算数などの各教科を教えるとともに、ホームルーム、給食、掃除、登下校といった学校生活全般について指導する。

【雇用形態】

- 常勤月～金の週5日

【応募資格】

- 4年制大学卒業
- 小学校教諭免許

【求める人物像】

- 教育者としての使命感
- 広く豊かな教養
- これらを基盤とした実践的指導力等

【給与】

- 200,000 円/月

Public elementary school XXX is searching for an elementary school teacher.

The details of the open position are as is described below:

【Job Description】

- Teach Japanese, math, and other subjects to students in grades 1 through 6, as well as all aspects of school life, including homeroom, lunch, cleaning, and getting to and from school.

【Details】

- Full-time employment
- 5 days a week, Monday-Friday

【Requirements】

- Graduation from a 4-year university
- Elementary school teacher's license

【Desired Traits】

- Sense of purpose for being a teacher
- Broad and rich education
- Practical leadership skills

【Salary】

- 200,000 yen/month

このポジションには多くの応募があり、そのうちの数名が、応募資格を満たした上で第一次選考の面接や試験に合格し、最終選考に残っていると想定してください。

これから数分間にわたって、応募者に関する情報をお見せします。もしあなたが公立小学校 XXX の採用担当者であるとしたら、どちらの応募者を採用すべきだと思うか、教えてください。

なお、次のスクリーンから、同じような表が何度も提示されます。それぞれの表にある応募者の情報は同じものではありません。1つ1つの表を丁寧に確認願います。

Suppose that there were many applications for this position, and of those, only a few, fulfilled the requirements, passed initial interviews and test, and remain in the final selection process.

Over the next few minutes, you will be shown information regarding the candidates. If you were the hiring manager at [XXX], which candidate do you think should be hired?

You will be presented with 5 similar tables starting from the next screen. The information of the candidate in each table will not be the same. Please check each table carefully.

Respondents were then asked to choose between two applicants with fully randomized attributes eight times. The order of the pairs were shown in random order, except for that the last (eighth) pair was the same as the first to test for intra-respondent reliability. The name attributes were never the same across two compared applicants, but other attributes could be the same. For each pair, respondents were asked:

仮に、以下の二人の応募者が最終選考に残ったと想定してください。あなたはどちらの応募者を採用すべきだと思いますか。もし、どちらを採用すべきであるかはっきりとは言えない場合でも、どちらか一方、あえていえば採用すべきだと思う方を選んでください。

Suppose that the following two candidates remain in the final selection process. Which applicant do you think should be selected? If you cannot decide which to hire, please select either applicant.

and prompted to choose either Applicant 1 or Applicant 2.

## B.4 More on Conjoint Design

In this study, respondents were not explicitly informed of the ethnicity and gender of hypothetical applicants. Instead, names of hypothetical applicants were specifically chosen to

Table B.1: Information Equivalency of Name Attribute

Name Type	Gender	Name
Ethnic Japanese	Man	田中海斗 Kaito Tanaka
		前田颯太 Souta Maeda
		斉藤拓也 Takuya Saito
	Woman	竹内里奈 Rina Takeuchi
		青木遥 Haruka Aoki
		山口明日香 Asuka Yamaguchi
Ethnic Korean	Man	金智勳 Ji-Hoon Kim
	Woman	朴恩智 Eunji Park
<i>Tsuumei</i> for Korean	Man	金田颯太 Shouta Kaneda
	Woman	張本美咲 Misaki Harimoto

*Note:* Names also telegraph the gender of the hypothetical applicants. Respondents were not explicitly told the gender of the applicant.

telegraph ethnicity and gender to respondents. Table B.1 lists the names utilized in this experiment, as well as the ethnic and gender implications of each name.

## B.5 Exploratory Questions

Next, candidates were asked a Likert-type question regarding their belief in the salience of discrimination against Zainichi Koreans, worded as follows:

あなたは、以下のような意見に賛成ですか、反対ですか。

在日コリアンは、結婚や就職に際し、不当な差別を受けている。

Do you agree or disagree with the following statement?

Zainichi Koreans face unfair discrimination in marriage and employment.

Respondents were also asked an open-ended question, to which they were encouraged to freely write their thoughts. It is worded as follows:

在日コリアンとは、日本の植民地支配によって日本に渡り、敗戦後も日本で生活するようになった朝鮮人とその子孫たちのことです。「在日」、「在日韓国人」、「在日朝鮮人」ともいいます。

あなたは、在日コリアンについて、どのようなご経験やお考えをおもちですか。率直なご感想をお聞かせください。



Zainichi Koreans are Koreans and their descendants who came to Japan under Japanese colonial rule and continued to live in Japan after the war's end. They are also called "Zainichi," "Zainichi Kankokujin," or "Zainichi Chosenjin."

Please share your thoughts about Zainichi Koreans.

Finally, respondents were asked several Likert-type questions to assess their resentment for Zainichi Koreans. The following questions were presented in random order. They are worded as follows:

あなたは、以下のような意見に賛成ですか、反対ですか。

在日コリアンは、日本での生活に不満があるなら、日本から出ていけばいい。

Do you agree or disagree with the following statement?

If Zainichi Koreans are dissatisfied with their lives in Japan, they should leave Japan.

あなたは、以下のような意見に賛成ですか、反対ですか。

在日コリアンは信用できない。

Do you agree or disagree with the following statement?

Zainichi Koreans cannot be trusted.

あなたは、以下のような意見に賛成ですか、反対ですか。

日本は、在日コリアンの人たちが気軽に民族名を使える社会でなくてはいけない。

Do you agree or disagree with the following statement?

Zainichi Koreans should feel more comfortable using their ethnic names.

あなたは、以下のような意見に賛成ですか、反対ですか。

朝鮮学校の女子生徒は、チマチョゴリ（民族服）を着て通学するべきではない。

Do you agree or disagree with the following statement?

Korean school girls should not wear the *chima chogori* (Korean national dress) to school.

あなたは、以下のような意見に賛成ですか、反対ですか。

在日コリアンに対するヘイトクライム（憎悪犯罪）は、根絶しなくてはいけない。

Do you agree or disagree with the following statement?

Hate crimes against Zainichi Koreans must be eradicated.

あなたは、以下のような意見に賛成ですか、反対ですか。

在日コリアンは、もっと努力すれば、日本人と同じ社会経済的地位を得ることができはずだ。

Do you agree or disagree with the following statement?

If Zainichi Koreans work harder, they should be able to achieve the same socio-economic status as the Japanese.

## B.6 Intergroup Contact

Respondents who participated in Study 2 were presented an additional four questions to measure their frequency and degree of contact with Zainichi Koreans, worded as follows:

あなたは、次の文章に賛成ですか、反対ですか？

私は、在日コリアンと、食事を共にする機会がよくある。

Do you agree or disagree with the following statement?

I often have the opportunity to share a meal with Zainichi Koreans.

あなたは、次の文章に賛成ですか、反対ですか？

私は、在日コリアンと、長い時間の会話をすることがあまりない。

Do you agree or disagree with the following statement?

I do not often have long conversations with Zainichi Koreans.

あなたは、次の文章に賛成ですか、反対ですか？

私は、在日コリアンと、楽しく交流する機会がよくある。

Do you agree or disagree with the following statement?

I often have the opportunity to interact with Zainichi Koreans in a pleasant way.

あなたは、次の文章に賛成ですか、反対ですか？

私は、在日コリアンと、彼らの人生や私の人生について話し合うことがあまりない。

Do you agree or disagree with the following statement?

I do not often have discussions with Zainichi Koreans about their life or mine.

