The Clash of Traditional Values: Attitudes toward a Male-line Monarchy under a Succession Crisis

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Abstract

The survival of institutions is often justified by their consonance with traditional values. However, this linkage can threaten necessary institutional adaptation, should reforms require compromises to those underlying preferences. We examine how citizens address this clash of values using controversies regarding the Japanese monarchy's male-only patrilineal succession rule. In recent years, a shortage in the number of legitimate heirs has raised concerns about the viability of the monarchy itself. Reforms that would expand inheritance rights to female and female-line descendants have run afoul of the conservative gender values of many royalists. We conduct a two-wave survey experiment to examine how these values are connected to citizens' attitudes about competing reform proposals, using item counting techniques (list experiments) to elicit more truthful responses. We find that conservatism and traditional gender norms are associated with stronger opposition to the ascension of female monarchs. In addition, showing information about the rarity of Japan's status quo rules elicits stronger opposition to reforms, particularly among those who espouse traditional gender norms. Our results suggest that sexism can impede efforts to persuade voters of the material necessity of gender-neutral reforms to established institutions.

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1 Introduction: Pandas and Royal Persons

Institutions are more likely to be self-enforcing when their function and operating procedures are consonant with prevailing social norms (Weingast, 1997; Hardin, 2003). That said, institutions are not immune from pressures to adapt, particularly when exogenous shocks reduce their ability to generate or distribute rents. This adaptation is not easy if veto players perceive alternative institutional forms to violate status quo norms. For example, gendered labor practices, such as privileging human capital investment in men over women, has historically been justified by traditional, paternalistic values (Inglehart et al., 2003). However, declining fertility rates in advanced-industrialized economies have prompted debates about how to ameliorate long-run shortages in the labor force. One option, increasing immigration, may be opposed on the grounds of national homogeneity or the difficulties of multicultural coexistence. Another option, improving work-life balance and encouraging women to enter the labor force, may challenge established family and gender roles. These conflicts between material necessity and social norms can stymie reforms and leave polities mired in suboptimal local equilibria.

Dilemmas that pit values against dollars can be settled through side payments or appeals to long-term economic interests. A more intractable issue is when the survival of institutions necessitates the sacrifice of deeply-held preferences or norms. An important case that fits this bill is contemporary debates about the sustainability of symbolic, *constitutional monarchies*. On the one hand, monarchies are one of the oldest forms of government, and the hereditary nature of succession sustained their historical prominence in pre-modern polities (Gerring et al., 2021). In absolute monarchies, male primogeniture, or succession by eldest sons, reduced the pool of legitimate claimants to the throne, which in turn lessened the frequency of violent succession conflicts (Menaldo, 2012; Kokkonen and Sundell, 2014; Acharya and Lee, 2019). On the other hand, the gendered norms that underlie—and are arguably propagated by—these succession rules are more controversial today. Many monarchical families survived democratic transitions by accepting a non-partisan, symbolic role (McDonagh, 2015; Dixon, 2020), but this has also necessitated greater sensitivity to evolving social norms. Two key changes have been the proscription of polygyny, or plural wives / concubines, and a reduction in the number of "royal" family members, achieved by removing cadet branches from state-funded support. However, these reforms have also shrunk the pool of legitimate male heirs to the throne, threatening the viability of male-only patrilineal (agnatic) primogeniture, whereby the preceding ruler is succeeded by his sons in order of birth, followed by his male siblings (through the same father) and their descendants. Mantel (2013), remarking on the British monarchy today, writes, "Pandas and royal persons alike are expensive to conserve and ill-adapted to any modern environment."

There are a number of plausible solutions to preserving this traditional, gendered institution, but each requires some compromise to the very norms that have legitimized the status quo. One is to permit the ascension of female monarchs. Another is to allow monarchical succession by descendants through the maternal line. As of 2020, 30 states allow for female monarchs while 12

reserve the throne for male royals.[1]

While these reforms may allow for stable succession, they also challenge the core principles that underlie the institution. For example, conservatives may oppose any liberalization of kinship that permits "new blood", and those who embrace traditional gender norms may be wary of the ascension of female monarchs. However, reforms cannot be put off forever, lest the absence of legitimate heirs provoke a costly succession crisis or even lead to the dissolution of monarchy itself. Social legitimacy is particularly relevant in constitutional monarchies, where the public—either directly through referenda or indirectly through elections—has a voice in statutes that establish the rules of succession.

We explore the determinants of and resolutions to this clash of values through the case of monarchical succession in Japan. The imperial system is the foremost manifestation of political traditionalism in Japan, but the Chrysanthemum Throne's long-term viability is threatened by the dearth of male children through patrilineal lineage. This issue poses an ideological challenge to conservative elites, who seek the continuity of the imperial line but also prioritize agnastic primogeniture (Kimizuka, 2018). The rules of succession are governed by the Imperial House Law and can be changed by a simple parliamentary majority. While no concrete proposals have been raised in the Japanese parliament, discussions about securing the imperial line came to the fore during the 2019 succession of Emperor Naruhito, who has a daughter but no son. The crown prince is the emperor's brother, and while he himself has one son, that son is the last remaining patrilineal male heir.

Currently, there are three options being deliberated. The first is to allow patrilineal women to succeed the throne, including the daughter of the current emperor. The second is to accept matrilineal lineage, which would include the (potential) grandson of the current emperor through his daughter. The third is to reincorporate cadet family branches whose succession rights were stripped after World War II. The first two require the loosening of the male-only patrimonial succession rule, whereas the last option would uphold the rule but undermine the perceived sanctity of the Imperial House.

We examine the palatability of these options, the values that underlie their support or opposition, and how these attitudes can be changed, through a two-wave list experiment with intervening information treatments. In the first wave, we estimate baseline attitudes to distinct reform options using the item count technique. We find that opposition is greatest for the restoration of old imperial lines, and least for allowing female successors. However, respondents who score highly on our latent conservatism and sexism scales are more likely to oppose the latter than the former. We then test whether this opposition can be mitigated by information about the capability of female successors, the rarity of the status quo inheritance rule in other monarchies, and the strong possibility that the imperial line will die out. In the second wave, the same respondents were randomly assigned these information treatments and asked for their preferences regarding

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[1]Both numbers exclude Commonwealth countries that have the British monarch as the head of state.

alternative reform proposals. We find that the effects of these treatments, if any, are to produce a backlash. The information treatment showing the rarity of the status quo among democratic countries *increases* opposition against reforms to allow female emperors. Moreover, we find that this backlash effect is driven by respondents who score highly on our political conservatism and sexism scales. That said, none of the other treatments decreases opposition against reform, and there is some suggestive evidence that the personal popularity of a potential female heir may reduce opposition among those who are less conservative.

The remainder of this paper proceeds as follows. The next section describes the history and function of monarchies, both globally and in Japan, and how these connect to our experimental design. We then explain our survey instruments, including the choice of sensitive items in the list experiment, the information treatments, and the randomization schemes, followed by the results of the two-wave experiment. We end the paper with brief concluding remarks.

2   The Context: "The Y-chromosome Must be Royal"[2]

2.1   Global History of Male-Only Patrilineal Monarchies

A central dilemma of autocrats, and of rival elites who must decide whether to support or overthrow them, is the viability of long-term investments and bargains (Mesquita et al., 2005). Hereditary monarchies are one solution to this problem: by reducing the number of legitimate claimants to the throne, they can facilitate the management of succession conflicts (Gerring et al., 2021). In AD1000 Europe, most hereditary monarchies practiced *agnatic seniority*, whereby the ruler's oldest brother through the paternal line inherited the throne before any of his sons. Kokkonen and Sundell (2014) argue that while this model produced a large pool of successors, most were as old as the previous monarch, and thus could not ensure long-term stability. Over time, more monarchies shifted to *agnatic primogeniture*, which gave priority to the eldest living son and his male offspring. This ensured that there was only one legitimate crown prince, who was young enough to bide his turn as monarch and who had long time horizons to forge bargains with other elites. Male primogeniture reduced the frequency of succession conflicts (Menaldo, 2012; Kokkonen and Sundell, 2014), which in turn reduced the probability of violence when the previous monarch died (Acharya and Lee, 2019). This regime stability, and the possibility of transferring wealth and status to their offspring, increased the likelihood that monarchs would invest in public goods as stationary bandits (Olson, 1993), influencing the long-term growth trajectory of the state.

However, this reduction in the pool of competing successors introduced a new problem—the shortage of legitimate male heirs—which forced many monarchies to adjust their inheritance rule (Acharya and Lee, 2019). Alternative options included male-preference (as opposed to male-only) patrilineal succession, whereby women with blood ties to the monarch could succeed in

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[2]We thank Amy Catalinac for suggesting this phrase.

the absence of men, and matrilineal (or cognatic) succession, which introduced blood relatives through the maternal line. However, these allowed distant relatives and female-line heirs to lay competing claims to the throne, resulting in conflicts that interrupted peaceful transitions and harmed economic development. Acharya and Lee (2019) find that regions that were more likely to have a shortage of male heirs are poorer today than other regions.

Over time, absolute monarchies have become increasingly rare, replaced by alternative autocratic regime types or overthrown during democratization. Figure 1 plots the proportion of absolute monarchies since 1850, drawing on data from Gerring et al. (2021).[3] Improvements in literacy and communication infrastructure, including the printing press, newspapers, radio, and mass media, led to the development of a "national" identity (Anderson, 2006) that was independent of the notion of the monarch as the familial head of the state. As the monarchy's monopoly on written texts and myth-making to justify their rule on rightful or spiritual grounds waned, challenges to their claims to privilege and power were harder to suppress. In turn, alternative succession plans—including electoral democracy—were easier to coordinate, lessening the need for a long-term locus of authority tied to specific persons or families.

However, the continuing survival of royal families as symbolic heads of state, even as many polities turned towards oligopolistic or democratic forms of government, speaks to the value that citizens place on their informal roles. There are currently 43 constitutional monarchies, where elected leaders have discretion over the foreign and domestic functions of the government, but monarchs notionally serve as heads of state.[4] The resilience of old constitutional monarchies is tied to the historical legacy of royal lines as familial foundations of the state, with patrimonial responsibility to his/her citizens (McDonagh, 2015). Monarchs serve crucial informal roles as symbols and spokespersons of national unity, particularly during and after natural disasters, wars, and other crises. Their faces are profiled on currency and their names are attached to universities and buildings. As with other civic or religious traditions that are celebrated across generations, royal families are living reminders of their nation's founding and unity. Because monarchs are expected to be removed from partisan conflicts and electoral politics, their symbolic legitimacy carries great weight even in democracies (Dixon, 2020).

2.2 The Case: Monarchical Succession in Japan

2.2.1 Historical Background

Most historians agree that the Japanese monarchy has existed since at least the 6th Century AD. Although the Imperial Household Agency officially claims that the monarchy began 2680 years ago and that the current Emperor Naruhito is the 126th monarch, the oldest emperor whose existence

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[3]Gerring et al. (2021) counts 15 states as of 2017 where the monarch rules alone, has life tenure, whose qualification are determined by heredity, and has non-trivial power.

[4]This number includes members of the Commonwealth of Nations, but excludes absolute monarchies, such as Oman and Saudi Arabia. As a side note, the authors would like to make it absolutely clear that the Republic of Ireland is neither a member of the Commonwealth nor part of the United Kingdom.
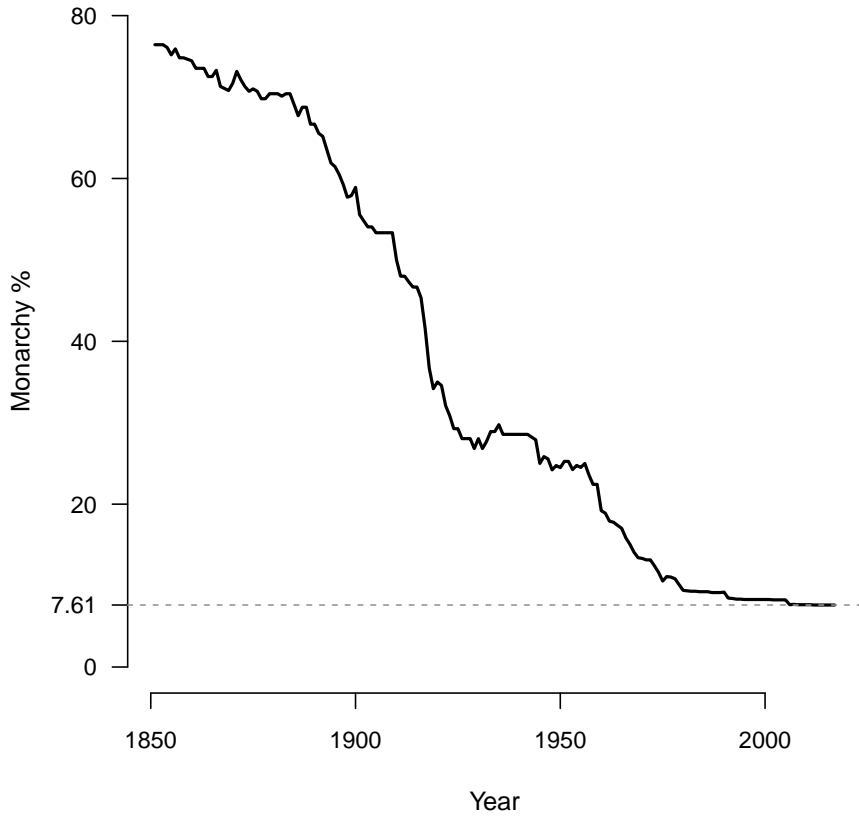
Figure 1: Percentage of Monarchies between 1850 to 2017. In the most recent year, 7.61% of states are absolute monarchies. Data comes from Gerring et al. (2021).

is verified by archeological evidence is either in the late 400s or early 500s. Historical sources from ancient China suggest that there was some form of theocratic or monarchical rule in Japan before then, but there is no confirmed evidence (other than the birth-myth of the nation) for consistent monarchical succession that connects those rulers to Emperor Naruhito. Nonetheless, a dynasty that has survived from the 6th century would still be considered the oldest continuous monarchy in the world today. It is of course impossible to verify blood relationships between emperors in the 500s and those today. However, historians consider it to be a historical fact that the Japanese monarchy has existed as a single continuing dynasty for about 1500 years.

