



THE QUALITY OF
GOVERNMENT INSTITUTE



UNIVERSITY OF
GOTHENBURG

When Elders Rule

Age Composition in Decision-Making
and Legitimacy Perceptions

20
24

Working paper series 2024:6

Aksel Sundström
Charles T. McClean
Daniel Stockemer



THE QUALITY OF
GOVERNMENT INSTITUTE



When Elders Rule: Age Composition in Decision-Making and Legitimacy Perceptions

Aksel Sundström

Charles T. McClean

Daniel Stockemer

WORKING PAPER SERIES 2024:6

QoG THE QUALITY OF GOVERNMENT INSTITUTE

Department of Political Science

University of Gothenburg

Box 711, SE 405 30 GÖTEBORG

September 2024

ISSN 1653-8919

© 2024 by Aksel Sundström, Charles T. McClean, and Daniel Stockemer. All rights reserved.

When Elders Rule: Age Composition in Decision-Making and Legitimacy Perceptions

Aksel Sundström

Charles T. McClean

Daniel Stockemer

QoG Working Paper Series 2024:6

September 2024

ISSN 1653-8919

Abstract

How does the predominance of older people in decision-making bodies influence citizens' evaluations of their legitimacy? Through a survey experiment in the US, we vary the age composition of a bipartisan state legislative committee and its policy decisions. We find that citizens view the committee and its decisions as more legitimate if it has a balanced age composition, rather than consisting only of older members. The presence of younger members improves perceptions of procedural fairness, regardless of the decision reached, and can even legitimize decisions that go against youth interests. Additionally, age diversity enhances perceived legitimacy more for younger people than for older people, and for Democrats compared to Republicans. Our study suggests that greater youth representation in the decision-making process can bolster public trust in democratic institutions to produce more equitable outcomes.

Aksel Sundström

Associate Professor

The Quality of Government Institute

Department of Political Science

University of Gothenburg

aksel.sundtrom@pol.gu.se

Charles T. McClean

Assistant Professor of Political Science

Yale University

charles.mcclean@yale.edu

Daniel Stockemer

Konrad Adenauer Research Chair in Empirical

Democracy Studies and Professor

School of Political Studies

University of Ottawa

dstockem@uottawa.ca

Acknowledgment

The authors are thankful for comments from participants at seminars organized by Ash Center for Democratic Innovation at Harvard University and the Gothenburg Research Group on Elections, Public Opinion and Political Behavior (GEPOP).

Co-funded by Sundström's ERC Starting Grant [project no. 101117889] and grants from the Swedish Research Council [grants no. 2020-03155, 2019-03218 and 2016-02119].



**Funded by
the European Union**



European Research Council

Established by the European Commission

When Elders Rule: Age Composition in Decision-Making and Legitimacy Perceptions

Aksel Sundström¹, Charles T. McClean², and Daniel Stockemer³

¹University of Gothenburg

²Yale University

³University of Ottawa

September 9, 2024

Abstract

How does the predominance of older people in decision-making bodies influence citizens' evaluations of their legitimacy? Through a survey experiment in the US, we vary the age composition of a bipartisan state legislative committee and its policy decisions. We find that citizens view the committee and its decisions as more legitimate if it has a balanced age composition, rather than consisting only of older members. The presence of younger members improves perceptions of procedural fairness, regardless of the decision reached, and can even legitimize decisions that go against youth interests. Additionally, age diversity enhances perceived legitimacy more for younger people than for older people, and for Democrats compared to Republicans. Our study suggests that greater youth representation in the decision-making process can bolster public trust in democratic institutions to produce more equitable outcomes.

The US political system increasingly resembles a gerontocracy. To illustrate, President Joe Biden (81) and Republican contender Donald Trump (78) are twice the age of the average American (39). The average age of House members is 59, and in the Senate, it is nearly 65. This trend is not unique to the US. Across the globe, legislators are often much older than the constituents they represent (Gulzar 2021; Stockemer and Sundström 2022).

The predominance of older politicians raises an important question regarding how citizens perceive the legitimacy of decision-making bodies. On the one hand, people may trust institutions composed of mostly older representatives to make better decisions. Older politicians may bring greater political experience, resources, and knowledge (Roberts and Wolak 2023), which could enhance perceptions of institutional competency, reliability, and stability. On the other hand, gerontocracy could be a cause for concern. Citizens may worry about older politicians' health, mental acuity, and ability to stay in touch with rapidly changing societal issues (Eshima and Smith 2022). While younger politicians may be seen as less mature, citizens might appreciate their energy and willingness to address new and diverse policy issues (McClellan and Ono 2024; Sevi 2021). The presence of younger people at the decision-making table could therefore be vitally important for perceptions of legitimacy because it signals greater inclusivity, intergenerational equity, and responsiveness to contemporary challenges.