# C Selection of Survey Instruments with Item Response Theory

## C.1 Item Response Theory

Although methodology from Item Response Theory (IRT) was not utilized in the final results of the present research, as suggested by the OSF pre-registration found in Appendix A, IRT played a crucial role in development of survey instruments intended to measure intergroup social contact.

## C.2 Background

Item response theory (IRT) uses mathematical models to attempt to determine how observed outcomes and responses can inform about unobservable traits of individuals (Hays, Morales and Reise, 2000; Harvey and Hammer, 1999). In IRT, individuals are presented with items that they can either endorse or not endorse. Individuals are assessed based on their ability, or their probability of endorsing an item that is considered to be “correct.” In the context of this experiment, respondents’ ability is an indication of their amount of intergroup social contact with Zainichi Koreans. High ability is correlated with high contact and vice versa.

The original draft of the survey contained eight Likert-type questions adapted from Clayton, Ferwerda and Horiuchi (2021), Hewstone et al. (2006), and Yuker and Hurley (1987) intended to measure respondents’ contact with outgroup members. However, pre-testing through an additional survey prompted revision of the survey instruments.

## C.3 Additional Survey Pre-Test

To test the survey instruments related to intergroup contact, we launched a small stand-alone study examining the relationship between Americans’ social contact with Jewish individuals and their attitudes toward the Israel-Palestine conflict. This survey included a variety of questions regarding their opinions on the conflict, attitudes toward Muslim Americans, but most importantly to this study, contained the initial eight contact questions which were altered to ask about their contact with Jewish people rather than Zainichi Koreans. All of these questions were forward-coded, with responses of “disagree” correlating to low contact and responses of “agree” correlating to high contact. The complete wording for these eight questions can be found in Appendix D. While the findings of this survey are largely irrelevant

to the present research, analyses of the responses to contact questions allowed be to test the validity and efficacy of the items and adjust the survey instruments accordingly, so they could be altered and applied to the main study. This survey was administered in the United States and received ( $N = 300$ ) responses.

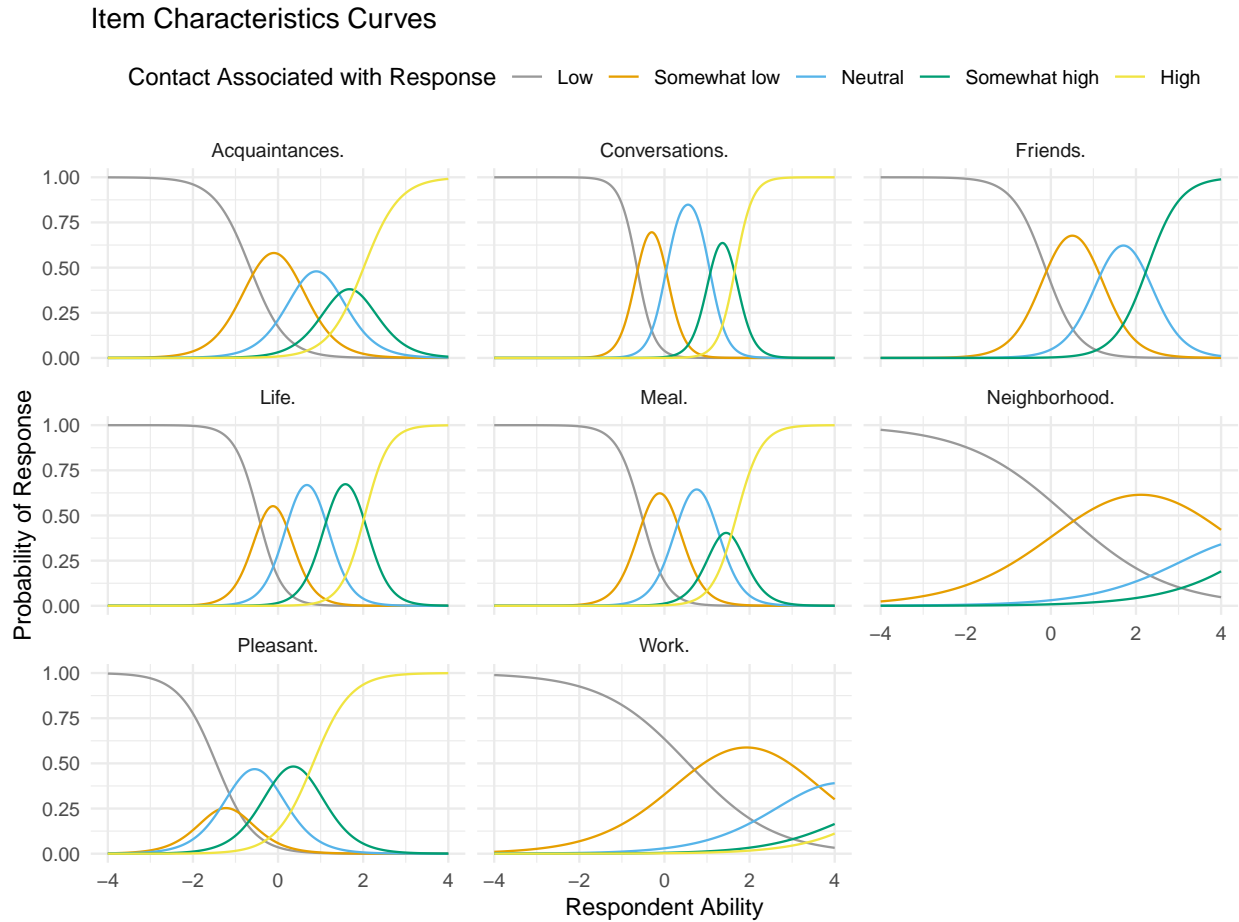


Figure C.1: Item Characteristic Curves for Contact Questions from Additional Study

## C.4 Results from Additional Survey

This section only discusses results from the section of the additional survey that addresses contact with Jewish people as it is relevant to the present research. To assess respondents' contact, we used a graded model, as it is suited for dealing with ordered polytomous categories such as the Likert-scale utilized in the present survey. To do so, we used the R package `mirt` to fit survey responses onto a graded response model.

One key result of IRT methods is the Item Characteristic Curve (ICC). Each survey item has its own ICC, and each potential response to a survey item is represented by a

different colored curve on the ICC. The x-axis of the ICC represents the latent trait scores of individuals based on the results of the IRT models. The y-axis shows the probability of individuals to respond in a certain way. Figure C.1 shows the ICCs for the additional survey. Each facet of the figure represents one of the eight contact questions. The question labeled “Conversations” shows an expected ICC for an item that effectively measures the latent trait. As can be seen, the probability of giving an answer that represents low contact is highest among respondents who have a low latent trait score for contact. Similarly, the peaks of the curves for each type of response occur at increasing levels of contact scores corresponding to increasing contact associated with the response given. While many of these curves do follow this anticipated pattern, those that did not (e.g., questions labeled “Neighborhood”, “Friends”, “Work”) were omitted from further analysis as they were suggested to be poor indicators of the latent measurement. Notably, these questions asked respondents to quantify their contact with Jews by responding with the number of Jewish friends/acquaintances they had and describing the proportion of coworkers/neighbors who were Jewish. These findings might motivate further research into whether quality or quantity of contact is more important in prejudice reduction. The omitted questions were removed in the main study.