The modern Japanese imperial system was institutionalized in the late 19th century as the Meiji government pursued the modernization of the nation. After the regime change in 1868 from the Tokugawa Shogunate, political leaders of the new Meiji government—named after the Meiji Emperor who was "restored" to political power—promoted legal modernization from above. The Imperial House Law, along with the 1889 Constitution of the Empire of Japan, established the imperial system in statutory law. Unlike the pre-modern era when no written rules on imperial succession were stipulated, these Meiji laws established male-line (patrilineal), male-only primo-

	Reign	Sons	Male-line grandsons
Emperor Meiji	1867–1912	1	4
Emperor Taisho	1912–1926	4	5
Emperor Showa	1926–1989	2	2
Emperor Akihito	1989–2019	2	1
Emperor Naruhito	2019–	0	0
Fumihito, Crown Prince		1	?

Table 1: List of emperors in modern Japan and the number of their sons and male-line grandsons. Up to Naruhito, each emperor is the eldest surviving son of his predecessor. Fumihito is the younger brother of Naruhito.

geniture as the explicit succession rule for the first time in confirmed Japanese history. Although there were two female emperors during the Tokugawa Shogunate, the Meiji "modernization" prohibited any women from ascending to the throne. Under this rule, women left the Imperial House altogether after their marriage, and their children were stripped of the right to succession unless they married another male member of the Imperial House.

Limiting succession to male-only patrilineal descendants necessarily risks exhausting the number of legitimate successors, but there were no succession crises in the first decades after the Meiji Restoration. Table 1 shows the list of emperors in modern Japan, as well their number of sons and male-line grandsons. For example, although Emperor Meiji had no children with his empress, succession was not endangered because he had several concubines. However, all of his children except for one son and three daughters died in their childhood, which is not surprising given high infant mortality at the time. His surviving son, who succeeded the Chrysanthemum Throne and became Emperor Taisho, ended the custom of having concubines. He had four sons, making dynastic succession (seem) safe when his eldest son, Emperor Showa (a.k.a. Hirohito), ascended to the throne in 1926.

Relatedly, the definition of the Imperial House has changed over time. When World War II ended in 1945, eleven families—and there male lines—were considered to be part of the legitimate imperial family. Although the male-line common ancestor of those families and the three post-Meiji-pre-WWII emperors dates back to the 15th century, those cadet branches had been given imperial status and the right of succession during the pre-modern era. This status was reconfirmed by the laws of the Meiji government. As a result, in addition to the three brothers and two sons of Emperor Showa, 26 men were in the line of succession as of 1945.

The question of stable succession has evolved gradually since the end of WWII. On the one hand, the Constitution of Japan, enacted under the Allied Occupation, prohibits discrimination based on gender, but the male-only patrilineal succession rule was left intact. On the other hand, the 11 cadet families with claims to patrilineal legitimacy left the Imperial House in 1947. As a result, the line of succession has been limited to the male-line male descendants of Emperor Taisho. However, among Emperor Taisho's five male-line grandsons, only Crown Prince Akihito, Emperor

Showa's son, had sons. After Emperor Showa died and Emperor Akihito succeeded in 1989, two daughters were born to his younger son, Fumihito, in 1991 and 1994. When Crown Prince Naruhito's first child, born in 2001, was a daughter, it was finally recognized that the current succession rule was not sustainable in the long run. In 2005, Prime Minister Junichiro Koizumi of the conservative Liberal Democratic Party (LDP) appointed a commission to review possible reforms to rules of imperial succession. The commission's report proposed "to open the way to a female Emperor or an Emperor of female lineage in order to ensure the stability of succession to the Throne." [5] However, in 2006, a boy was born to Fumihito, then-Crown Prince Naruhito's younger brother. The birth of that boy, Hisahito, stalled the drive to reform the succession rule completely.

2.2.2 Contemporary Debates about Imperial Succession

Discussions about the Imperial House Law were re-energized in the late 2010s. In 2019, Emperor Akihito abdicated and Naruhito ascended to the Chrysanthemum Throne. Since Emperor Naruhito's only child is a daughter, Aiko, the current law designates his younger brother, Fumihito, as the Crown Prince. However, after Fumihito, who was born in 1965, the Imperial House has only one male descendant, Hisahito, in the next generation. Under the current Imperial House Law, there will be no heirs if Hisahito has no sons. It is of course possible that Hisahito will have male children, as he is still a teenager. However, if he has no sons, it is likely that there will be no legitimate heirs under the status quo system, since all female members are required to leave the Imperial House should they marry. With this Damocletian Sword hanging over monarchical survival, both houses of the Japanese Diet passed accompanying resolutions that urged the executive branch to compile proposals for Imperial House Law reforms in 2017, when they approved Akihito's abdication.[6]

Although the government has not launched any official processes to revise this law, two possible reforms have been discussed publicly. The first, and obvious, option is to expand the right of succession to the current female Imperial House members and their descendants. Since Naruhito and Fumihito have one and two daughters, respectively, this reform would increase the number of people in the line of succession in the next generation from one to four and create three additional succession lines. To reiterate, the government commission in 2005 proposed this as the only viable option.

The alternative, which some right-wing nationalist politicians advocate, is to re-incorporate descendants of those who left the Imperial House in 1947, so that male-only patrilineal succession can be sustained. This proposal has not been seriously considered in the official policy-making

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[5] *The Advisory Council on the Imperial House Law Report*, published on November 24, 2005, available at `https://japan.kantei.go.jp/policy/koshitsu/051124_e.pdf` (accessed on February 25, 2021), p. 23.

[6] Upper House of the Diet of Japan, *"Tenno no Taii to ni kansuru kousitsu tempan tokurei houan ni taisuru hutai ketsugi [Resolution Accompanying Imperial House Special Act on the Abdication of the Emperor]"*, passed on June 7, 2017, available at `https://www.sangiin.go.jp/japanese/gianjoho/ketsugi/193/f431_060701.pdf` (accessed on February 25, 2021).

process. In fact, the commission in 2005 blatantly rejected it for four reasons: (1) it would not resolve the fundamental problem of male-line succession, namely that the existence of successors depends on random chance, (2) the legitimacy of the Imperial House would be undermined because the former members had spent almost 60 years as commoners and are only distantly related to current Imperial House members, (3) it is unclear if these former members wish to regain imperial status, and (4) historically, those who left the Imperial House rarely rejoined it. However, the supporters of this proposal cling to male-line succession, claiming that the imperial male line has never ceased and that its continuation is an essential tradition of the Japanese Imperial House. Whether rhetorically or seriously, these proponents maintain that all previous emperors had carried identical Y-chromosomes for over a thousand years, and that all future emperors should inherit them as well. [7] Since proponents of this second reform option distinguish succession by a woman in the male line from succession by a female-line descendant, they tolerate the ascension of female monarchs. However, loosening the male-only rule while keeping the patrilineal restriction does not solve the problem of exhausting the number of succession lines. Therefore, these true believers of male-line succession insist that the imperial status should be given to those who had historically been considered to be in the imperial male lines. Because the long-governing LDP includes vocal supporters of this proposal, prime ministers who sought amendments to revisit male-only patrilineal succession, including Koizumi, faced opposition from their own party.

2.3 Empirical Strategy: Eliciting Respondents' Attitudes toward Imperial Succession Reform

The imperial succession issue described above is an iconic example of political dilemmas caused by the clash between two traditional values. On the one hand, conservatives want to uphold the Imperial House. On the other hand, this necessitates the adoption of progressive gender equality (female emperors) or the undermining of the historical sanctity of the imperial line (granting succession rights to de facto commoners). To examine the relationship between voters' values and their attitudes toward alternative reform proposals, we conduct a two-wave survey experiment using the item counting technique to elicit truthful preferences. Here, we explain our empirical strategy for the "sensitive" items in our study and the treatments we manipulated; greater detail is provided in the next section.

We measure respondents' attitudes to reforming rights of succession to female and female-line descendants using three items. Two of the items include the name of Princess Aiko, the daughter of Emperor Naruhito, whereas the other item uses general institutional terms only. We aim to capture the inherently personal nature of any reform to the Imperial House Law with the former. Since the imperial succession rule is relevant only to the Imperial House, the outcomes of its

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[7] Meeting minutes of the fifth meeting of the Advisory Council on the Imperial House Law on May 31, 2005 (in Japanese), available at `https://www.kantei.go.jp/jp/singi/kousitu/dai6/6siryou3.html` (accessed on February 25, 2021). See also Cyranoski (2006).

amendment always involve the status of specific royal persons. Thus, voters' attitudes toward reforms should not be decoupled from their opinions about those whose status would be affected. Since Aiko is the only child of the current emperor, she would be the heir to the throne should the law be revised. On the other hand, there is likely to be social desirability bias for expressing attitudes toward royal persons in the Japanese context. To address the sensitivity of these items, we use the item count technique to measure the respondents' true preferences.

The two items with Aiko's name capture different aspects of the reform proposal. The first item measures how respondents feel about Aiko replacing Fumihito as the next emperor. This hypothetical scenario is the immediate consequence of proposals to de-gender the status quo succession rule. It would also preserve male-line succession (through Aiko's father, Naruhito), instead of introducing matrilineal succession, which is vehemently opposed by those who privilege the sanctity of the Y-chromosome. The second item measures respondents' attitudes toward a scenario where Aiko's son will have the right to succession.[8] While this is a purely hypothetical scenario, because Aiko does not have any children as of 2020, it is also an important consequence of the proposed change to gender-neutral primogeniture. Moreover, the scenario implies that imperial succession after Aiko will be matrilineal, which is opposed by traditionalist royalists. By these two items, we intend to measure respondents' preferences about proposed gender-neutral reforms.

As a comparison to these items that explicitly invoke the princess's name, we include an item that refers to institutional revisions more obliquely. Specifically, we ask respondents whether they would feel upset if a female emperor ascends to the Chrysanthemum Throne. This item does not invoke a specific person's name or the timing of her enthronement. Although this is a common framing in Japanese media polls,[9] we consider this item to have less external validity, as it is not explicit about the direct consequences of the suggested reform.

We expect responses to these items, particularly the two referring to Princess Aiko, to be are subject to social desirability bias. Lèse-majesté is not considered a crime under the current Japanese penal code. However, the Chrysanthemum Taboo (a.k.a. "Kiku taboo") is a well known phenomenon in public discourse. In addition, to our knowledge, no previous survey has included questions on whether a specific royal person should be the emperor / empress. We use the item counting technique to address potential biases and describe its detail in the next section.

We also measure respondents' attitudes toward other proposals. Specifically, we ask respondents whether they would be upset if pre-1945 ex-descendants of the Imperial House were to regain the right to imperial succession, in order to sustain male-only patrilineal primogeniture. Unfortunately, because there are no well-known public figures among these descendants, we cannot use a similar strategy to those that invoke Aiko's name.

Using these four outcome variables, we examine how respondents' views of traditional values are

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[8]Aiko was born in 2001 and is currently unmarried.

[9] For example, see `https://www3.nhk.or.jp/news/special/japans-emperor6/opinion_poll/?anchorID=jpemp-opinion-poll` (in Japanese, accessed on February 26, 2020).

related to their attitudes toward imperial succession. First, using a battery of survey questions, we construct `conservatism` and `sexism` scores for each respondent. We fit a latent variable regression model to correlate these scores, as well as demographic characteristics, with attitudes toward the reform proposals. Second, we randomly assign three information treatments to investigate which factors reduce opposition to gender-neutral succession rules. The three treatments are designed to explore if respondents' attitudes are affected by information about (1) Aiko's personal traits, (2) the rarity of male-only succession among other constitutional monarchies, or (3) the necessity of enlarging succession lines.

The descriptive regression analysis and the estimation of the treatment effects provide evidence of the relationship between respondents' traditional values and their opposition to gender-neutral imperial succession. We hypothesize that both traditional values are positively associated with opposition to gender-neutral reforms. While conservatives disapprove of reforms that entail progressive values, they would also like to sustain the Imperial House in the long run. Therefore, we expect those who espouse politically conservative values to be less opposed to gender-neutral primogeniture when they are told that the envisaged female heir is capable of fulfilling the monarch's symbolic roles, that the current rule is no longer retained in peer countries, or that the male line of imperial succession is endangered. On the other hand, to those who embrace traditional gender norms deeply, it would be more important to refuse succession by a woman or a female-line heir than to sustain stable succession.

3   Experiment Design

In order to elucidate which values are in conflict over changes to imperial succession rules, and what factors can mitigate public hesitance to institutional reform, we conduct an original two-wave survey experiment with information treatments. This unique design delivers three benefits that are otherwise unattainable: 1) mitigate the social desirability bias when estimating attitudes to sensitive topics; 2) explore the factors that underlie sensitive attitudes; 3) estimate the effect of information treatments as a function of respondent characteristics. Specifically, because self-reported attitudes towards female emperors and matrilineal succession may be subject to social desirability bias, we use an indirect questioning item counting technique (also known as list experiment) in our surveys. An information intervention is introduced between the two survey waves to identify the causal effect of different information treatments on those sensitive attitudes. Lastly, exploiting the information collected from both survey waves with a latent variable model, we estimate the treatment effect moderated by individual characteristics.[10]

Note that the design consists of two experimental components: the *item counting technique* (ICT) that elicits more truthful answers to sensitive questions, and the *information experiment*

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[10]We are still testing the algorithm to obtain the standard errors. In this iteration, we substitute the model-based estimator with the design-based estimator.

that manipulates the framing and context of the items and examines if these influence responses to the sensitive topics. The assignment process of the two "experiments" are administered independently. To avoid confusion, we call respondents who receive list questions with the sensitive items the *sensitive list group*, and those who receive list questions without the sensitive items the *nonsensitive list group*. Subjects who were assigned to one of the information treatment arms are referred as the *treatment group* or *treated*, and those were assigned to the control as the *control group* or *control*.

3.1 Why not use direct questioning?

A key component of the research design is using ICT in surveys. This technique elicits truthful answers by concealing respondents' item-specific answers from researchers. Instead of asking respondents directly about their attitudes towards imperial succession, we ask them to provide the total number of items in a list that upsets them. Individual respondents' true preferences are hidden from the researchers: we only observe the *total number* of affirmative answers to a list of statements, not whether a respondent has answered affirmatively to the sensitive statement specifically. This additional layer of anonymity is expected to mitigate social desirability biases in surveys.