We argue that gerontocracy can erode public trust in democratic institutions. Using a survey experiment, we vary the age composition of a bipartisan state legislative committee and its policy decisions. We find that incorporating more young people into decision-making processes can enhance citizens' faith in institutions to enact fair and just policies for society.

Age Composition and Legitimacy Perceptions

The concept of democratic legitimacy is central to understanding citizens' views of authorities (Parkinson 2003). In the words of Scharpf (1999, p. 6): “[p]olitical choices are legitimate if they reflect the ‘will of the people’—that is, if they can be derived from the authentic preferences of the members of a community.” We distinguish between procedural legitimacy

(i.e., trust in decision-making institutions) and substantive legitimacy (i.e., evaluations of the decisions reached) (Strebel et al. 2019), and ask: How does the age composition of decision-making bodies affect citizens' evaluations of their procedural and substantive legitimacy?

Citizens could view a legislative committee with mostly older members as more legitimate if they value the positive traits associated with age, such as experience and wisdom, over the negative ones, such as concerns over mental and physical health (Roberts and Wolak 2023). As Gulzar (2021, p. 265) notes, “many models of political accountability proxy political competence with experience accrued over time in office.” From this perspective, an older committee might signal a “fair” process that selected competent representatives or suggest that the government considered the committee important enough to assign senior members, leading to higher procedural legitimacy. For substantive legitimacy, this reasoning suggests that the public might perceive older committee members as more competent or responsible than younger ones and more capable of reaching better decisions.

We take an alternative view and argue that citizens will instead view committees with a balance of younger and older members as more legitimate. We anticipate that an age-balanced committee will signal that the government values inclusivity and a diversity of generational perspectives, which, in turn, will lead to greater public trust in the fairness of the decision-making process. This reasoning follows Mansbridge (1999, p. 650), who suggests that when citizens see legislative bodies that reflect the diversity of the population, it “can enhance de facto legitimacy by making citizens, and particularly members of historically underrepresented groups, feel as if they themselves were present in the deliberations.” Specifically for young adults, who often feel overlooked in political decision-making, descriptive representation could strengthen their connection with committee members, foster a sense of inclusion, and increase trust in the committee to act on their behalf. Furthermore, age diversity among decision-makers might signal broader unity and consensus across generations, thereby bolstering perceptions of procedural legitimacy among the general populace.

We expect that citizens will trust age-balanced committees to make better decisions on

policy issues, particularly on issues important to young people. This may stem from a belief that younger members will do a better job of representing the concerns of younger citizens when it comes to committee deliberations (Bailer et al. 2022; McClean 2021). It may also be rooted in the idea that age diversity facilitates better decision-making by striking a balance between the wisdom and experience of older politicians and the energy and fresh insights offered by younger politicians (Eshima and Smith 2022; McClean and Ono 2024). For these reasons, we anticipate that citizens will attribute greater substantive legitimacy to policy outcomes if young people can at least sit at the decision-making table.

H1. Youths’ presence in decision-making bodies will enhance perceptions of both procedural and substantive legitimacy.

At the same time, it is likely that perceptions of legitimacy will not be the same across all decisions. When decisions negatively impact youths’ rights and interests, we expect that the presence of young members will at least signal that they participated in the deliberations, thereby acting as a “legitimacy cushion” for supposedly unfavorable outcomes (Arnesen and Peters 2018, p. 889). Conversely, when decisions align with youth rights and interests, the presence of young members may be less consequential for substantive legitimacy. In such cases, there might be an assumption that the group’s “interests were represented even in their absence” (Clayton et al. 2019, p. 116), since the decision corresponds with youth preferences. As for procedural legitimacy, we expect the presence of young adults to be consistently important, as it may indicate a more just process, regardless of the outcome.

H2a. Youths’ presence will enhance perceptions of substantive legitimacy more for decisions against youth interests than for decisions favoring youth interests.

H2b. Youths’ presence will enhance perceptions of procedural legitimacy similarly regardless of the policy decision.

Beyond the type of decision, we predict that younger and older adults may differ in their legitimacy beliefs. Young people tend to have stronger preexisting preferences on youth-centric policies and are more invested in their outcomes. For substantive legitimacy, young adults may therefore be more swayed by the actual decisions than by the presence of young

people in policy deliberations. Conversely, older individuals, whose preferences on youth issues may be less well defined, might see the inclusion of young members as a stronger indication that the political institution reached the “right” decision. For procedural legitimacy, we expect the presence of youth to resonate more profoundly with young adults. Given their historical marginalization in politics, we anticipate that young people will particularly value the inclusion of younger perspectives in the decision-making process.