## C.5 Results from Primary Study

In the analysis of results from the main study, we used the same IRT analysis to create a latent score for each respondents’ contact in addition to the aggregate score. Ultimately, we decided to use the aggregate scores rather than the scores based on IRT, as M2 fit statistics for the responses did not meet the standard thresholds. However, further examination of both metrics reveal that they were quite similar. Figure C.2 shows the results of a standard OLS regression of the scores based on the IRT model against the aggregate contact scores. These results showed a strong linear correlation with a coefficient of approximately 1, suggesting that the aggregate scores and scores based on IRT were similar in their measurements of the latent trait. The only significant difference was that while the aggregate scores ranged from 1 to 5, the scores based on the IRT model ranged from -2 to 3.

Figure C.3 is almost identical to Figure 3 in the information it displays. However, Figure C.3 uses the scores from the graded IRT model rather than the aggregate score to define the low-, medium-, and high-contact respondent categories. The use of scores based on IRT saw no significant differences in results from using the aggregate scores, further showing the robustness of our results.

Correlation Between Aggregated Score and Score Based on IRT

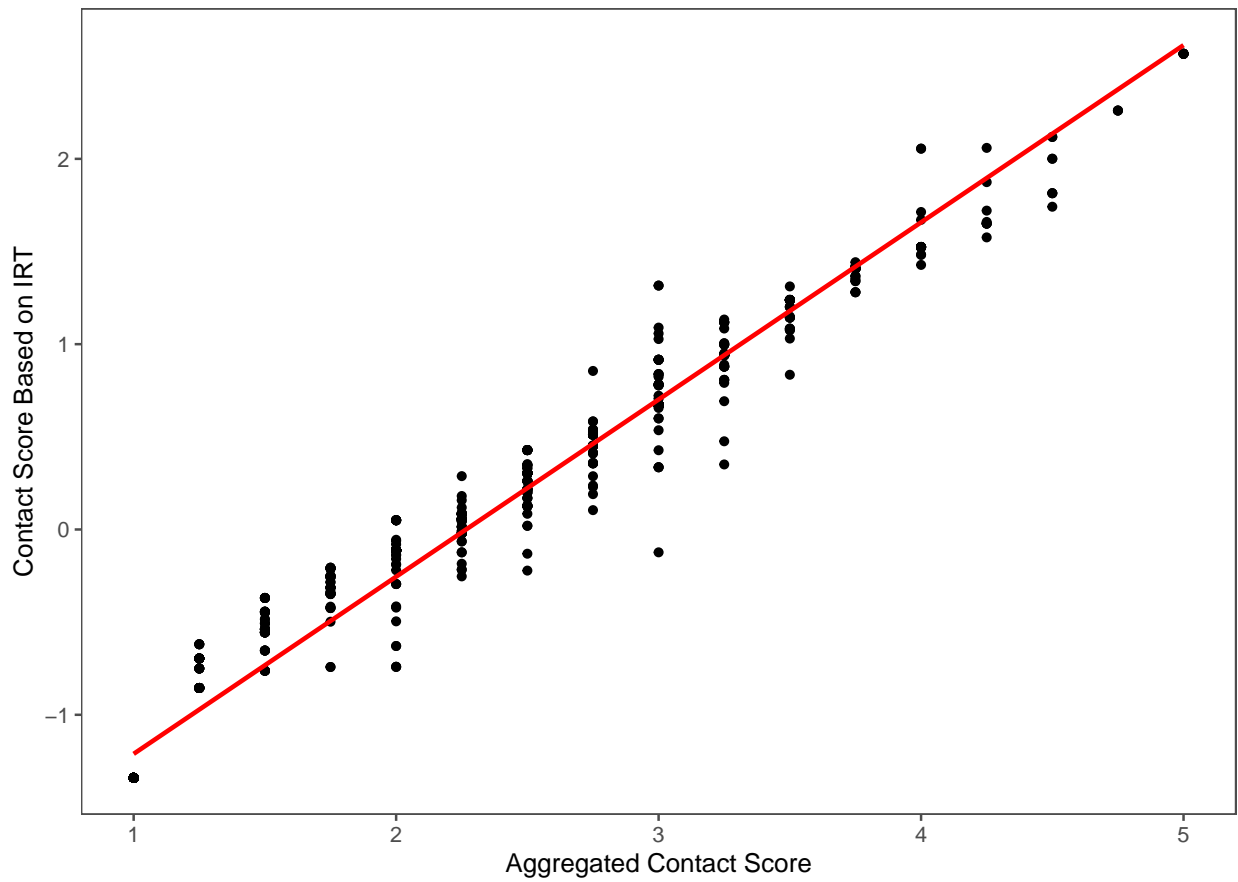
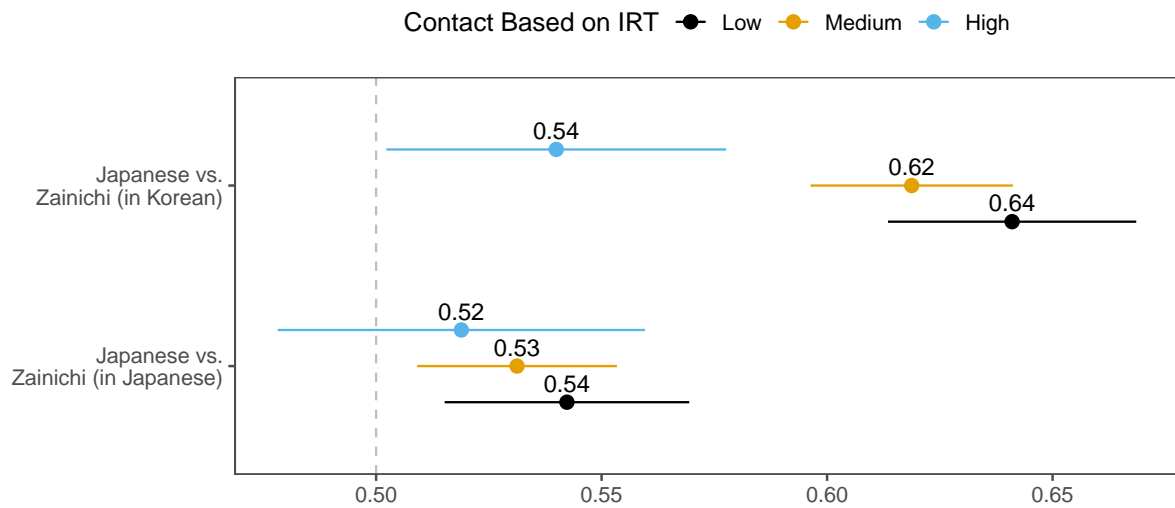


Figure C.2: Linear Correlation of Aggregate Contact Score and Contact Score Calculated by IRT

### Marginal Means by Contact Based on IRT



### Average Marginal Component Effect by Contact Based on IRT

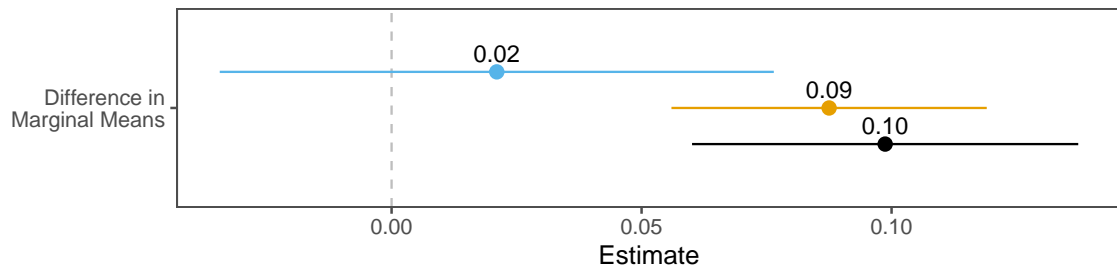


Figure C.3: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondent Intergroup Social Contact Measured by IRT



## D Contact Questions used in Additional Survey

This section contains the full wording for the eight questions related to contact used in the additional survey about contact with Jewish people. These questions mirror those initially intended to be used in the main study.