In our experiment, respondents in the nonsensitive list group see a list of three non-sensitive statements. Those in the sensitive list group receive a list of four statements: the same non-sensitive statements in the same order plus the sensitive statement, the latter of which is our item of interest. Figure 2 provides a specific example comparing information presented to respondents in the *sensitive list* group and to respondents in the *nonsensitive list* group. The non-sensitive items were selected to be sufficiently controversial and negatively correlated, so as to avoid the list experiment's potential floor and ceiling effects (Blair and Imai, 2012; Glynn, 2013). If respondents can anticipate that identifying either zero or all of the statements as upsetting will reveal their attitudes towards the sensitive item (not upsetting or upsetting, respectively), then they may obscure their true response, defeating the purpose of the item count design. An example of a non-sensitive but controversial statement in our context is, "Pope Francis urged Japan to accept more refugees."[11]

We include four lists in our survey. The sensitive item in each list correspond to one existing proposal that addresses the imperial succession crisis.

1. `Princess Aiko`: The next Emperor will be Princess Aiko, the daughter of the Emperor, instead of Prince Akishino, his younger brother.

2. `Female Emperor`: In the future, a female emperor will succeed the throne.

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[11]About 47% respondents in our pretest were upset by this statement when asked directly. We conducted a pretest using Yahoo! Crowdsourcing between February 20 and Februrary 22, 2020. Because the pretest aimed to select non-sensitive items for the list questions, we presented respondents with 38 statements and asked for their views on each item directly.
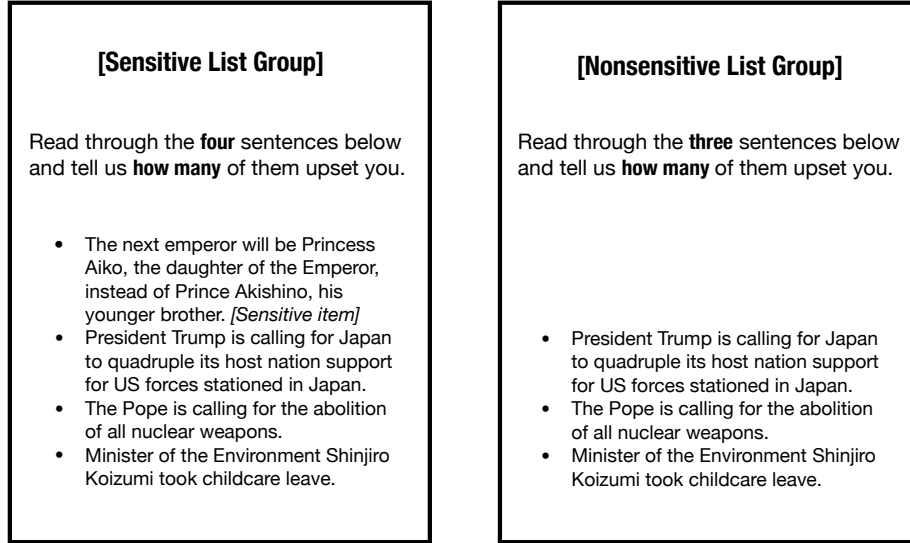
[Sensitive List Group]	**[Nonsensitive List Group]**
Read through the **four** sentences below and tell us **how many** of them upset you.	Read through the **three** sentences below and tell us **how many** of them upset you.

[Sensitive List Group]

- The next emperor will be Princess Aiko, the daughter of the Emperor, instead of Prince Akishino, his younger brother. *[Sensitive item]*
- President Trump is calling for Japan to quadruple its host nation support for US forces stationed in Japan.
- The Pope is calling for the abolition of all nuclear weapons.
- Minister of the Environment Shinjiro Koizumi took childcare leave.

[Nonsensitive List Group]

- President Trump is calling for Japan to quadruple its host nation support for US forces stationed in Japan.
- The Pope is calling for the abolition of all nuclear weapons.
- Minister of the Environment Shinjiro Koizumi took childcare leave.

Figure 2: An Example of the Item Counting Technique (List Experiment). Texts in brackets are added for illustration purposes.

3. `Aiko's son (Hypo)`: If Princess Aiko, the daughter of the Emperor, has a son in the future, that child will have the right to succeed the throne.

4. `Imperial Descendant`: The descendants of the imperial family, who have lived as ordinary people since the end of World War II, gain the right to succeed the throne.

The simple difference in means between the sensitive and nonsensitive list groups is the aggregated proportion of the population that is upset by the sensitive item. Model-based analyses enable researchers to efficiently estimate how sensitive attitudes vary as a function of individual characteristics (Imai, 2011). The estimate is less prone to social desirability bias than individual responses to direct questioning.

3.2   Information Treatment

The second wave of the survey targeted a subset of respondents from the first wave. Immediately before answering the list questions in the second wave, we randomly assigned respondents to one of the following four groups with equal probability. Each group was shown different information relating to the imperial family. These treatment arms were designed to stimulate or assuage distinct concerns about changing the male-only patrilineal succession rule.

Capability **treatment** (Figure 3a) A photo collage that shows Princess Aiko's extracurricular achievements. Images in the collage are chosen to show that Princess Aiko (Toshi) is a well-rounded person with skills in calligraphy, music, and spoken English, and thus should be capable of taking on the ceremonial roles expected of the emperor. The collage captions

describe the content of the images only. We intentionally avoid adjectives and language that may arouse emotions.

***Global practice* treatment** (Figure 3a) A cross tabulation of succession rules (rows) and political systems (columns) in other monarchies. Its purpose is to convey that Japan's imperial succession rule makes it an outlier among democracies. The figure excludes Commonwealth countries and elective monarchies (e.g., the Vatican).[12]

***Necessity* treatment** (Figure 3c) An imperial family tree that shows the difficulty of guaranteeing stable succession if the status quo rule is maintained. It puts the succession crisis in context by presenting the imperial family tree over four generations. While there was no shortage of male successors two generations ago, there is only one qualified male in the youngest generation. The red line shows the actual sequence of succession up till the current emperor, while the orange line indicates legitimate successors as of February 2021.

Control (Figure 3d) A distant-view photograph of *Shin-nen Ippan Sanga* (Citizen's New Year Greetings to the Imperial Family). This event is a well-known tradition in Japan that involves the imperial family. The photograph include all adult members of the imperial family, but it does not contain other national symbols.

All information treatment and control arms follow the same format: respondents see a figure, accompanied by explanatory texts of similar length.

3.3   Procedure

Figure 4 illustrates the full workflow of our experimental design. The project involves two survey waves and an information treatment, which was administered immediately before the respondents answered the second wave list questions. The first wave survey collected information on individual-level characteristics and pre-treatment sensitive attitudes. The second wave collected data on post-treatment sensitive attitudes. As discussed above, we use the ICT in both survey waves to measure sensitive attitudes. The study was approved by the IRBs at the University of Michigan and the University of Tokyo and was pre-registered with Evidence in Governance and Politics (EGAP).[13]

Survey wave 1 Respondents were recruited from the national sample pool of Nikkei Research, a prominent survey vendor in Japan. We employed quota sampling by age (20-69), gender, and region to match the most recent national census distribution. We used a block

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[12]We used Polity IV's 20-point score of regime type and coded a country as "democratic" if its score was 6 or higher. We used V-Dem's score if the Polity score was not available. If neither Polity nor V-Dem was available, we used Freedom House's Global Freedom Score.

[13]The EGAP registration ID is 20200723AA. IRB numbers are University of Michigan, Ann Arbor: HUM00173786; Institute of Social Science, University of Tokyo: 48. The research is funded by *Grants-in-Aid for Scientific Research (KAKENHI)* - Project Number 17H02478 and by *CJS Faculty Research Grant*, University of Michigan, Ann Arbor.

(a) Capability Treatment

(b) Global Practice Treatment [Translated]
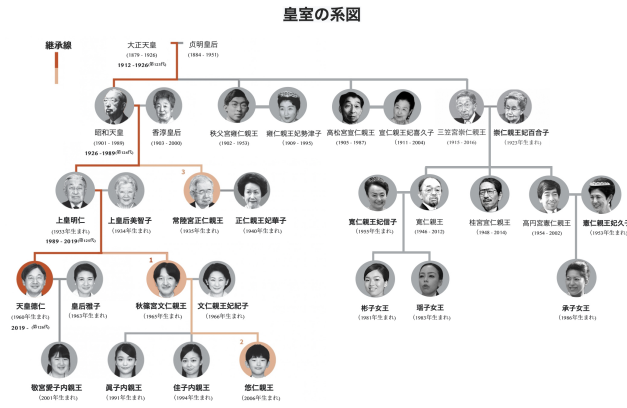
(c) Necessity Treatment

(d) Control

Figure 3: Treatment Information. Subfigure (a), (b), and (c) are three treatment arms, and sub-figure (d) is the information presented to the control group. Respondents assigned to `Capability Treatment` saw subfigure (a), along with this caption: *These three photographs feature Aiko, the daughter of the current Emperor. Left: Calligraphy written by Aiko in 2016, when she was a first-year middle school student; Top right: Playing the cello in the Gakushuin Orchestra in 2017; Bottom right: conversing in English with the actor Francesca Hayward during the premiere of the movie Cats in 2020.* Respondents assigned to `Global Practice Treatment` saw subfigure (b), along with this caption: *This table shows the regime type and rules of succession of monarchical nation-states around the world. Japan is located in the bottom-left cell, and it is a rare exception among democracies in having a male-only succession rule, which is more common among autocracies.* Respondents assigned to `Necessity Treatment` saw subfigure (c), along with this caption: *This figure shows the family tree of the imperial household. Because imperial succession is currently limited to men from the paternal line, the right of succession is limited to the three persons whose headshots are in the orange background, out of the 18 living members (whose names are bolded). Of the three, only one person is from a younger generation than the current Emperor.* Respondents assigned to the control group saw subfigure (d), along with this caption: *This photograph features the New Year's public palace visit of 2020. New Year's Day in 2020 was the first New Year's public palace visit since the current Emperor ascended to the throne. The Emperor and Empress are at the center and the other imperial household members are around them.*
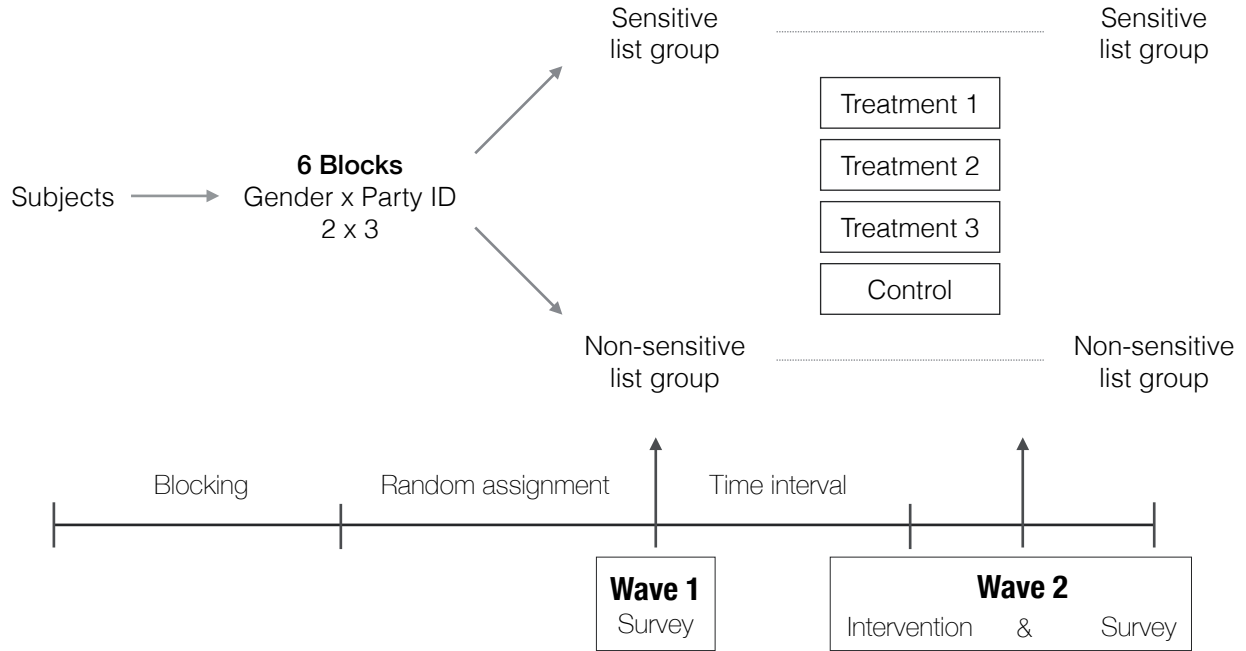
Figure 4: Research Design

randomization scheme for treatment assignment, based on respondents' *gender* (two levels) and *party identification* (three levels).[14] Within each block, half of the respondents were assigned to the *sensitive list group* and received the questionnaire *with* sensitive items in the list questions. The other half were assigned to the *nonsensitive list group* and received the questionnaire *without* sensitive items in the list questions. All other questions were identical between the two groups. The random assignment was conducted on the Qualtrics platform, which relies on the Mersenne Twister algorithm. The survey link was active between July 27th, 2020 to July 31st, 2020. 6,412 respondents participated in the first wave, of whom 4,901 passed the attention checks[15] and entered our analysis.

Time interval Respondents were not contacted by the research team between August 1st, 2020 and August 20th, 2020 (20 days)

Survey wave 2 All respondents from the first survey wave were invited to participate in the second wave, through Nikkei Research. Before answering the second wave survey, respondents were randomly assigned by Qualtrics to one of four groups (three treatment and one control). The informational intervention was randomized completely, i.e. treatment assignment was independent of whether respondents answered the sensitive or nonsensitive list questions in the first wave. Respondents in the three treated groups saw one of the three

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[14]The three levels are respondents who 1) identified as LDP supporters, 2) identified with none of the existing political parties, and 3) chose a non-LDP party.