H3a. Youths’ presence will enhance perceptions of substantive legitimacy more for older people than younger people.

H3b. Youths’ presence will enhance perceptions of procedural legitimacy more for younger people than older people.

Finally, we explore whether a partisan lens might filter perceptions of legitimacy.¹ In the US, Democrats are typically more progressive than Republicans on issues involving social inclusion and descriptive diversity. This ideological stance might make Democrats more receptive to the presence of young adults in decision-making processes. In contrast, Republicans might place less emphasis on youth representation, potentially viewing it as less essential or indicative of an institution’s effectiveness or legitimacy.

H4. Youths’ presence will enhance perceptions of procedural and substantive legitimacy more for Democrats than Republicans.

Research Design

We conducted an online survey experiment in February 2024 with YouGov, using a US representative sample based on quotas for age, gender, race, and region.² Our survey presented 5,135 participants in a between-subjects design with a vignette: a mock newspaper article about a state legislative committee.

We randomize two dimensions in the vignette. The first is the age composition of the committee: either composed solely of older members or balanced with a mix of younger and older members. We convey this variation through the article’s headline and photos of eight

¹We preregistered our analysis at the Open Science Framework. Importantly, H4 is meant to be exploratory; we indicated we would explore respondent partisanship but did not offer a specific hypothesis.

²See Appendix 1 for information on study design, including ethics approval and power analysis.

state legislators forming the committee (see Appendix 1.5.). To enhance the realism of the prompt, we rely on photos of actual state legislators from the KnowWho database, whose catalogue covers all 7,552 state legislators. We began by randomly selecting 50 legislator photos. From this subset, we then chose 12 photos with similar, monochromatic backgrounds to create two groups: an older committee with eight members aged 60 and older, and a mixed committee with four members 60 and older and four members under 40.³ The mean age is 69 for our “Only Older” committee and 47 for our “Age Balance” committee, as compared to the mean age of 56 among state legislators and 46 among respondents.⁴

The second dimension concerns the committee’s actions. For the “Committee Formation” groups, the vignette announces the committee’s creation and its age composition to gauge respondents’ legitimacy perceptions without any influence from policy decisions. For the “Policy Decision” groups, we randomly assign respondents to one of two vignettes: one addresses a youth rights issue by proposing to lower the age of candidacy to run for office; the other tackles a key interest for youth, climate change, by proposing to increase renewable energy standards. We further vary vignettes based on whether the committee supports or opposes the given policy.⁵ To address the concern that respondents may perceive more diverse committees as more left leaning (Reher 2024), we labelled all committees as “bipartisan.”

After viewing their vignette, respondents rated the committee’s procedural and substantive legitimacy through a set of eight questions, each using a five-point Likert scale. We assess procedural legitimacy via a four-item index ($\alpha=0.68$) evaluating fairness and trust in the decision-making process, while we gauge substantive legitimacy through another four-item index ($\alpha=0.73$) measuring perceptions on whether the committee made the right decision

³Four photos of older legislators are held constant across groups, with the other four photos rotating between younger and older legislators. To ensure age is the main observable difference, we also hold gender and race constant across committees. Both committees contain two women (25%) and one Black member (12.5%), which are close to the averages among state legislatures (33% women and 10% Black). See <https://kw1.knowwho.com/state-legislators-data-service/>

⁴Pre-tests confirm that respondents perceive significant age differences among the photos (Appendix 1.3).

⁵We expand on prior gender-based designs (Clayton et al. 2019; Kao et al. 2024) and have ten treatment groups in total: two “Committee Formation” groups (age-balance vs. only older) and eight “Policy Decision” groups (age of candidacy vs. climate change, age-balance vs. only older, and support vs. oppose the policy).

for young people and the public at large.⁶ Each index is the average of its four respective questions. To ease interpretation, we rescale the indices to range from 0 to 1. We estimate the average treatment effect (ATE) of the committee’s age balance on both the procedural and substantive legitimacy indices using OLS regression with robust standard errors.⁷

Results

Figure 1 presents the effects of our age balance treatment on respondents’ perceptions of a committee’s procedural and substantive legitimacy. We divide the results into five panels, beginning with the main effect (H1) at the top, followed by the effects by committee stage, committee decision (H2a, H2b), respondent age (H3a, H3b), and respondent party (H4).