This question concerns your acquaintances. An acquaintance is someone you keep in touch with or get together with occasionally. Of your acquaintances, how many are Jews/Jewish?

- 0
- 1-2
- 3-5
- 6-9
- 10+

This question concerns your close friends. A friend is one with whom you discuss important subjects, with whom you keep in touch, or who is there for you if you need help. Of your close friends, how many are Jews/Jewish?

- 0
- 1-2
- 3-5
- 6-9
- 10+

Which of the following best describes your neighborhood?

- Very few are Jews/Jewish.
- Some are Jews/Jewish.
- About half are Jews/Jewish.
- Most are Jewish.
- Almost all are Jewish.

Which of the following best describes your place of work?

- Very few are Jews/Jewish.

- Some are Jews/Jewish.
- About half are Jews/Jewish.
- Most are Jewish.
- Almost all are Jewish.

How often do you share a meal with Jews/Jewish people?

- Never
- Rarely
- Sometimes
- Often
- Very often

How often do you have long conversations with Jews/Jewish people?

- Never
- Rarely
- Sometimes
- Often
- Very often

How often do you have pleasant experiences interacting with Jews/Jewish people?

- Never
- Rarely
- Sometimes
- Often
- Very often

How often do you have discussions with Jews/Jewish people about their life or your own life?

- Never
- Rarely

- Sometimes
- Often
- Very often

## E Other Results

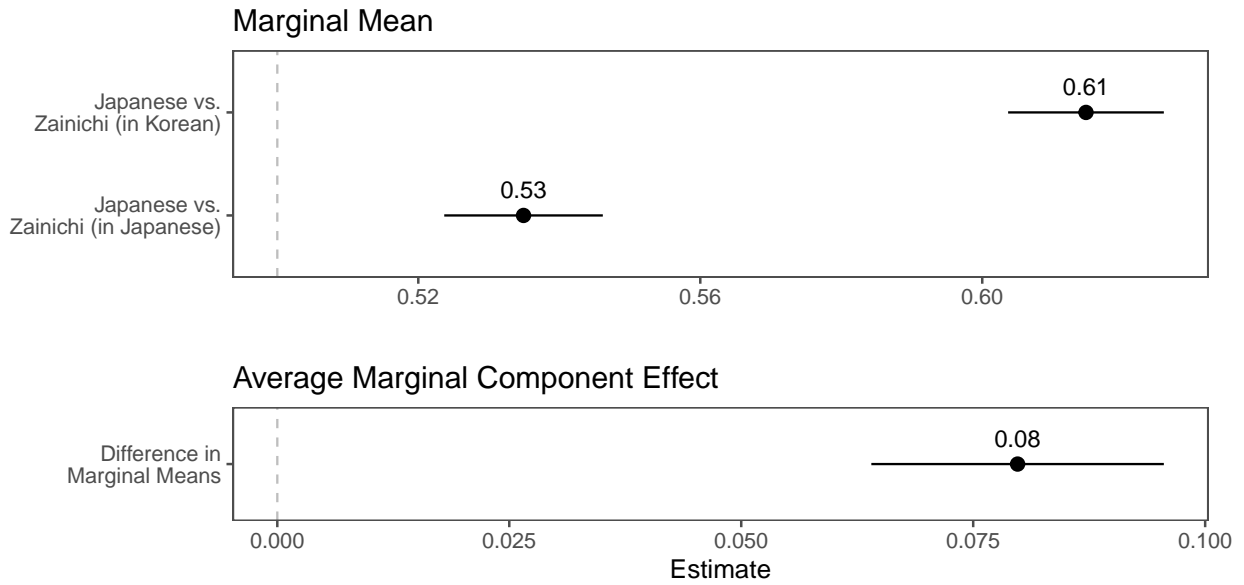


Figure E.1: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and Average Marginal Component Effect of Korean Names (Studies 1 and 2)

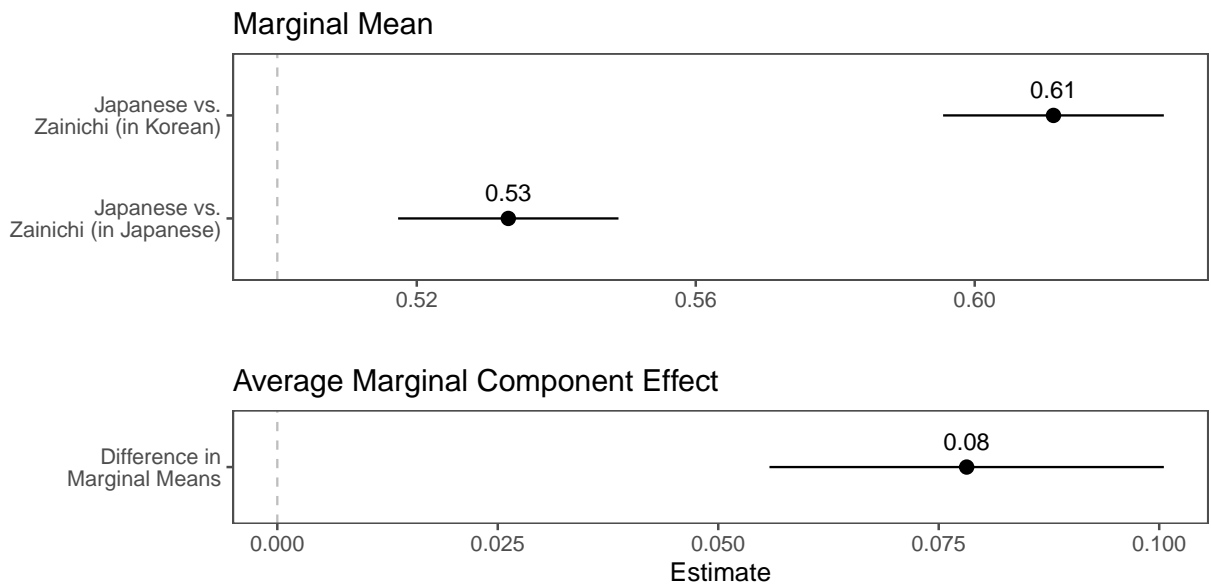


Figure E.2: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and Average Marginal Component Effect of Korean Names (Study 2)