[15]Following convention, we use survey completion time as a filter and remove respondents who completed the survey at the top 5% and the bottom 5%.

information treatments (Figure 3a, Figure 3b, or Figure 3c). Respondents in the control group saw Figure 3d in the same format. After this section, every respondent proceeded with the second wave survey questions. Respondents who were in the *sensitive list group* were assigned to the same group in this round, as were those in the *non-sensitive* list group. Identical list questions were used in the first and second waves.[16] The survey link was active between August 21st, 2020 to August 24th, 2020. For respondents who participated in the first wave, 3,458 participated in the second wave, of whom 2,841 passed the attention checks and entered our analysis.

3.4 Estimator

Because the first wave survey resembles the classic ICT, we use the standard analysis for this design (Imai, 2011; Blair and Imai, 2012). For the main results that concern the two-wave survey with information treatment, we derive both design-based and model-based estimators. The intuition of the design-based estimator is similar to the difference-in-difference-in-differences estimator.[17]

$$
\hat{\tau} \equiv \left\{ \left(\frac{\sum_{i=1}^{N} Y_{i2} D_i T_i}{\sum_{i=1}^{N} D_i T_i} - \frac{\sum_{i=1}^{N} Y_{i1} D_i T_i}{\sum_{i=1}^{N} D_i T_i} \right) \right.
$$
$$
- \left(\frac{\sum_{i=1}^{N} Y_{i2}(1 - D_i) T_i}{\sum_{i=1}^{N} (1 - D_i) T_i} - \frac{\sum_{i=1}^{N} Y_{i1}(1 - D_i) T_i}{\sum_{i=1}^{N} (1 - D_i) T_i} \right) \right\}
$$
$$
- \left\{ \left(\frac{\sum_{i=1}^{N} Y_{i2} D_i (1 - T_i)}{\sum_{i=1}^{N} D_i (1 - T_i)} - \frac{\sum_{i=1}^{N} Y_{i1} D_i (1 - T_i)}{\sum_{i=1}^{N} D_i (1 - T_i)} \right) \right.
$$
$$
\left. - \left(\frac{\sum_{i=1}^{N} Y_{i2}(1 - D_i)(1 - T_i)}{\sum_{i=1}^{N} (1 - D_i)(1 - T_i)} - \frac{\sum_{i=1}^{N} Y_{i1}(1 - D_i)(1 - T_i)}{\sum_{i=1}^{N} (1 - D_i)(1 - T_i)} \right) \right\} \tag{1}
$$

where i denotes individual respondents; $D_i \in \{0, d\}$ indicates treatment status, meaning whether i receives the information treatment d prior to the second wave survey or receives the control information 0; because we have three treatment arms in this design, $d \in \{1, 2, 3\}$ indicates three information treatment arms; $T_i \in \{0, 1\}$ denotes sensitive list status, where $T_i = 1$ denotes receiving the sensitive list in both survey waves; Y_{i1} is i's total number of reported affirmative answers in the first wave, and Y_{i2} is i's total number of reported affirmative answers in the second wave. The pieces inside the first curly brackets represent the mean difference for the sensitive list group across two waves, and the pieces inside the second curly brackets is the mean difference for the nonsensitive list group. Because we have a representative sample, the estimates can be interpereted as the population estimates.

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[16]We reuse some individual characteristic questions in the second wave for cross validation purposes. Most individual characteristic questions were expected to be stable during the research period.

[17]The variance is computed by the derived asymptotic variance of the estimates as well as non-paramatric bootstrap. The results are very similar.

3.5 Measuring Individual Characteristics

We collected demographic and attitudinal information prior to the treatment. Demographic variables include a binary `Female` indicator, `Age` decile, and a binary `College` indicator. LDP equals 1 for LDP supporters, and 0 otherwise. Because `sexism` and `conservatism` encompass multiple dimensions, we use Bayesian factor analysis for ordinal response (Quinn, 2004) to compute a sexism score and a conservatism score for each individual.[18] To capture both benevolent sexism and hostile sexism, we construct our sexism score using a battery of six questions from the Japanese translation of the Ambivalent Sexism Inventory (Glick and Fiske, 1996; Glick et al., 2000; Ui and Yamamoto, 2001).[19] We use four items related to political ideology in Japan to generate our conservatism scale.[20]

4 Results: Who Opposes Changes to Succession Rules, and Why?

We first describe baseline attitudes towards reforming rules of imperial succession, using responses to the list questions in the first wave. We also estimate differences across subpopulations. Next, we examine the effects of the information treatments on changing these attitudes, utilizing responses from both survey waves.

4.1 Who Oppose Women's Succession?

Figure 5 presents the results from the standard list experiment in the first wave (n=4,901 valid responses). Each estimate denotes the proportion of respondents who are upset by (i.e. are opposed to) the sensitive statement. All estimates are positive and statistically significant from zero, suggesting that a non-negligible proportion of the general population opposes all four possible

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[18]We use the `MCMCordfactanal()` function from the `MCMCpack` package for this.

[19]Ui and Yamamoto's (2001) instrument includes 22 items, from which we extract six questions that had high factor loadings. The six items are: (1) Women do not have much social experience so experienced men should support them; (2) People who do not have intimate relationships, such as romance or marriage, with the opposite sex are not truly happy; (3) Even if they are successful at work, men who are not in love to or married with women are missing something; (4) Men are able to play an active role thanks to the support of women behind the scenes; (5) Women are more compassionate to the vulnerable than are men; (6) Women have family responsibilities, so it would be a pity to give them too much responsibility. Consistent with prior research using the USI, responses to each statement are on a six-point Likert scale, ranging from strongly disagree to strongly agree. Principal component analysis suggests that the one-dimension score effectively summarizes the six dimensions well, and the posterior traceplot suggests stable convergence.

[20] The four items are: (1) Which of these two sentences is closer to your views? Option A: We should nurture more love for their country among citizens; Option B: Love for their country should be left to the judgment of each individual citizen; (2) How proud are you of being Japanese? (3) Are you for or against amending the Constitution to specify the existence of the Self-Defense Forces? (4) Do you agree or disagree with making major changes to the current social order in some way? All response items are on a five-point Likert scale. We chose this scale to be consistent with existing research on these questions. Results from principal component analysis and posterior traceplots suggest that the one-dimensional score captures the latent concepts of *conservatism* well.
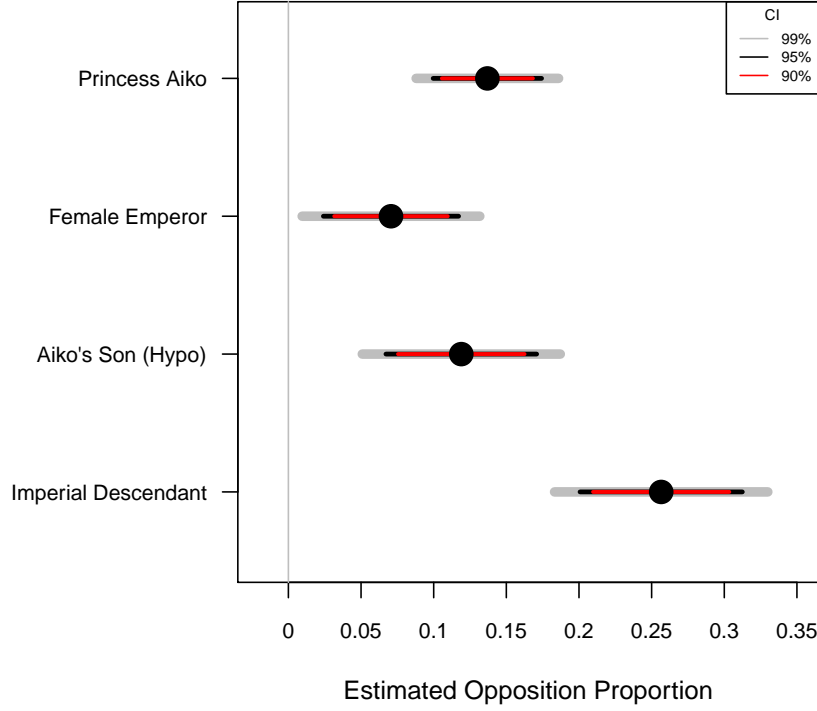
Figure 5: Estimated proportion of population who are upset by the four sensitive items, each of which corresponds to a possible solution to the succession crisis. `Princess Aiko` denotes the statement, *"The next Emperor is Princess Aiko, the daughter of Emperor Naruhito, instead of his younger brother Prince Akishino."* `Female Emperor` denotes the statement, *"In the future, a female emperor will succeed the throne."* `Aiko's Son (Hypo)` denotes the hypothetical scenario, *"If Princess Aiko, the daughter of the Emperor, has a son in the future, that child will have the right to succeed the throne."* `Imperial Descendant` denotes the statement, *"The descendants of the imperial family, who have lived as ordinary people since the end of World War II, gain the right to succeed the throne."* 90%, 95% and 99% asymptotic confidence intervals are represented by red lines, black lines, and gray lines, respectively.

solutions to Japan's succession crisis. The restoration of succession rights to far-flung descendants of the imperial family elicits the strongest opposition, estimated at 0.256 (s.e. 0.028). This option is considered to be the only viable solution to preserving the male-only patrilineal succession rule. The least controversial is permitting the ascension of a female emperor in principle (0.071, s.e. 0.024), although the more specific case of granting eligibility to Princess Aiko is less popular (0.137, s.e. 0.020). Allowing Princess Aiko's hypothetical son to inherit the throne, which would expand the pool of male successors but only by accepting matrilineality, has an estimated opposition of 0.119 (s.e. 0.026). In short, it appears that respondents would prefer to keep the imperial family as is, but allow for changes to the male-only or patrilineality requirements.

While these estimates provide a snapshot of social attitudes that are less susceptible to social desirability biases, of greater interest is *who* favors or opposes changes to rules of imperial succession. Figure 6 presents estimated differences in the proportion who are upset by each sensitive item across distinct sub-populations, including gender, age, educational attainment, party identification, latent sexist attitudes, and latent conservative attitudes. Positive values denote that that sub-population is more likely to oppose a particular statement. Each sensitive item is denoted by a different marker: Princess Aiko as emperor (solid circle), female emperor (open circle), Princess Aiko's hypothetical son (open square), and imperial descendant (open triangle). Beginning with demographic characteristics, we find that female respondents are more likely to oppose the restoration of far-flung imperial descendants. The estimated difference is positive and statistically significant, meaning that a higher proportion of women are upset by this statement than men. Regarding age, the estimated difference is negative and significant for the same item. Respondents in their sixties and above are less likely to be upset than those in their thirties and below. We find no consistent differences between those who are university educated or not, or between those who support the ruling Liberal Democratic Party or not.

We also examine whether the level of opposition varies based on respondents' sexism and conservatism—the core values that are in tension with respect to imperial succession. The estimation of these latent attitudinal dimensions is explained in Section 3.5 above. The results indicate that both sexism and conservatism are associated with different levels of opposition to the sensitive items. Both sexists and conservatives are less upset by the restoration of imperial descendants. Since this is the option most likely to preserve the status quo male-only patrilineal succession, it is not surprising that these latent dimensions are associated with acceptance of this change. In addition, conservatives are more likely to oppose having a female emperor, both in principle and in the concrete case of Princess Aiko. Among those with higher sexism scores, we find greater opposition to the succession of either Princess Aiko or her hypothetical son, but these estimates are not statistically significant at the 5% level. In summary, the baseline attitudes of conservatives and sexists are in line with our expectations about support for or opposition to different changes to the Imperial House Law.

4.2 What Factors Sway Public Attitudes?

We next examine the degree to which these attitudes are malleable versus ingrained. As noted above, our three information treatments are designed to address the underlying concerns about changing the male-only patrilineal succession rule. First, the *Capability* treatment seeks to assuage beliefs that women may be incapable of performing the symbolic roles expected of the emperor. Second, the *Global Practice* treatment shows that the Japanese status quo is rare for a consolidated democracy, and that other constitutional monarchies have liberalized their hereditary requirements. Third, the *Family Tree* treatment emphasizes the necessity for some type of reform, given the dearth of legitimate male successors in future generations. Because these treatments
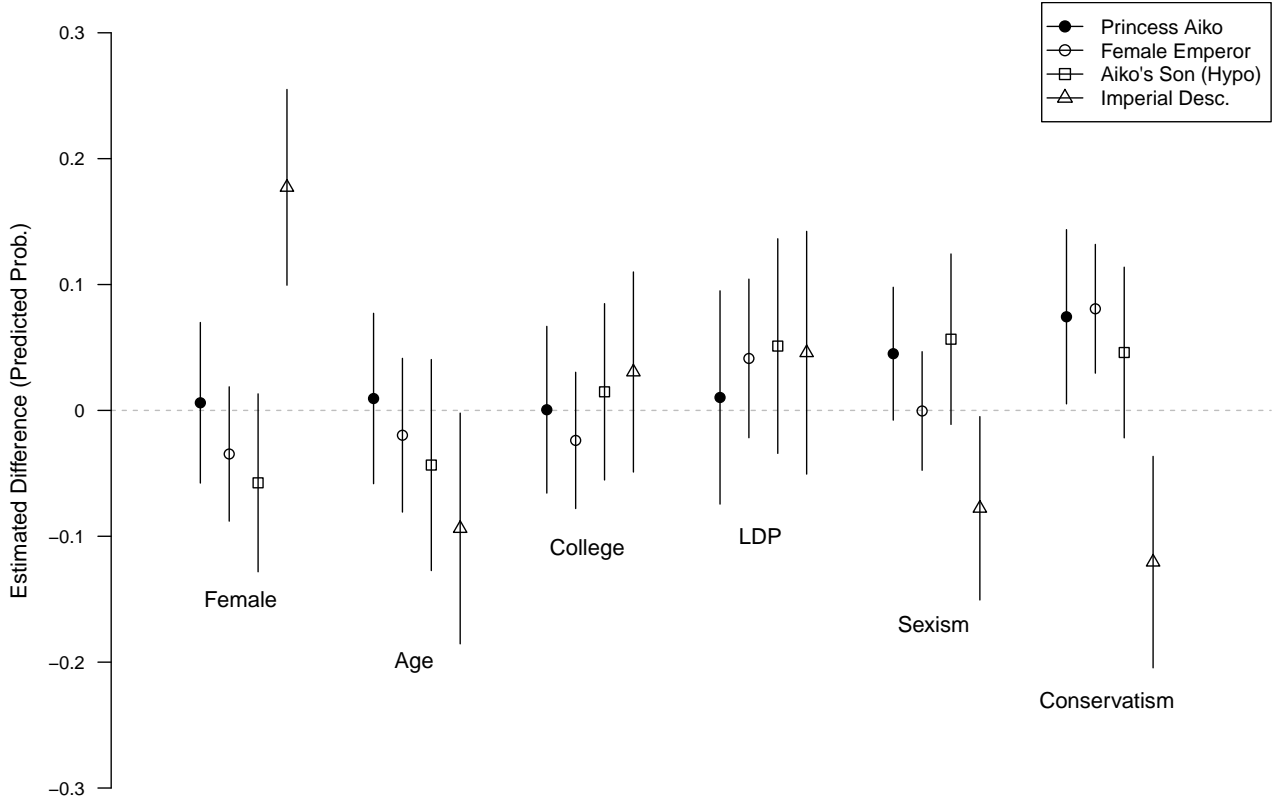
Figure 6: Estimated difference in the average predicted probabilities of being upset by the four sensitive items between *sub*-populations. `Female` indicates the difference in the average predicted probability between female and male; `Age` indicates the difference between those who are above 60 and those who are in their 30s; `College` is the difference between those who have a 4-year university degree and those without; `LDP` indicates the difference between LDP supporters and others; `Sexism` is the difference between those scored one standard deviation *above* the mean and those scored one standard deviation *below* the mean; `Conservatism` is the difference between those scored one standard deviation *above* the mean and those scored one standard deviation *below* the mean. Solid circles represent the sensitive item `Princess Aiko`, open circles represent `Female Emperor`, open squares represent `Aiko's Son (Hypo)`, and open triangles represent `Imperial Descendants`. The solid lines represents the 95% asymptotic confidence intervals. The results are estimated from 4, 840 valid responses.

emphasize different facets and consequences of changing succession rules, we also expect them to have non-uniform effects on attitudes towards the four sensitive items. Given the short time interval between the two survey waves, it is likely that our treatments will not produce significant swings in attitudes. That the topic itself is a sensitive issue in Japan makes it less likely that public opinion will change significantly, since respondents may not want to openly declare that they favor major reforms to imperial succession.