We find clear support for H1: the presence of young adults enhances the perceived procedural and substantive legitimacy of a committee. Compared to a committee with only older legislators, a balanced committee of younger and older members boosts respondent evaluations of procedural and substantive legitimacy by 0.05 and 0.04 index points, respectively.⁸ These correspond to standardized effects of 0.22 and 0.12 standard deviations (SD).⁹ Notably, age balance shapes legitimacy perceptions of committees at both the formation and decision stages. When our treatment announced the committee’s creation, an age-balanced committee increased procedural legitimacy by 0.09 points (0.43 SD) and substantive legitimacy by 0.08 points (0.32 SD). Age balance remained significant in groups where the committee reached a decision, though the effect sizes were about half as large: 0.04 points (0.18 SD) for procedural legitimacy and 0.03 points (0.09 SD) for substantive legitimacy.¹⁰

Turning to the committee decision (H2a, H2b), we find that age balance has a greater impact on legitimacy perceptions when the committee opposes youth issues compared to

⁶See Appendix 1.7 for the list of questions. For the “Committee Formation” groups, we modify these questions to ask about future expectations since a policy decision has not yet been reached.

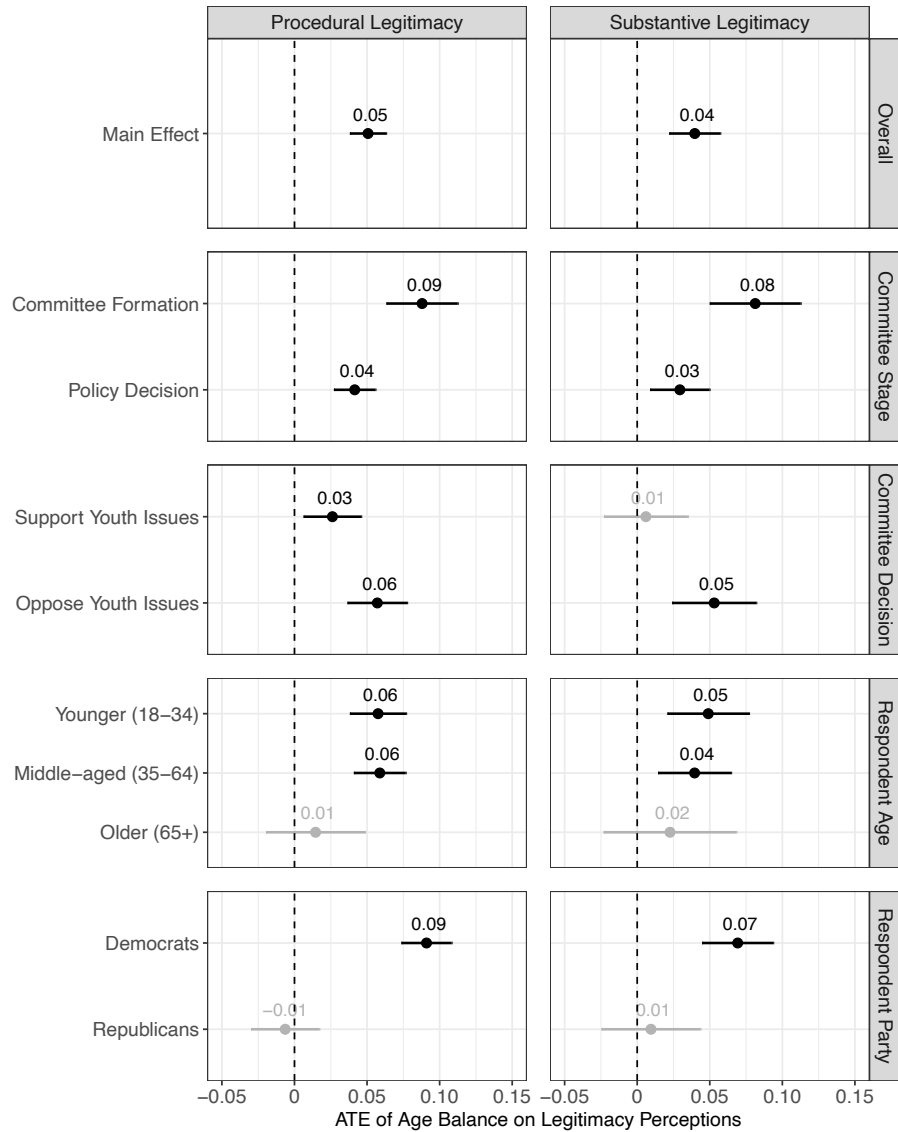
⁷Alternative estimations with covariates as controls are reported in Table A6.

⁸Effects are twice as large among respondents who passed attention and manipulation checks (Fig A5).