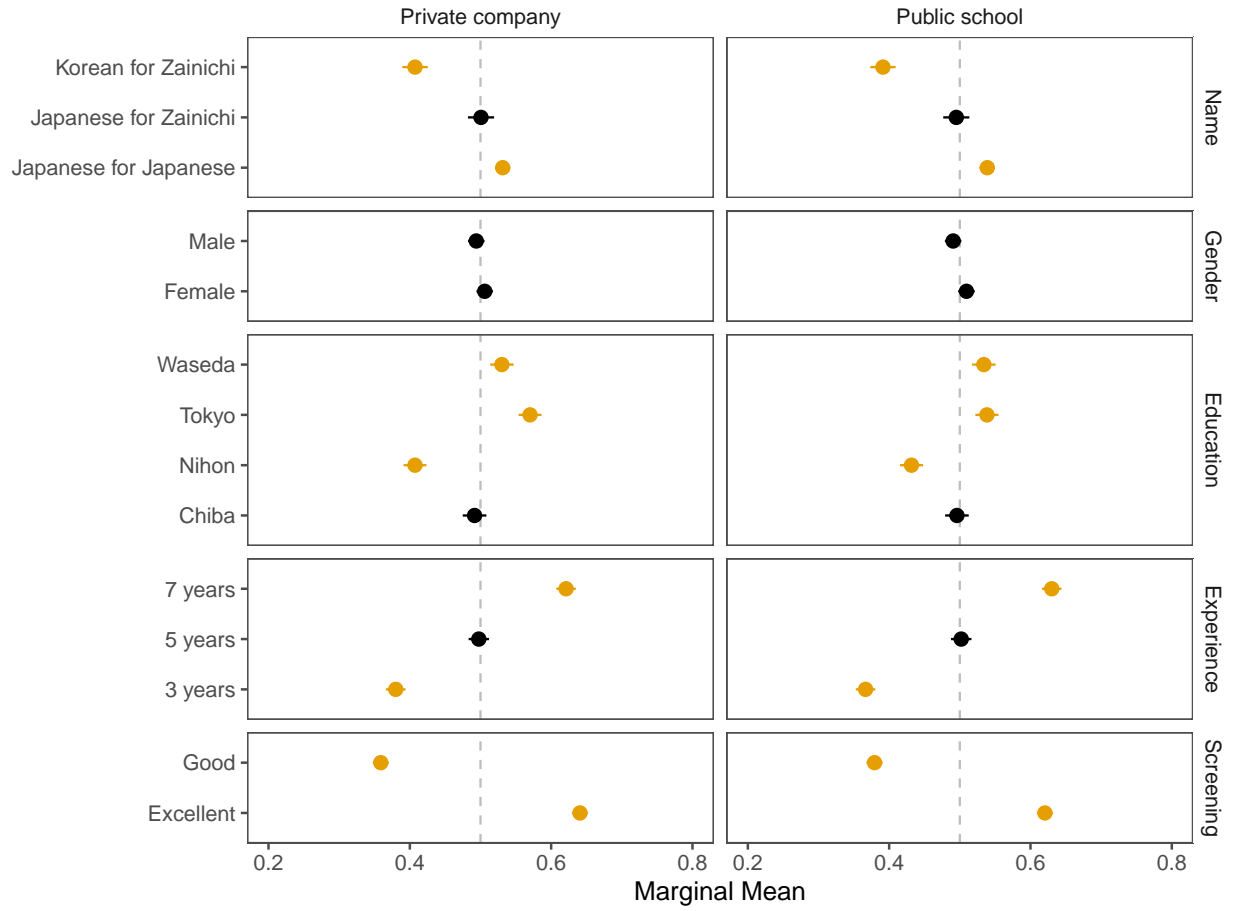


Figure E.3: Marginal Means of All Attribute Levels (Study 1). *Note: The horizontal bars represent 95% confidence intervals. Statistically significant marginal means are shown in gold*

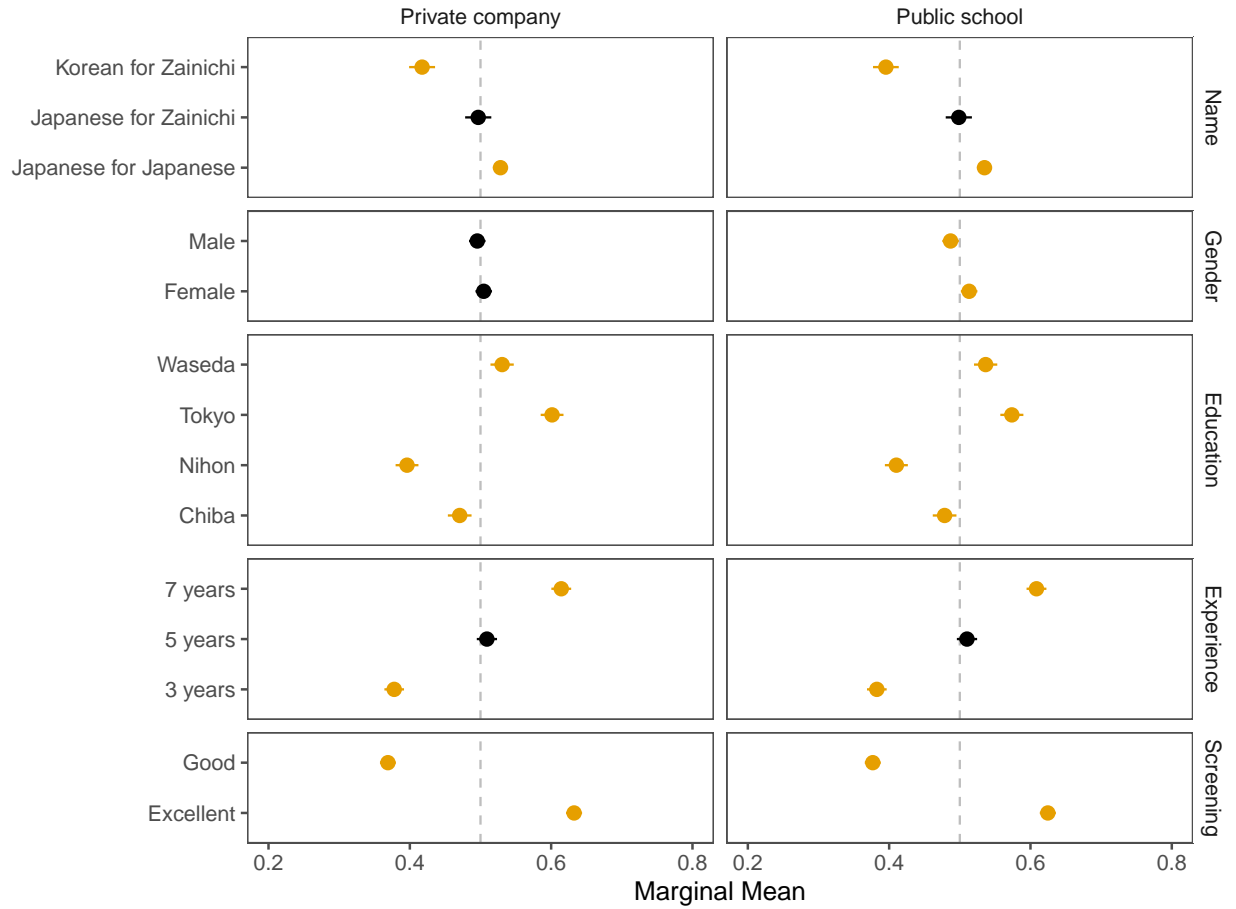


Figure E.4: Marginal Means of All Attribute Levels (Study 2). *Note: The horizontal bars represent 95% confidence intervals. Statistically significant marginal means are shown in gold*