Figure 7 shows the treatment effects of the three treatment arms relative to the control group, estimated by the diff-in-diff-in-diff estimator defined by Equation (1). Neither the *Capability* treatment nor the *Family Tree* treatment has statistically significant estimates on any items. Point estimates are in the expected direction on the Princess Aiko item, meaning that information about the capability of Aiko and about the difficulty of sustaining male-only succession reduces opposition to Aiko's enthronement. The estimated effect of the *Capability* treatment on the Imperial Descendant item is positive, i.e. the treatment increases opposition to measures that preserve male-only patrilineal succession, which is also expected. Yet, all these estimates are statistically indistinguishable from zero. Moreover, the estimated effects of these two treatment arms on the other sensitive items are in the opposite direction from expectation, although none of the point estimates is statistically significant at the 5% level.

That said, Figure 7 shows an interesting finding regarding the *Global Practice* treatment. This information, which presents the fact that Japan is an outlier among democratic countries in keeping male-only monarchical succession, is estimated to *strengthen* negative attitudes toward female emperors in general. This backlash effect is surprising, because we expected most respondents to become less hesitant about accepting a female emperor once they were aware that most monarchies in the world allowed women to ascend to the throne. We will furthur explore the heterogeneous effect of this treatment.

The item counting technique estimates from the first wave, represented in Figure 5, suggest that conservatism and sexism are both salient to support or opposition to reforming imperial succession. As such, the effects of our three information treatments may also differ based on these underlying values. Figure 8 shows the treatment effects of three treatment arms relative to the control group by ideological orientation.

We split our sample into four groups by the conservatism and sexism scores and examine the treatment effects within each group. The groups are based on the average values of the scores. Each respondent's group is determined by whether her conservatism and sexism scores are below or above the average values. Within each group, we estimate the effects of the three treatment arms on the four outcome measures. Figure 8a is for those who score low conservatism but high sexism. Figure 8b is for those who score high conservatism but low sexism. Figure 8c is for those who score high in both conservatism and high sexism scores.

Although the treatment effects vary across groups, one notable finding in Figure 8 is that the estimated effect of the *Global Practice* treatment on the Female Emperor item is statistically
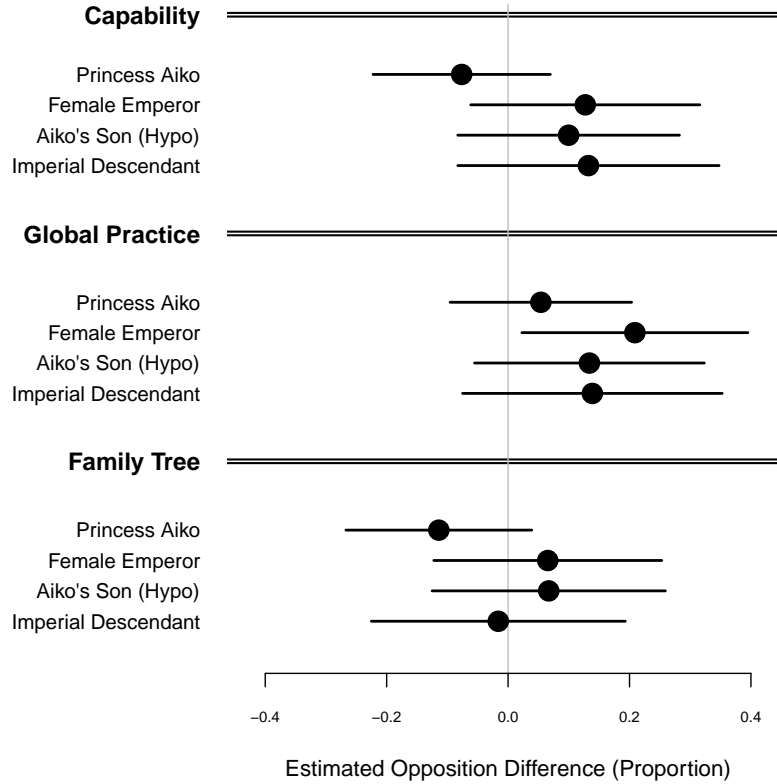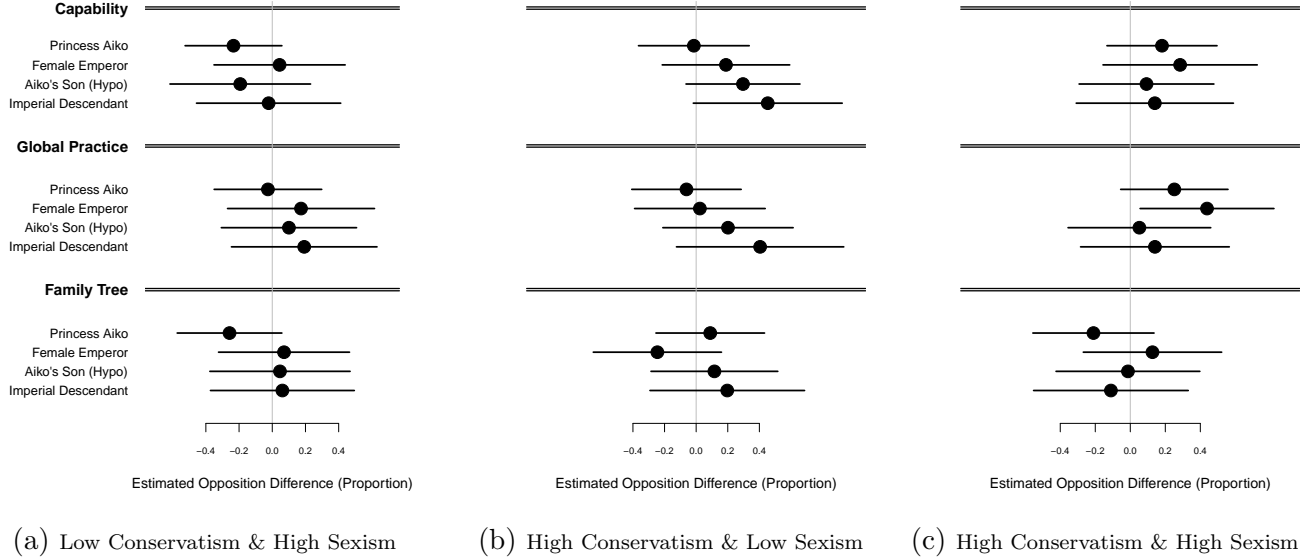
Figure 7: Effects of informational treatments on the estimated proportion of the population who are upset by the four sensitive items across two waves. `Capability` represents the treatment arm where we present a photo collage of Princess Aiko's extracurricular activities and achievements. `Global practice` represents the treatment where respondents see a cross-tabulation of political systems and succession rules, where the Japanese imperial succession rules is an outlier among developed democracies. `Family Tree` represents the treatment that shows the Japanese imperial family over five generations, where Prince Hisahito, the son of Crown Prince Akishino, is the only male heir in the next generation. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap confidence intervals. The results are estimated from 2,841 respondents who parcitipated in both waves and passed attention checks.

(a) Low Conservatism & High Sexism   (b) High Conservatism & Low Sexism   (c) High Conservatism & High Sexism

Figure 8: Effects of informational treatments on the estimated proportion of *sub*-population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment; `Global practice` represents the global practice treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% confidence intervals. Respondents whose *conservatism* score are below the average conservatism score are categorized as *Low conservatism*, and those above the average are categorized as *High conservatism*. Similarly, the average sexism score is the cutoff to categorize *Low sexism* and *High sexism*. For example, subfigure (a) summarizes the results of respondents who scored below average in conservatism but above average in sexism; subfigure (c) presents the results of respondents whose conservatism score and sexism score are above average. Standard errors for all but subfigure (a) are computed under block randomization. For subfigure (a), standard errors are computed with complete randomization, because some blocks have too few observations.

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significant only for those who have high scores both on conservatism and sexism. In other words, the estimated backlash effect of the treatment for the entire sample is driven by respondents who have more traditional political and gender values. As can be seen in Figures 8a and 8b, a high score in only one dimension does not lead to a backlash. This suggests that when traditional gender norms are added to political conservatism, these values becomes powerful hurdles to de-gendering imperial succession, even if it would endanger succession itself.

5   Concluding Remarks

The number of absolute monarchies has steadily declined since the 20th century, but over forty nation-states still retain constitutional monarchs as their head of state. These royal families serve important, albeit informal, functions as living reminders of national history and non-partisan symbols of civic unity. Maintaining the linkage between tradition-based legitimacy on the one hand and contemporary social relevance on the other requires a delicate balancing act. The foremost manifestation of this tension is the question of whether and how to reform rules of monarchical succession. Historically, many monarchies restricted legitimate claimants to male descendants through the paternal line. While this limited the pool of qualified successors and reduced the frequency of succession crises, it also increased the risk that there would be no legitimate male heir in the future. There are different resolutions to this dilemma, such as extending rights of succession to daughters and their offspring. However, these may be opposed by veto players with more traditional gender values and conservative political ideologies, who ironically are also more likely to have strong affinities for royal families. The inability to reconcile the contemporary need for monarchical reform with the historical values that legitimized the monarchy can impede necessary institutional changes, hastening its demise.

We examine the nature and consequences of such "clashes in values" using the case of imperial succession in modern Japan. The current emperor, Naruhito, ascended the Chrysanthemum Throne in 2019, but he has no son. His brother, Fumihito, and his nephew, Hisahito, are next in line, but Hisahito is the only legitimate claimant among the youngest generation of the imperial family. This has precipitated calls to reform the Imperial House Law, but every proposal conflicts with some cherished preference or value. Permitting the emperor's daughter, Aiko, to succeed as empress runs counter to traditional gender norms of the monarch as the "father" of the nation. Allowing Aiko's (hypothetical) son to ascend the throne violates the historical principle that "The Y-chromosome must be royal." Restoring far-flung male relatives to the official line would expand the pool of male patrilineal descendants, but also dilute the legitimacy of the Imperial House. The topic itself is politically sensitive, since public criticism of imperial practices, much less of the imperial family itself, risks harassment and violence from far-right nationalists.

Using a two-wave survey experiment that combines item counting techniques with information treatments, we analyze the determinants of opposition to monarchical reform. In the first wave

sample, we find that the restoration of distant imperial descendants is the least popular option, while allowing for female emperors is considered the most palatable. However, those who score high on our conservatism and sexism scales are less opposed to the former and more wary of the latter. Prior to the second wave, we randomly presented three types of information to respondents, and then estimated changes in their responses to the sensitive items. Our primary finding is that of backlash, particularly among those with greater conservatism and sexism scores. Respondents who were shown the rarity of male-only patrilineal succession in advanced-industrialized democracies actually expressed greater opposition to allowing women to succeed the throne. However, there is some evidence that attitudes towards female monarchs in the abstract and the succession of Princess Aiko in particular differ. Information that was designed to demonstrate Princess Aiko's capability, as well as information that illustrated the dearth of male heirs in Japan, both weakly reduced opposition to Princess Aiko's succession. Collectively, these suggest that many respondents value the status quo succession rule because of its global rarity, not in spite of it. However, opposition to female emperors may be mitigated by how the personal image of female descendants are cultivated in the public sphere.