⁹Age balance also has a positive impact on legitimacy perceptions for individual items (Fig A4).

¹⁰Age balance similarly increases procedural legitimacy for both policies, but has a larger effect on substantive legitimacy for the age of candidacy issue (Fig A6). Impressively, age balance also enhances legitimacy perceptions about as much as the actual policy decision: a decision supporting youth issues increases procedural legitimacy by 0.03 points (0.14 SD) and substantive legitimacy by 0.05 points (0.14 SD).

Figure 1: Effect of Age Balance on Perceptions of a Committee’s Legitimacy



Notes: Figure 1 shows the average treatment effect (ATE) of age balance on indices measuring perceptions of procedural and substantive legitimacy. See Tables A4–A5 for full models.

when it endorses them. Specifically, when the committee supported youth issues, age balance led to a modest improvement in procedural legitimacy by 0.03 points (0.11 SD) and in substantive legitimacy by 0.01 points (0.02 SD), the latter of which is not statistically significant. Conversely, when the committee opposed youth rights or interests, age balance contributed to a more substantial increase in both forms of legitimacy—by 0.06 points (0.28

SD) for procedural legitimacy and 0.05 points (0.21 SD) for substantive.¹¹ Thus, our results support H2a: the presence of younger politicians enhances substantive legitimacy more when decisions oppose youth issues. Contrary to H2b, we observe a similar trend for procedural legitimacy, indicating that age balance improves legitimacy in both the decision-making process and the outcome more when decisions go against the preferences of young adults.

Respondent age also significantly moderates the effect on our age balance treatment (H3a, H3b). We divide respondents into three groups: Younger (18-34), Middle-Aged (35-64), and Older (65 and above).¹² Consistent with H3b, age balance enhances procedural legitimacy more for younger (0.06 points, 0.25 SD) and middle-aged individuals (0.06 points, 0.26 SD) than it does for older respondents (0.01 points, 0.06 SD), where it has no significant effect (Table A8). However, we do not find support for H3a, as age balance does not enhance substantive legitimacy more for older respondents (0.02 points, 0.07 SD) than for middle-aged (0.04 points, 0.12 SD) or younger adults (0.04 points, 0.15 SD); in fact, the opposite pattern is evident, although the differences across groups are not statistically significant.¹³

Lastly, we find that age balance is substantially more influential for Democrats than Republicans (H4). Age balance enhances perceptions of procedural and substantive legitimacy among Democrats by 0.09 points (0.40 SD) and 0.07 points (0.22 SD), respectively. Conversely, for Republicans, the estimates are smaller and lack statistical significance (procedural: -0.01 points, 0.03 SD; substantive: 0.01 points, 0.03 SD). This partisan gap is the largest among the subgroups we test, indicating that partisanship is particularly important in shaping how they view the link between a committee's age balance and its legitimacy.

Discussion

We find clear evidence that age representation matters for the perceived legitimacy of political institutions. Citizens view decision-making bodies and their decisions as more legitimate

¹¹Table A7 reports the formal interaction effects, both of which are statistically significant.

¹²These divisions are listed in our pre-analysis plan, but we find similar results if we use other divisions.

¹³Notably, the null effects for older respondents change to positive and significant under some robustness checks (Appendix 3.5). This offers some suggestive evidence that older people may also value age balance.

if they have a balanced age composition. Importantly, we also find that a positive effect on procedural legitimacy continues to show regardless of the policy decision, and the effects for both procedural and substantive legitimacy are larger when the outcome goes against the interests of youth. In this sense, we contradict some research, which finds that citizens are mainly interested in outcome favorability (Esaiasson et al. 2019). We show that it not only matters what the policy and its outcome is, but also *who* makes the decision.

Our findings speak to several veins of research. We contribute to the growing evidence that people are attentive to group membership features of legislators when assessing an institution’s legitimacy (Arnesen and Peters 2018; Clayton et al. 2019; Gay 2002; Kao et al. 2024; Mansbridge 1999). While these studies focus on gender and ethnicity, we show that citizens also value age diversity. Additionally, we provide evidence for a new mechanism underlying the recent empirical finding that voters often prefer younger candidates over older ones (Eshima and Smith 2022; McClean and Ono 2024; Roberts and Wolak 2023). Our study indicates that voters may support young candidates because they believe the presence of more young representatives will lead institutions to make fairer and better decisions.

Our research also has important policy implications. We show that citizens might question the legitimacy of representative bodies with predominantly older members like the ones currently in the US and in other democracies, such as India and Japan. This implies for political parties that it may be well worth it to nominate and support younger politicians seeking elected office. Such a move would not only be wise from a generational justice perspective, but it would most likely also increase the perceived legitimacy of political bodies.