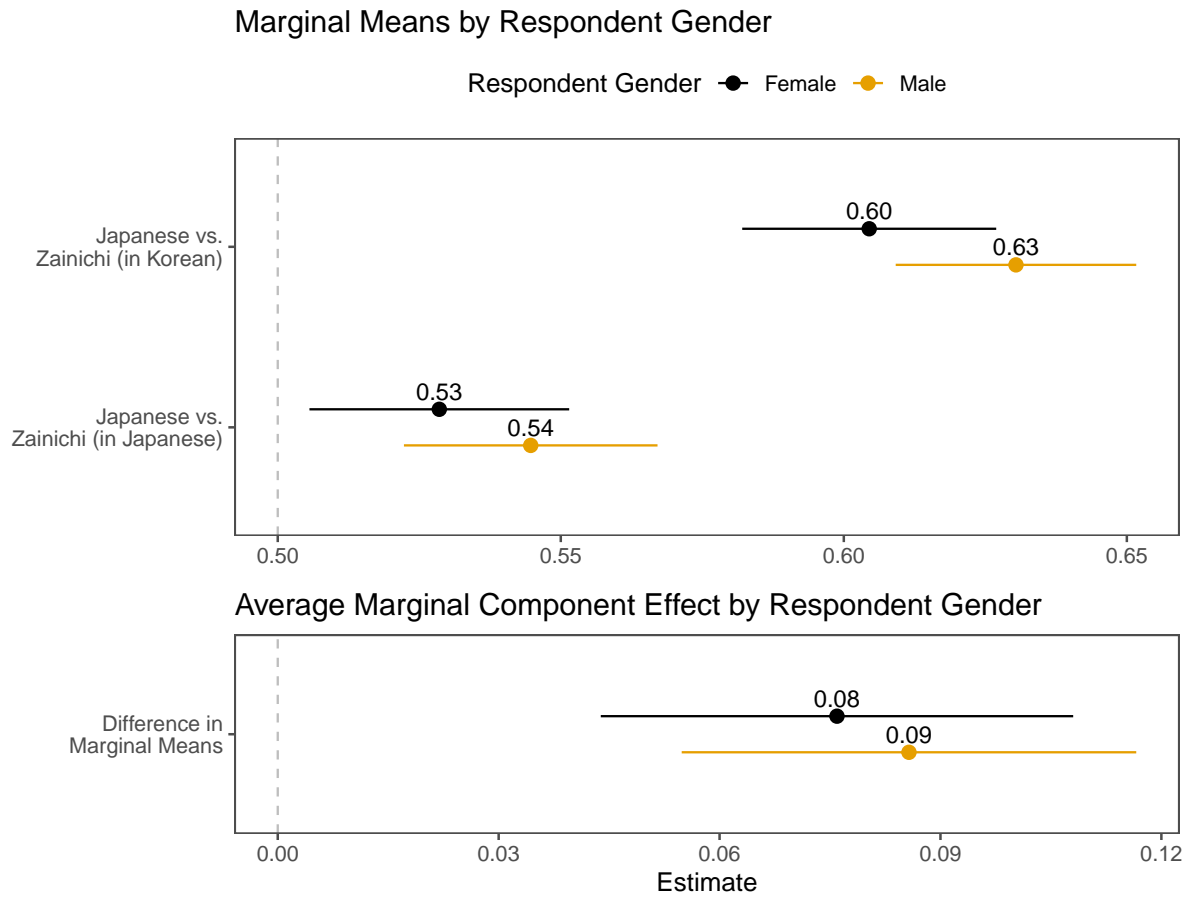
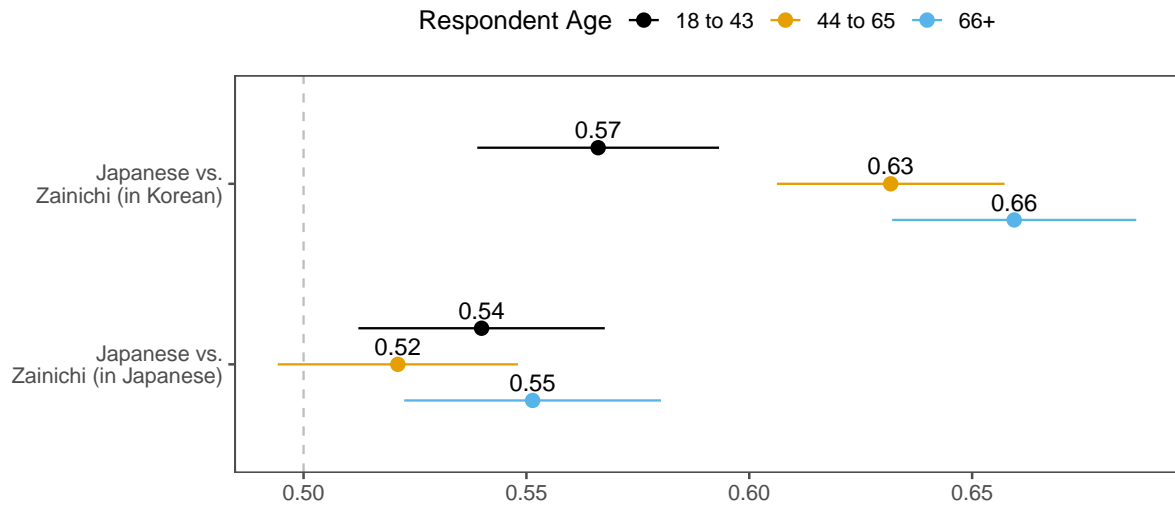