A   Appendix

Figure A.1 summarizes the wave one covariates information. We have $4,840$ complete cases (removing "Don't know/Not applicabel" answers).
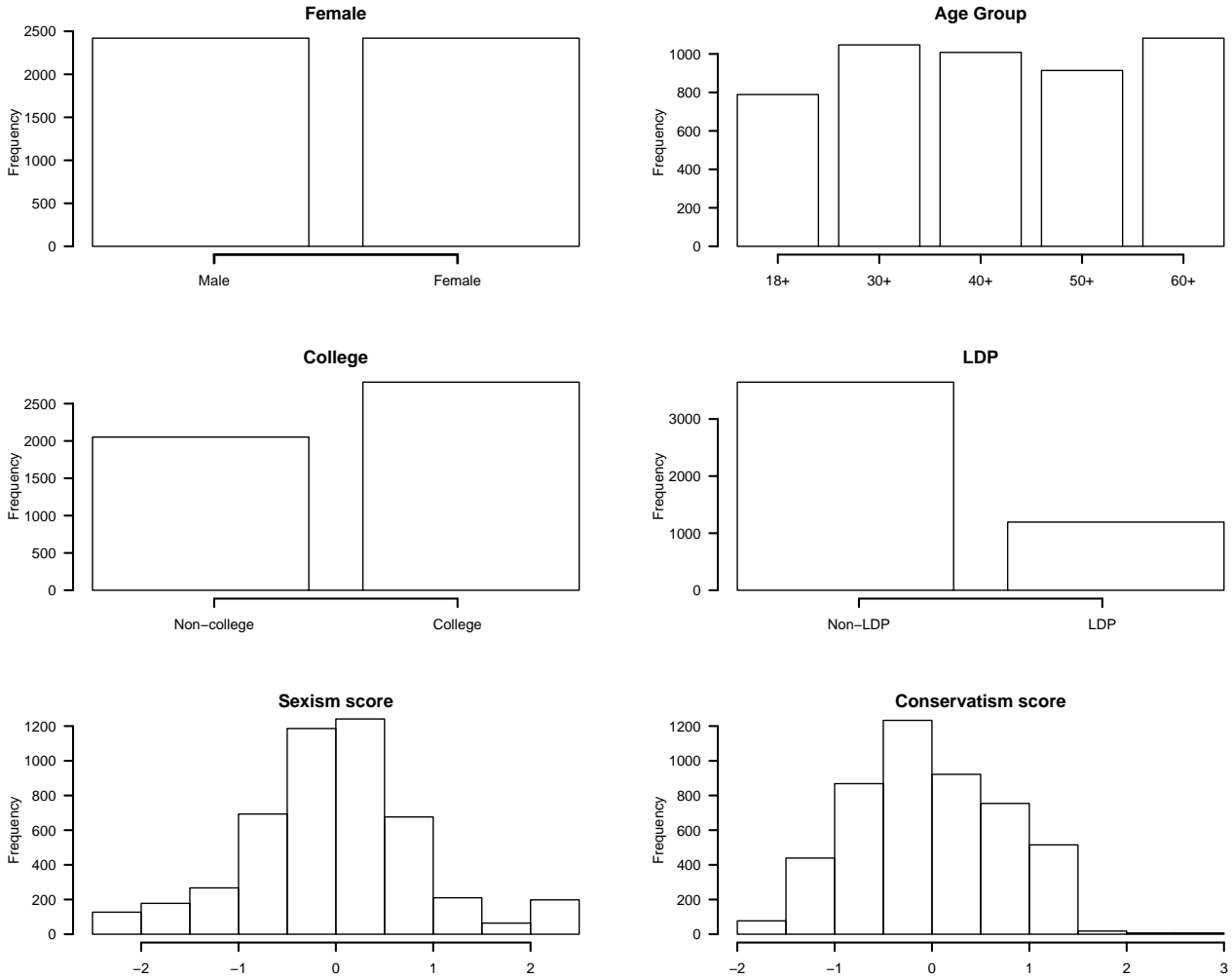
Figure A.1: Wave one covariates distribution

Figure A.2 summarizes the covariates information for the merged datasets (i.e., respondents who participated in both waves). We have $2,810$ complete cases (removing "Don't know/Not applicable" answers).

Figure A.3 shows the treatment effects of three treatment arms relative to the control group by convervative orientation: high conservatism versus low conservatism.

Figure A.4 shows the treatment effects of three treatment arms relative to the control group by sexist orientation: high sexism versus low sexism.

Figure A.5 shows the treatment effects of three treatment arms relative to the control group by ideological orientation: (a) low conservatism and low sexism, (b) low conservatism and high sexism, (c) high conservatism and low sexism, and (d) high conservatism and high sexism.
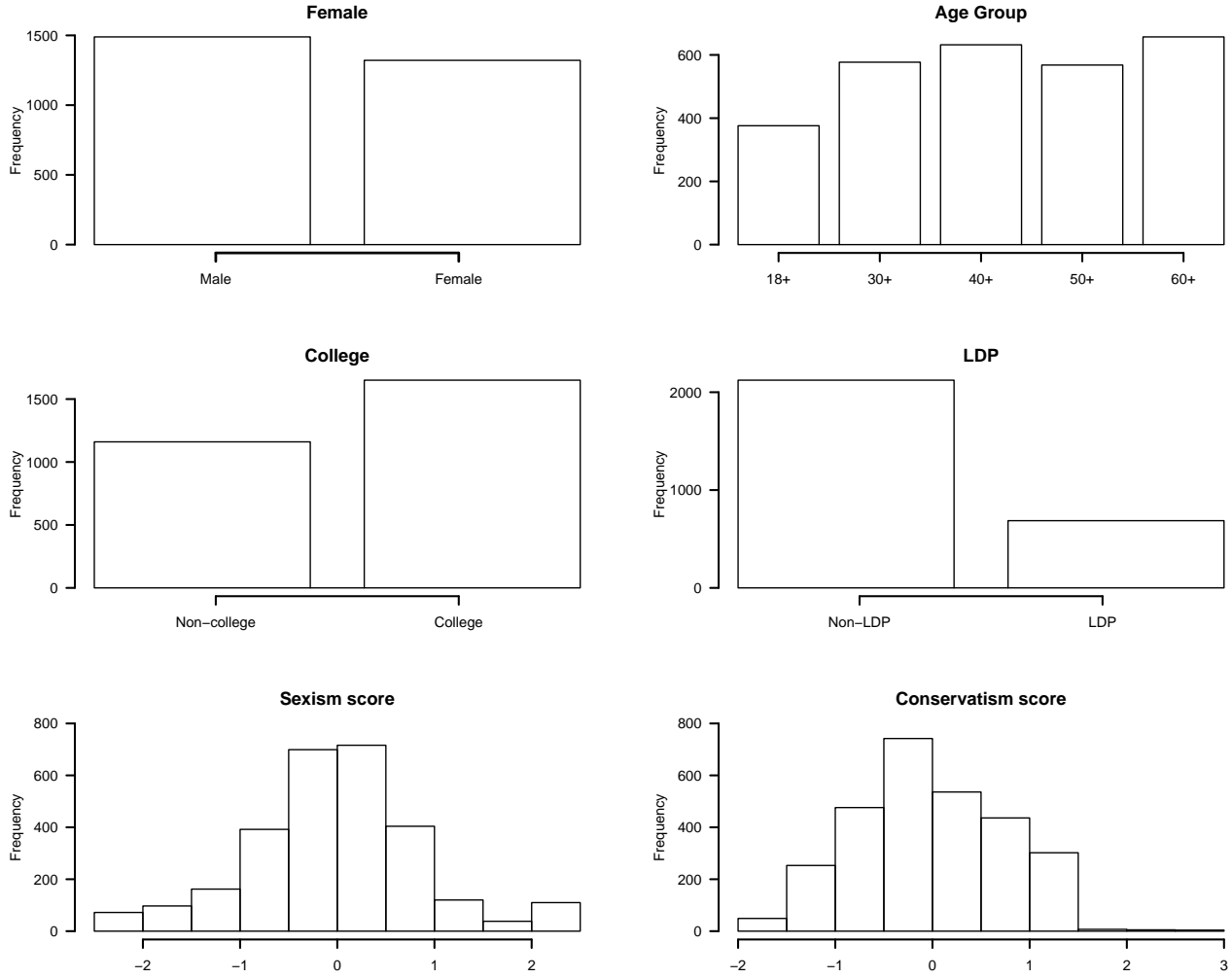
Figure A.2: Merged data covariates distribution

Figure A.6 shows the treatment effects of three treatment arms relative to the control group by feelings towards the imperial family: high affinity versus low affinity.

Figure A.7 shows the treatment effects of three treatment arms relative to the control group by the survival expectation without any rule change: high probability versus low probability.

Figure A.8 shows the treatment effects of three treatment arms relative to the control group by ideological orientation: (a) low affinity and low survival probability, (b) low affinity and high survival probability, (c) high affinity and low survival probability, and (d) high affinity and high survival probability.

Figure A.9 shows the treatment effects of three treatment arms relative to the control group by knowledge of succession order: high knowledge versus low knowledge.

Figure A.10 shows the treatment effects of three treatment arms relative to the control group by ideological orientation: (a) low knowledge and low affinity, (b) low knowledge and high affinity, (c) high knowledge and low affinity, and (d) high knowledge and high affinity.

Figure A.11 shows the treatment effects of three treatment arms relative to the control group
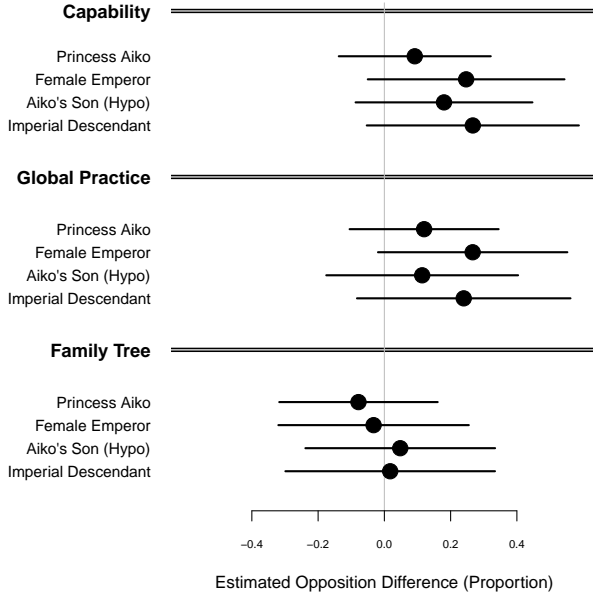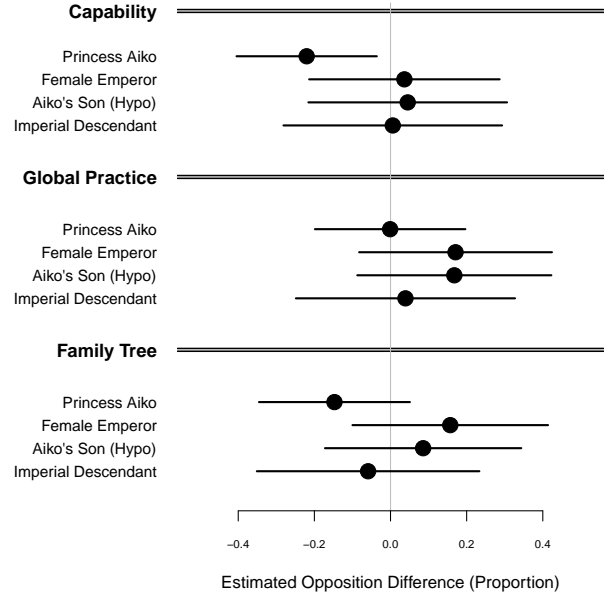
(a) High Conservatism   (b) Low Conservatism

Figure A.3: Effects of informational treatments on the estimated proportion of *(non-)conservative* population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment; `Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose *conservatism* score are below the average conservatism score are categorized as *Low conservatism*, and those above the average are categorized as *High conservatism*.