References

- Arnesen, S. and Y. Peters (2018). The Legitimacy of Representation: How Descriptive, Formal, and Responsiveness Representation Affect the Acceptability of Political Decisions. *Comparative Political Studies* 51(7), 868–899.
- Bailer, S., C. Breunig, N. Giger, and A. M. Wüst (2022). The Diminishing Value of Repre-

- senting the Disadvantaged: Between Group Representation and Individual Career Paths. *British Journal of Political Science* 52(2), 535–552.
- Clayton, A., D. Z. O’Brien, and J. M. Piscopo (2019). All Male Panels? Representation and Democratic Legitimacy. *American Journal of Political Science* 63(1), 113–129.
- Esaiasson, P., M. Persson, M. Gilljam, and T. Lindholm (2019). Reconsidering the Role of Procedures for Decision Acceptance. *British Journal of Political Science* 49(1), 291–314.
- Eshima, S. and D. M. Smith (2022). Just a Number? Voter Evaluations of Age in Candidate-Choice Experiments. *The Journal of Politics* 84(3), 1856–1861.
- Gay, C. (2002). Spirals of Trust? The Effect of Descriptive Representation on the Relationship between Citizens and Their Government. *American Journal of Political Science* 46(4), 717–732.
- Gulzar, S. (2021). Who Enters Politics and Why? *Annual Review of Political Science* 24(1), 253–275.
- Kao, K., E. Lust, M. Shalaby, and C. M. Weiss (2024). Female Representation and Legitimacy: Evidence from a Harmonized Experiment in Jordan, Morocco, and Tunisia. *American Political Science Review* 118(1), 495–503.
- Mansbridge, J. (1999). Should Blacks Represent Blacks and Women Represent Women? A Contingent "Yes". *The Journal of Politics* 61(3), 628–657.
- McClellan, C. T. (2021). Does the Underrepresentation of Young People in Political Institutions Matter for Social Spending? Working Paper.
- McClellan, C. T. and Y. Ono (2024). Too Young to Run? Voter Evaluations of the Age of Candidates. *Political Behavior*.
- Reher, S. (2024). Voting for Disabled Candidates. *Journal of Politics*.
- Roberts, D. C. and J. Wolak (2023). Do Voters Care about the Age of their Elected Representatives? *Political Behavior* 45(4), 1959–1978.
- Scharpf, F. (1999). *Governing in Europe: Effective and Democratic?* Oxford University Press.

- Sevi, S. (2021). Do Young Voters Vote for Young Leaders? *Electoral Studies* 69, 102200.
- Stockemer, D. and A. Sundström (2022). *Youth Without Representation: The Absence of Young Adults in Parliaments, Cabinets, and Candidacies*. University of Michigan Press.
- Strebel, M. A., D. Kübler, and F. Marcinkowski (2019). The Importance of Input and Output Legitimacy in Democratic Governance: Evidence from a Population-Based Survey Experiment in Four West European Countries. *European Journal of Political Research* 58(2), 488–513.

When Elders Rule: Age Composition in Decision-Making and Legitimacy Perceptions

Online Appendix

Contents

1	Study Design	1
1.1	Survey Experiment Design	1
1.2	Construction of the Visual Prompt	1
1.3	Pre-Test of Visual Prompts in Vignettes	3
1.4	Vignettes	5
1.4.1	Vignette 1: Newly Formed Committee	5
1.4.2	Vignette 2: Lowering the Age of Candidacy	6
1.4.3	Vignette 3: Increasing Renewable Energy Standards	7
1.5	Examples of Newspaper Treatments	8
1.6	YouGov Sample	12
1.7	Dependent Variables	13
1.8	Power Analysis	15
1.9	Ethics and IRB	16
2	Summary Statistics	17
2.1	Descriptive Statistics	17
2.2	Covariate Balance	17
3	Complementary Analyses and Robustness Checks	18
3.1	Table Versions of Main Results	18
3.2	Main Results with Covariates	19
3.3	Interaction Effects	20
3.4	Main Results by Legitimacy Index Items	21
3.5	Robustness Checks	22
3.6	Additional Analyses	25
3.6.1	Committee Stage	25
3.6.2	Type of Legitimacy	25
3.6.3	Intergenerational Legitimacy	25
3.6.4	Policy Issue	26
3.6.5	Respondent Demographics	26
4	References	30

1 Study Design

1.1 Survey Experiment Design

Table A1: Survey Experiment Design

		Policy Decision			
		Lower the Age of Candidacy		Increase Renewable Energy Standards	
Committee Formation		Support	Oppose	Support	Oppose
Age Balance	Group 1	Group 3	Group 5	Group 7	Group 9
Only Older	Group 2	Group 4	Group 6	Group 8	Group 10

Notes: Table version of the survey experiment described in the main text. We randomize two dimensions in the experiment: 1) the age composition of the committee (age balance or only older) and 2) the actions of the committee (newly formed or reached a policy decision to support/oppose lowering the age of candidacy or increasing renewable energy standards).