Figure E.5: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondent Gender

### Marginal Means by Respondent Age



### Average Marginal Component Effect by Respondent Age

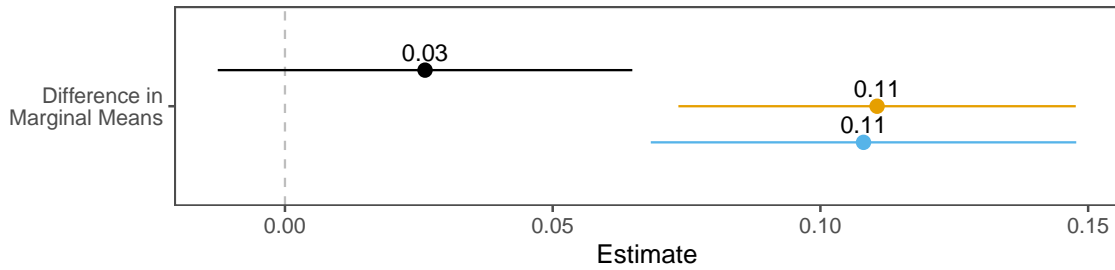


Figure E.6: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondent Age



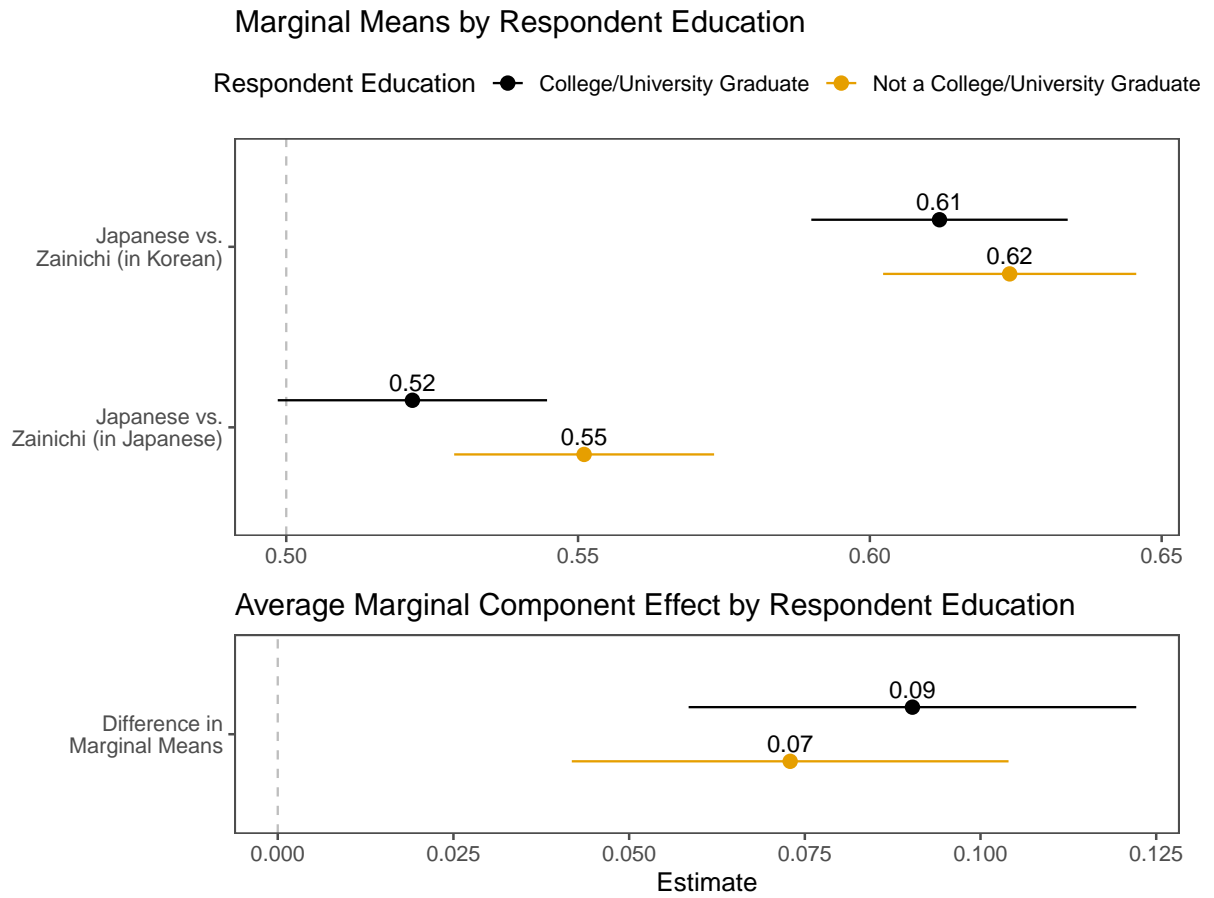


Figure E.7: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondent Education

### Marginal Means by Respondent Political Leaning

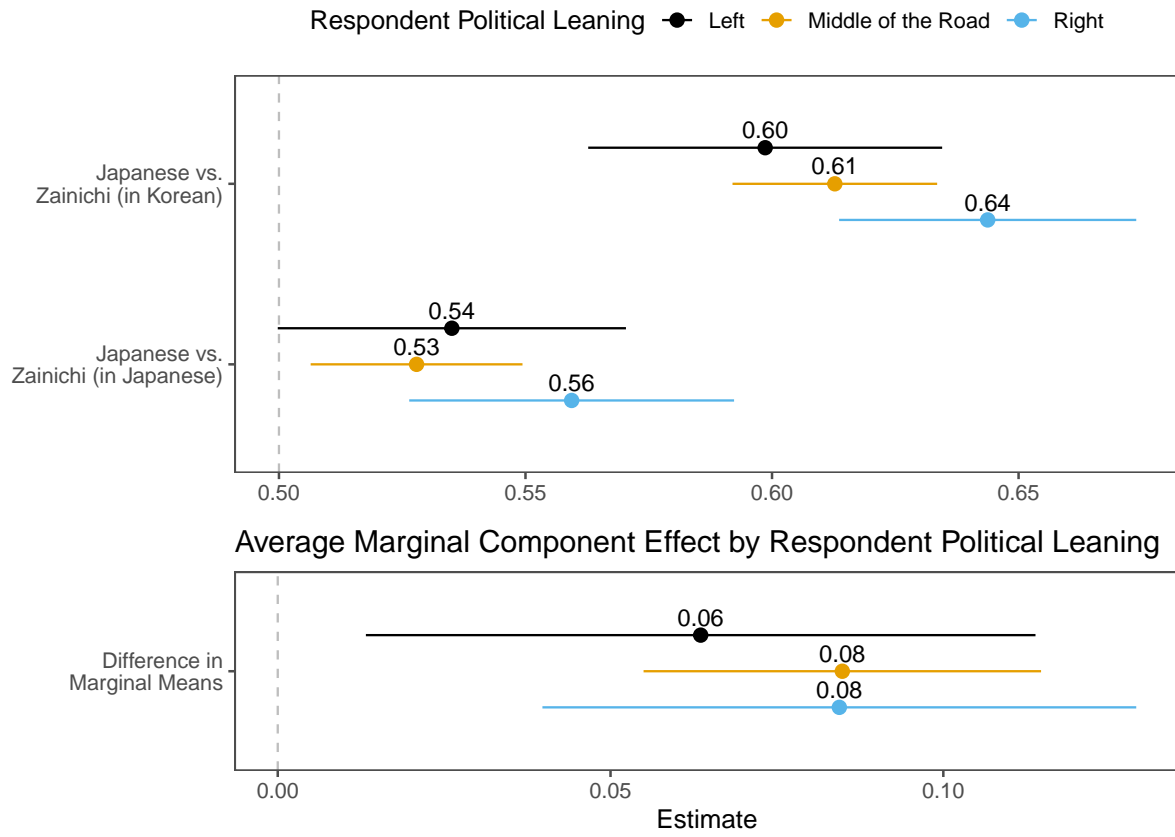
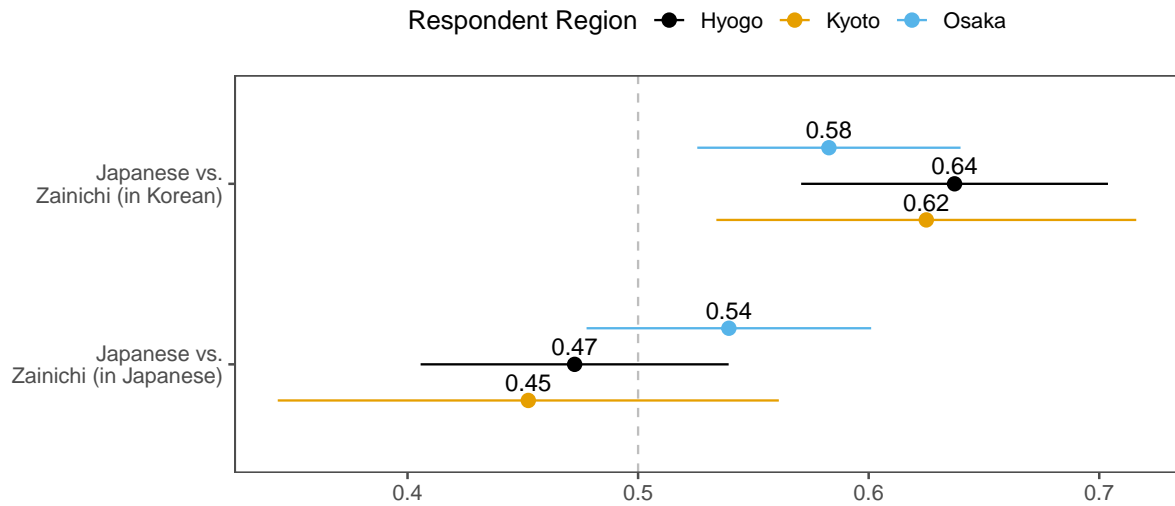


Figure E.8: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondent Political Leanings