(a) High Sexism
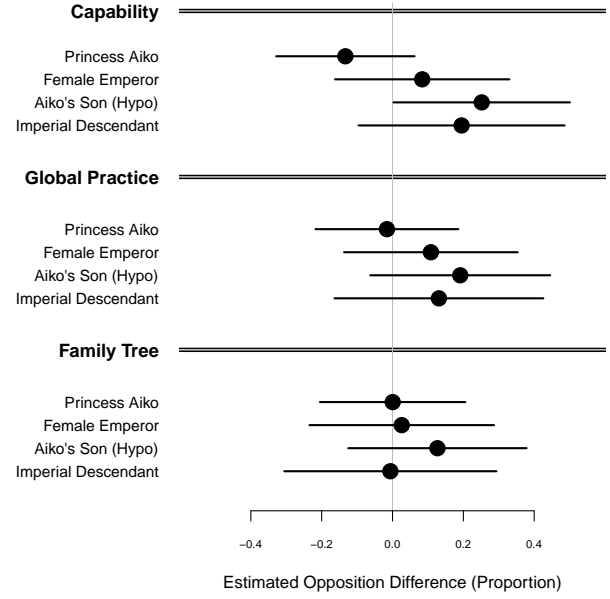
(b) Low Sexism

Figure A.4: Effects of informational treatments on the estimated proportion of *(non-)sexist* population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment; `Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose *sexism* score are below the average conservatism score are categorized as *Low sexism*, and those above the average are categorized as *High sexism*.
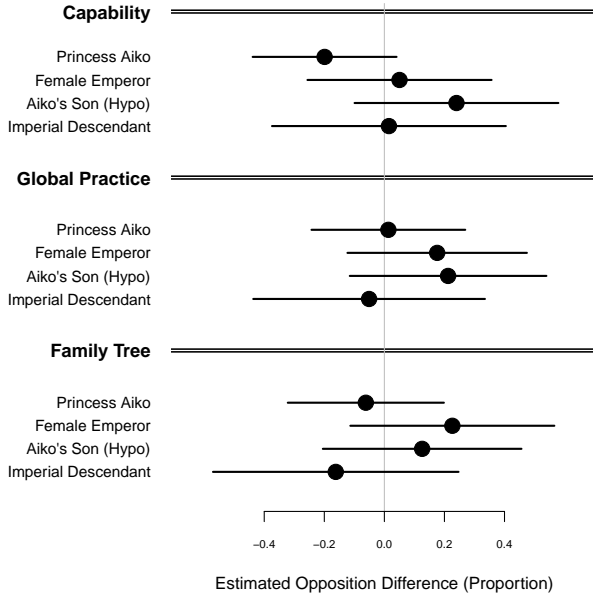
(a) Low Conservatism & Low Sexism
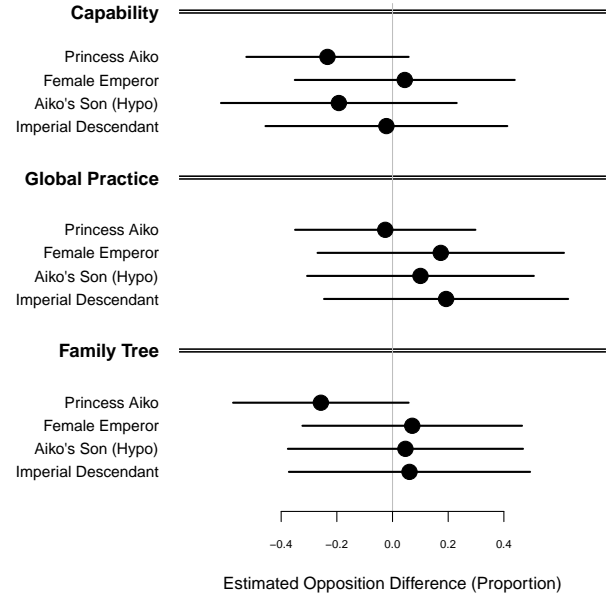
(b) Low Conservatism & High Sexism
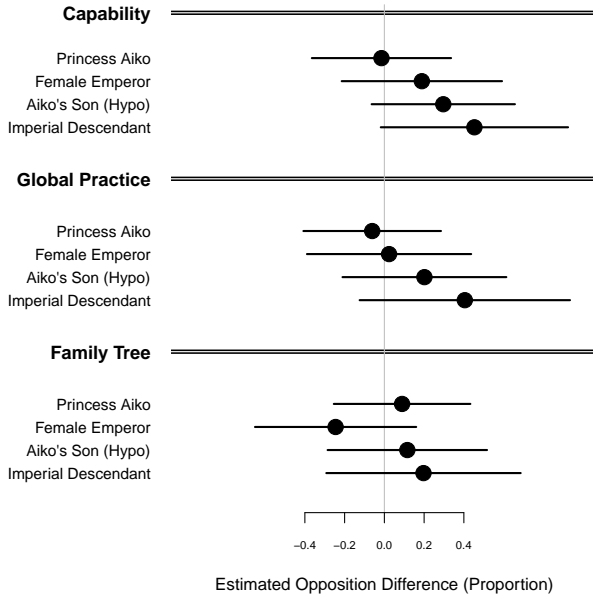
(c) High Conservatism & Low Sexism
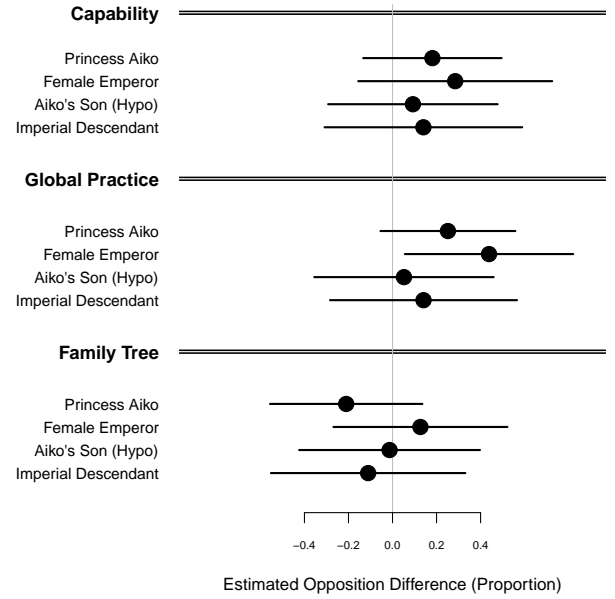
(d) High Conservatism & High Sexism

Figure A.5: Effects of informational treatments on the estimated proportion of *sub*-population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment; `Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose *conservatism* score are below the average conservatism score are categorized as *Low conservatism*, and those above the average are categorized as *High conservatism*. Similarly, the average sexism score is the cutoff to categorize *Low sexism* and *High sexism*. For example, subfigure (a) summarizes the results of respondents who scored below average in both sexism and conservatism; subfigure (b) presents the results of respondents whose conservatism score are below average, but sexism score are above average. Standard errors for all but subfigure (b) are computed under block randomization. For subfigure (b), standard errors are computed with complete randomization, because some blocks have too few observations.
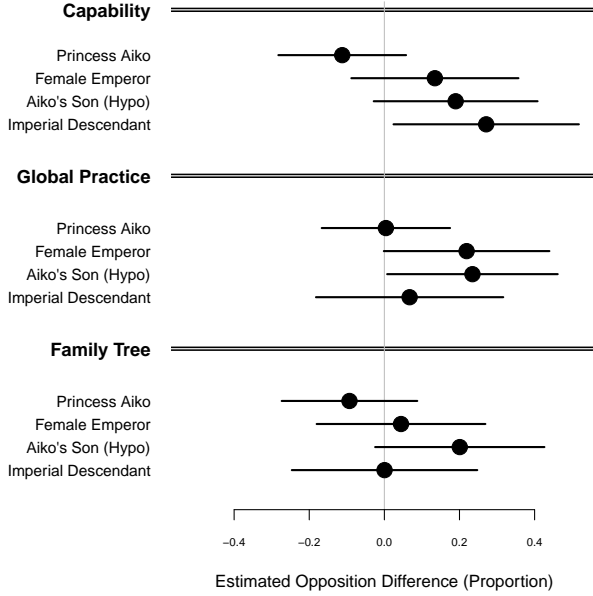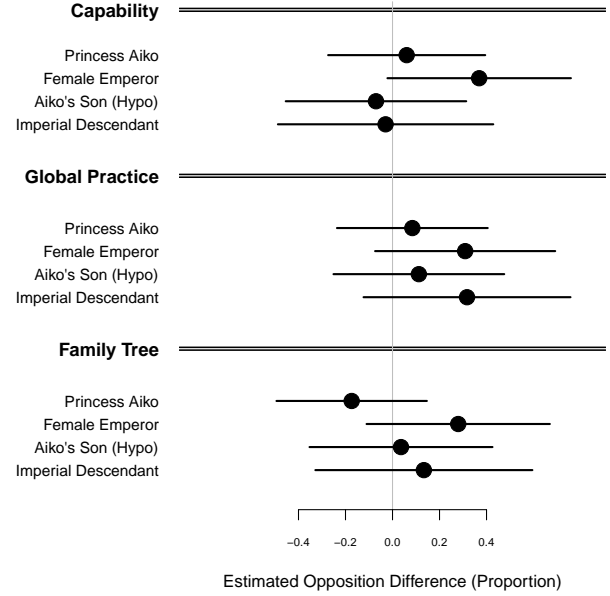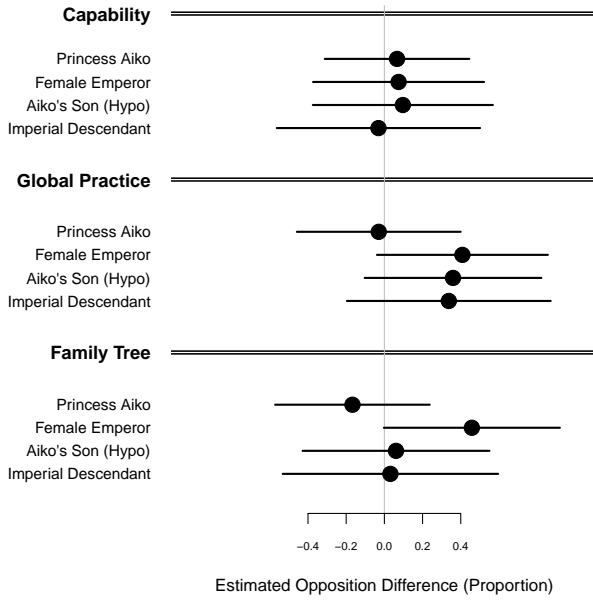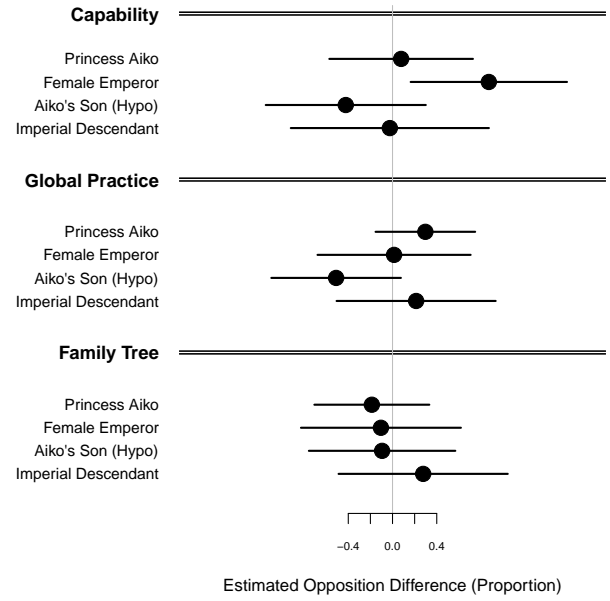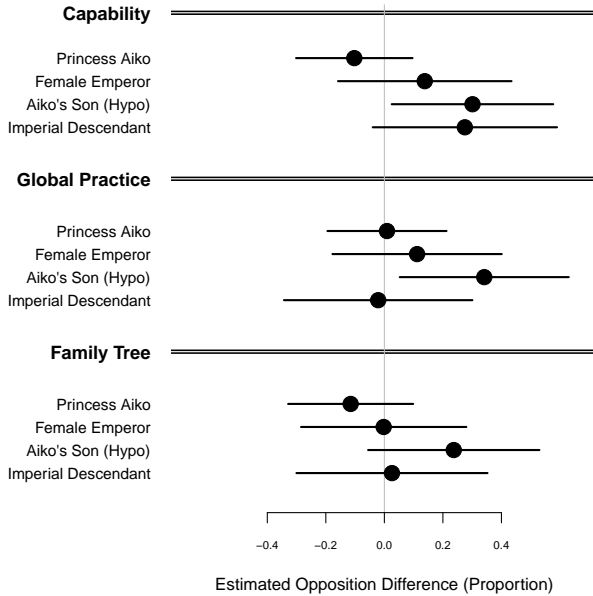
(a) High Affinity   (b) Low Affinity

Figure A.6: Effects of informational treatments on the estimated proportion of *high/low affinity* population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment; `Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose *affinity level* are below the average are categorized as *Low affinity*, and those above the average are categorized as *High affinity*. Standard errors for all but subfigure (a) are computed under block randomization. For subfigure (b), standard errors are computed with complete randomization, because some blocks have too few observations.
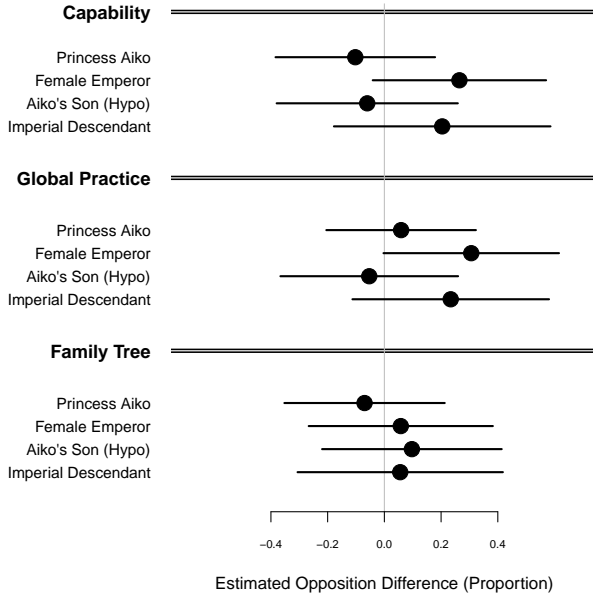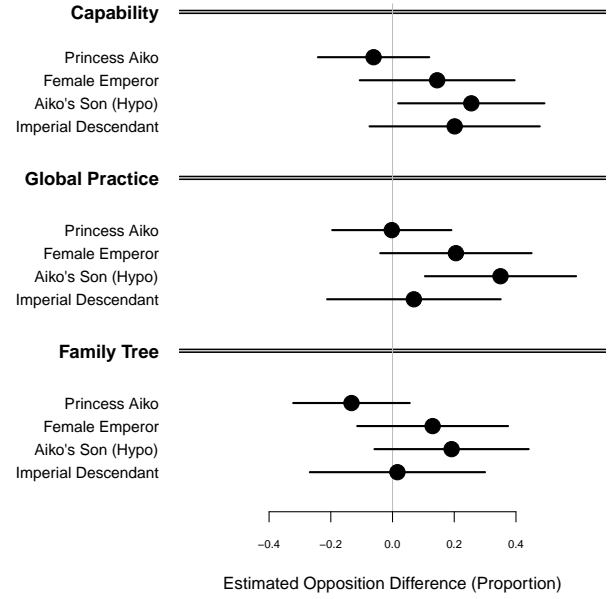
(a) High Probability   (b) Low Probability

Figure A.7: Effects of informational treatments on the estimated proportion of *high/low survival probability* population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment;`Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose projected *survival probability* are below the average are categorized as *Low probability*, and those above the average are categorized as *High probability*. Standard errors for all subfigures are computed under block randomization.