1.2 Construction of the Visual Prompt

We conducted our survey experiment in February 2024 using YouGov. Our survey presented 5,135 participants with a mock newspaper article about a state legislative committee. Inspired by the design of the vignettes in Clayton et al. (2019), we convey the age composition of our two committee treatment groups—“Age Balance” and “Only Older”—through the newspaper headline and photos of the eight state legislators serving on the committee.

For the photos, we began by randomly selecting a set of 50 photos from KnowWho’s State Legislators Data Service (KnowWho 2024), a database that has the photos of all 7,552 state legislators. From this sample, we then carefully chose 12 legislator photos to use for our two treatment groups. Apart from age, we took care to select photos that appeared as similar as possible, with all legislators adopting smiles, facing toward the camera, and appearing against a monochromatic background. In two cases, we altered photo backgrounds to reduce stark colors and make them appear more similar to the other photos.

For the “Age Balance” committee, we use four photos of legislators under 40 and four photos of legislators aged 60 or older. For the “Only Older” committee, we rotate out the younger photos to be replaced by four more photos of legislators aged 60 or older. In total, we therefore have photos of 12 legislators: four under 40 and eight 60 or older. The average age of our “Age Balance” committee is 47 compared to 69 for our “Only Older” Committee. By comparison, the average age of state legislators is 56 (KnowWho 2024) and 46 among our survey respondents.

The 12 legislators in our committee treatment groups represent 12 different states.¹ The chance that a respondent could recognize more than one person is therefore minimal. To ensure age is the main observable difference between legislator photos, we set both committees to contain two women and one Black member. We chose these ratios to be as representative as possible of the average state legislature. In our mock committees, 25% (2/8) of members are women, compared to 33% of state legislators (Center for American Women and Politics 2024), and 12.5% (1/8) are Black, compared to 10% of state legislators (Smith 2021).

In the newspaper vignettes, we arrange the committee photos into 2x4 grids just under the headlines (see Section 1.5 for examples). Within these grids, we further take care to alternate between “core photos” of the four older legislators held constant across treatment groups and “rotating photos,” which switch between four older and younger legislators.

¹They hold office in the following 12 states: Arizona, Hawaii, Kentucky, Maine, Massachusetts, Montana, Nevada, North Dakota, South Carolina, Tennessee, Utah, and Wyoming.

1.3 Pre-Test of Visual Prompts in Vignettes

Our survey design relies on us being able to manipulate respondents’ *perceptions* of the age distribution in the two sets of committee photos. To corroborate that people in our study plausibly perceive the two groups as having contrasting age distributions, we constructed a smaller, pre-test survey experiment where we only provided these visual prompts without any text describing their age composition (no headlines and no explanatory text about the groups). We recruited a sample of 531 US citizens using the online panel Prolific in February 2024, before we fielded our main survey experiment.² Participants were given a short survey that they could complete on any type of device, which they could access through a link sent through the Prolific platform.

We randomly assigned respondents to view one of our two sets of images: either the “Age Balance” or “Only Older” committee. We then posed two questions. First, we asked “Which age do you think is the most correct to describe the average age of this group of people? YOUR BEST GUESS IS FINE.” Participants then had eight response options, ranging from “45 years” to “80 years” in five-year increments. Second, we asked “Do you think the people in this image – as a group – are on average older, younger, or about the same age as the general adult population in the US? YOUR BEST GUESS IS FINE”. Respondents had three response options for this question: “Older”, “Younger” and “About the same age”.

The results show that our images indeed convey to respondents that the “Only Older” group is significantly older than the “Age Balance” group. Participants who viewed the “Only Older” committee (N=270) estimated their mean age to be 60.5 (standard deviation: 6.1). By comparison, participants who saw the “Age Balance” group (N=261) estimated their average age to be 50.6 (standard deviation: 4.5).

The second survey item generated a similar pattern. Respondents in the “Only Older” group were much more likely than those in the “Age Balance” group to say committee

²Prolific panel members are paid and they normally participate in commercial and academic surveys (see <https://www.prolific.com/about>)

members were “older” than the general population (73.16% vs. 42.69%) and much less likely to say members were “about the same age” (25.37% vs. 43.85%).