### Marginal Means by Respondent Region



### Average Marginal Component Effect by Respondent Region

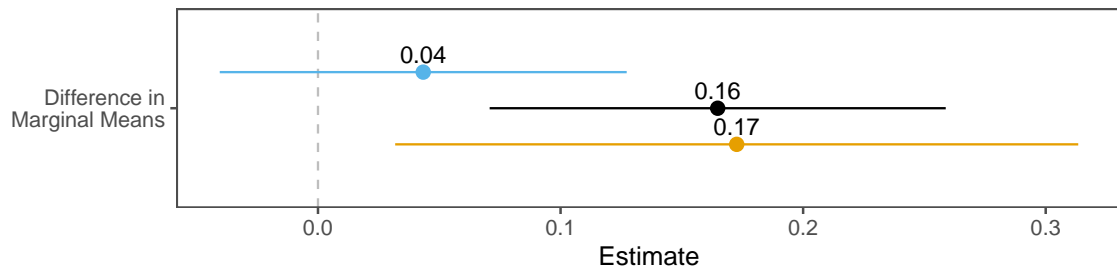


Figure E.9: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondent Region

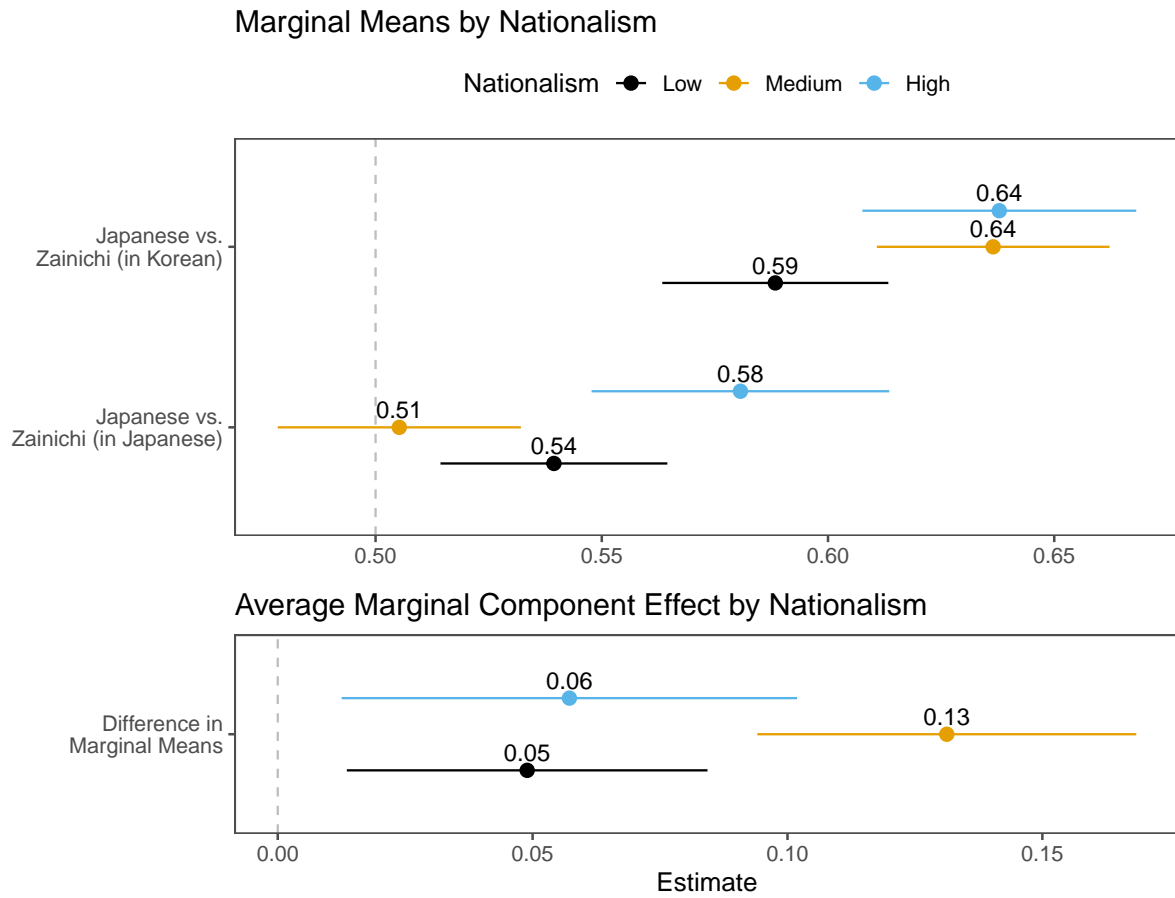


Figure E.10: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Respondents' Nationalist Ideologies

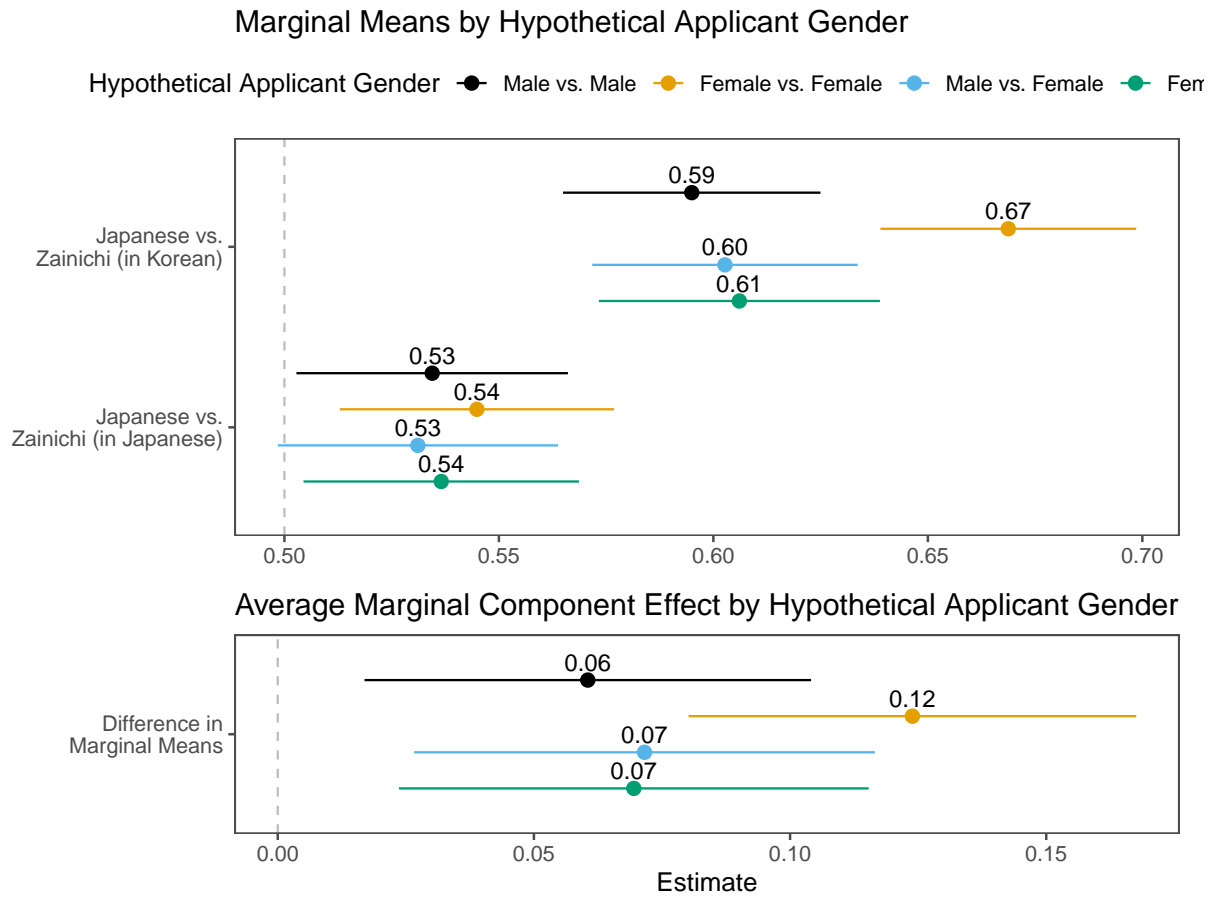


Figure E.11: Marginal Means of Japanese Applicant Names Compared to Zainichi Names and AMCE of Korean Names Disaggregated by Applicant Gender Matchups

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