(a) Low Affinity & Low Survival Probability

(b) Low Affinity & High Survival Probability

(c) High Affinity & Low Survival Probability
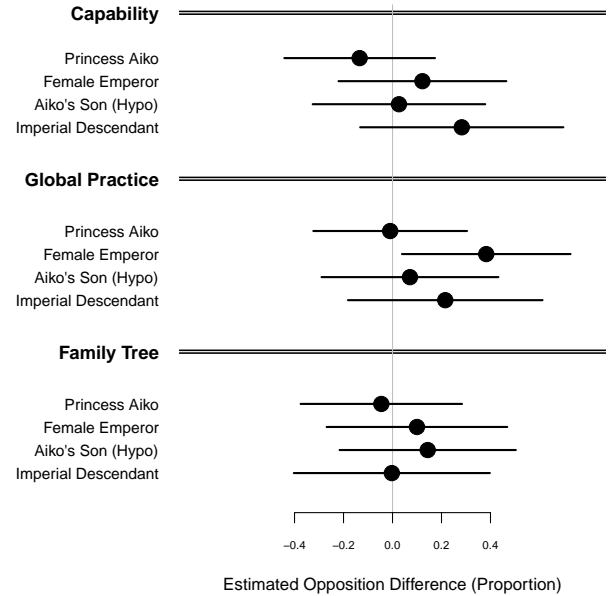
(d) High Affinity & High Survival Probability

Figure A.8: Effects of informational treatments on the estimated proportion of *sub*-population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment;`Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose *affinity* level are below the average are categorized as *Low affinity*, and those above the average are categorized as *High affinity*. Similarly, the average survival probability is the cutoff to categorize *Low probability* and *High probability*. For example, subfigure (a) summarizes the results of respondents whose affinity level and projected survival probability are below average; subfigure (b) presents the results of respondents whose affinity level is below average, but projected survival probability is above average. Standard errors for subfigure (a) and (b) are computed with complete randomization, because some blocks have too few observations. Standard errors for subfigure (c) and (d) are computed under block randomization.
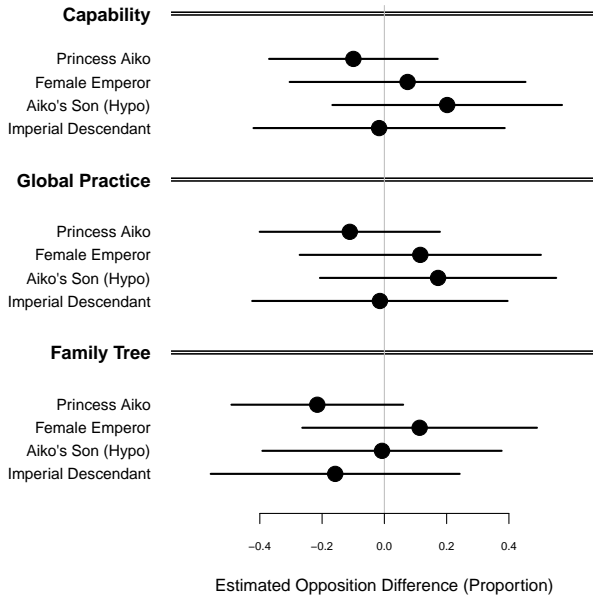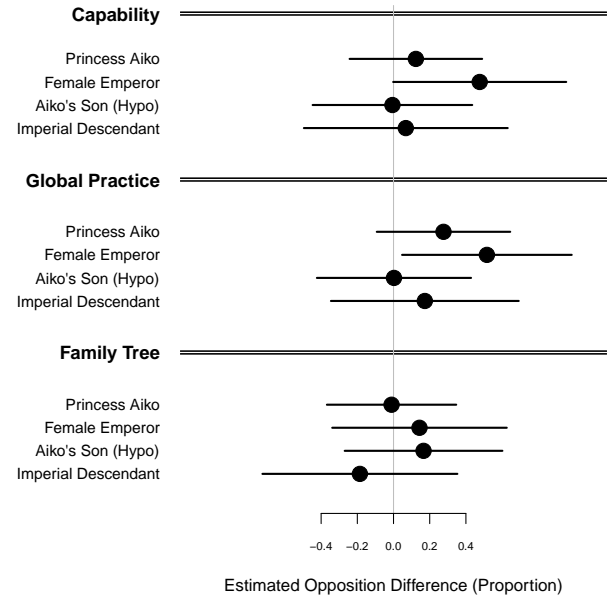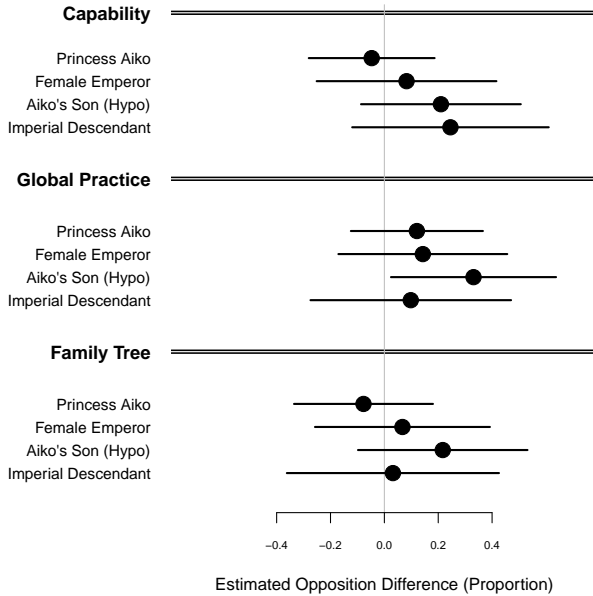
34
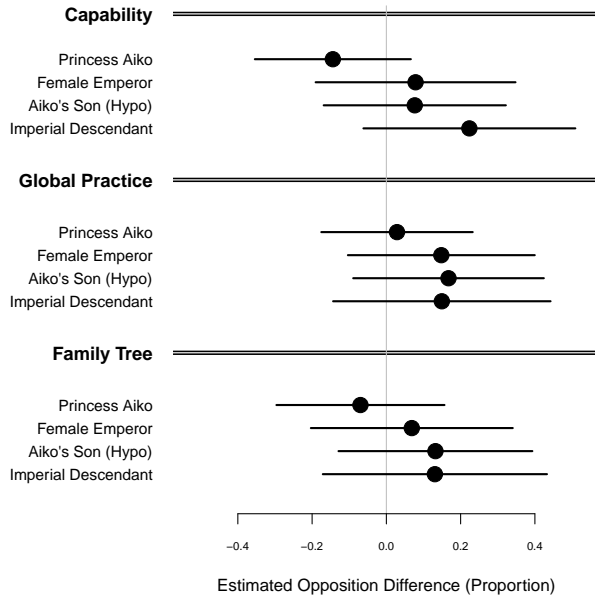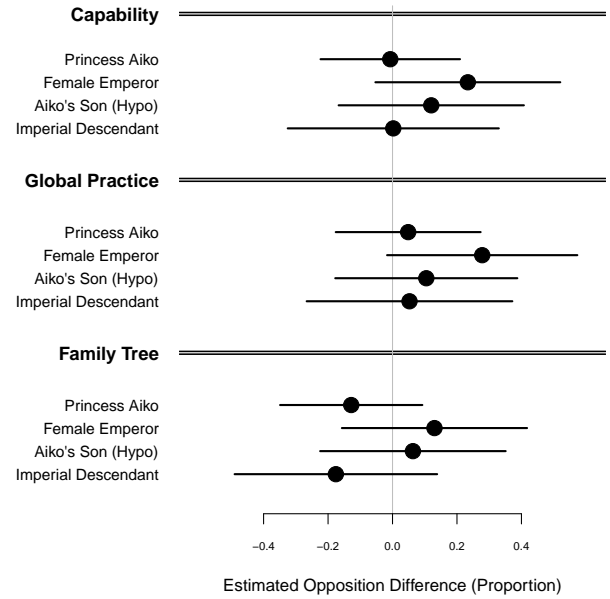
(a) High Knowledge

(b) Low knowledge

Figure A.9: Effects of informational treatments on the estimated proportion of *high/low knowledge* population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment;`Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose *knowledge* of succession order is below the average are coded as *Low knowledge*, and those above the average are coded as *High knowledge*. Standard errors for all subfigures are computed under block randomization.
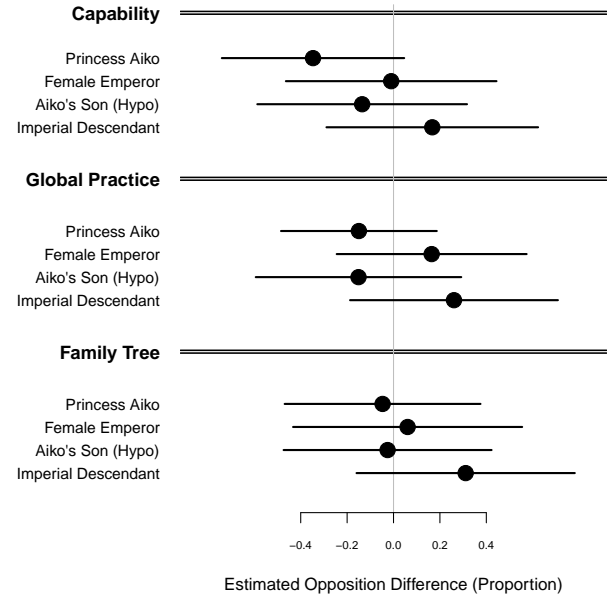
(a) Low Knowledge & Low Survival Probability

(b) Low Knowledge & High Survival Probability

(c) High Knowledge & Low Survival Probability

(d) High Knowledge & High Survival Probability

Figure A.10: Effects of informational treatments on the estimated proportion of *sub*-population who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment; `Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors. Respondents whose *knowledge* of succession is below the average are coded as *Low knowledge*, and those above the average are categorized as *High knowledge*. Similarly, the average survival probability is the cutoff to categorize *Low probability* and *High probability*. For example, subfigure (a) summarizes the results of respondents who scored below average in both knowledge and affinity level; subfigure (b) presents the results of respondents whose knowledge is below average, but affinity is above average. Standard errors for all but subfigure (d) are computed under block randomization. For subfigure (d), standard errors are computed with complete randomization, because some blocks have too few observations.
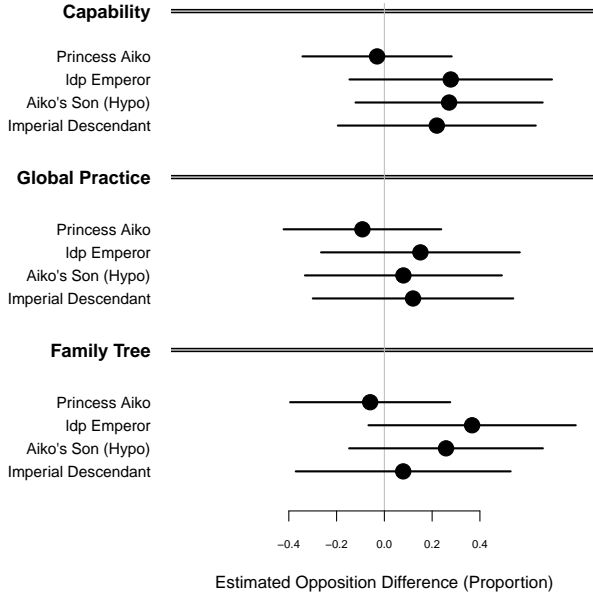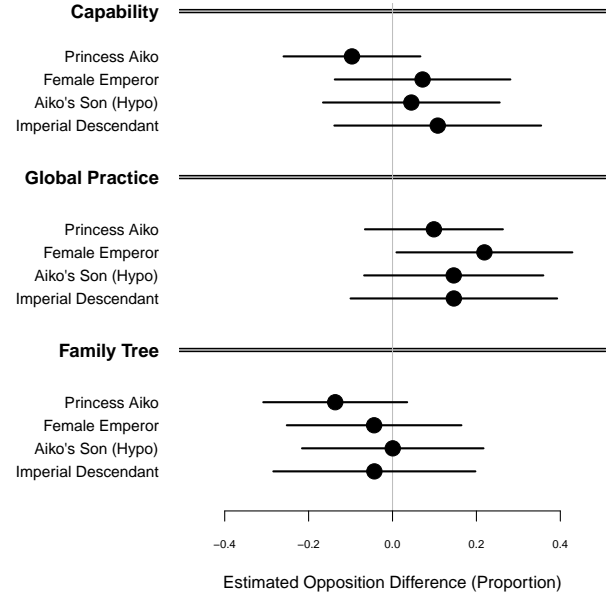
36
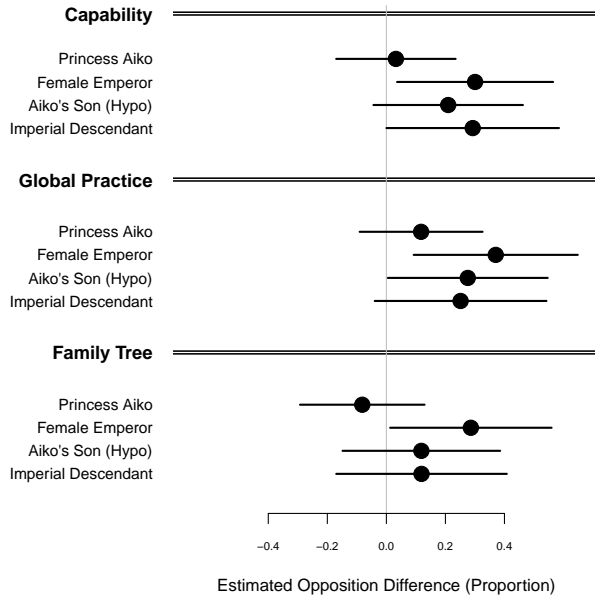
(a) Male
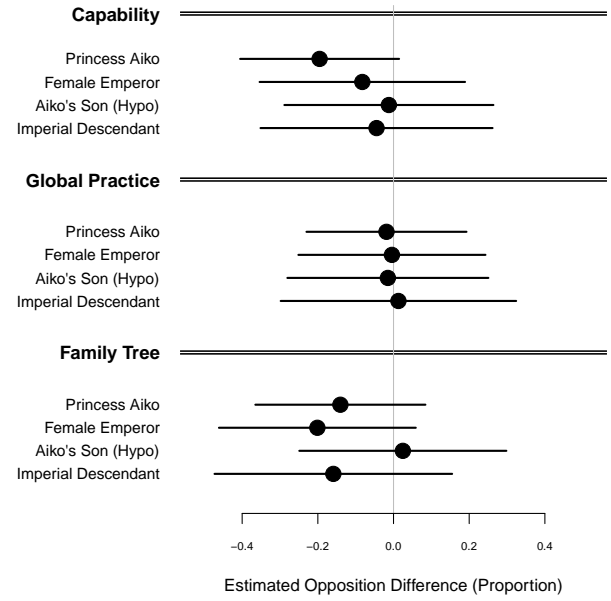
(b) Female

Figure A.11: Effects of informational treatments on the estimated proportion of *male/female* who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment;`Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors.

by gender.

Figure A.12 shows the treatment effects of three treatment arms relative to the control group by party identification: LDP supporters and everyone else.

(a) LDP supporters

(b) Non-LDP supporters

Figure A.12: Effects of informational treatments on the estimated proportion of *(non-)LDP supporters* who are upset by the four sensitive items across two waves. `Capability` represents the capability treatment; `Global Standard` represents the global standard treatment; `Family Tree` represents the Imperial family tree treatment. The interpretation of the treatment effects is relative to the `control group`, where we show a photo of the imperial family making the annual New Year address to the nation. `Princess Aiko`, `Female Emperor`, `Aiko's Son (Hypo)` and `Imperial Descendant` represent the four sensitive items. The solid lines represent the 95% nonparametric bootstrap standard errors.

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