1.4 Vignettes

1.4.1 Vignette 1: Newly Formed Committee

[Age-Balanced Committee/Committee of Older Legislators] Formed to Consider Important Issues Next Year

(Eight Photos of [Age-Balanced Committee/Committee of Older Legislators])

The State Legislature has formed a special bipartisan committee to consider legislation. The committee will begin its work next month.

The committee is expected to deliberate on various critical matters that impact both the state and its residents. After considering both supporting and opposing views, the committee will then vote on its policy recommendations.

As the state prepares for these pivotal discussions, all eyes will be on the decisions reached by this newly formed committee (pictured above).

1.4.2 Vignette 2: Lowering the Age of Candidacy

[Age-Balanced Committee/Committee of Older Legislators] [Supports/Opposes]

Lowering the Age of Eligibility to 18 Years Old for State Offices

(Eight Photos of [Age-Balanced Committee/Committee of Older Legislators])

The State Legislature formed a special bipartisan committee to consider legislation that would lower the age of eligibility to run for state office. The law would decrease the minimum age, which can be as high as 30 for some elected positions, to 18 years for all state offices.

Supporters claim that lowering the age of candidacy would allow youth to fully participate in the political process and address the skewed age representation in US politics, where political representatives tend to be much older than the population. Opponents claim that youth are not yet ready to fully participate in politics and lack the necessary experience to be effective representatives.

After careful discussion, the committee (pictured above) voted to [support/oppose] decreasing the age of candidacy to 18 years.

1.4.3 Vignette 3: Increasing Renewable Energy Standards

[Age-Balanced Committee/Committee of Older Legislators] [Supports/Opposes]

Increasing Renewable Energy Standards to Combat Climate Change

(Eight Photos of [Age-Balanced Committee/Committee of Older Legislators])

The State Legislature formed a special bipartisan committee to consider legislation that would increase renewable energy standards to combat climate change. The law would increase the required percentage of the state's electricity that must come from renewable sources such as wind, solar, and hydro power as opposed to conventional, non-renewable energy sources such as coal, natural gas, and oil.

Supporters claim the increased standards will help reduce the state's carbon footprint and promote the growth of a new, clean energy economy. Opponents claim the proposal will raise energy costs and lead to job losses in the traditional energy sector.

After careful discussion, the committee (pictured above) voted to [support/oppose] increasing renewable energy standards.

1.5 Examples of Newspaper Treatments

In total, our survey design has ten treatment groups with ten different newspaper vignettes (see Table A1). For space purposes, we present three examples of our newspaper treatments over the next three pages:

1. Age Balance \times Committee Formation (Group 1)
2. Only Older \times Supports Lowering the Age of Eligibility (Group 4)
3. Age Balance \times Opposes Increasing Renewable Energy Standards (Group 9)

The Daily Times

NEWS THAT MATTERS TO YOU

News Opinion Sports Culture Lifestyle Weather

Age-Balanced Committee of Legislators Formed to Consider Important Issues Next Year

By Associated News Wire.



The State Legislature has formed a special bipartisan committee to consider legislation. The committee will begin its work next month.

The committee is expected to deliberate on various critical matters that impact both the state and its residents. After considering both supporting and opposing views, the committee will then vote on its policy recommendations.

As the state prepares for these pivotal discussions, all eyes will be on the decisions reached by this newly formed committee (pictured above).

Figure A1: Newspaper Treatment (Group 1)

The Daily Times

NEWS THAT MATTERS TO YOU

News Opinion Sports Culture Lifestyle Weather

Committee of Older Legislators Supports Lowering the Age of Eligibility to 18 Years Old for State Offices

By Associated News Wire



The State Legislature formed a special bipartisan committee to consider legislation that would lower the age of eligibility to run for state office. The law would decrease the minimum age, which can be as high as 30 for some elected positions, to 18 years for all state offices.

Supporters claim that lowering the age of candidacy would allow youth to fully participate in the political process and address the skewed age representation in US politics, where political representatives tend to be much older than the population. Opponents claim that youth are not yet ready to fully participate in politics and lack the necessary experience to be effective representatives.

After careful discussion, the committee (pictured above) voted to support decreasing the age of candidacy to 18 years.

Figure A2: Newspaper Treatment (Group 4)

The Daily Times

NEWS THAT MATTERS TO YOU

News Opinion Sports Culture Lifestyle Weather

Age-Balanced Committee of Legislators Opposes Increasing Renewable Energy Standards to Combat Climate Change

By Associated News Wire



The State Legislature formed a special bipartisan committee to consider legislation that would increase renewable energy standards to combat climate change. The law would increase the required percentage of the state's electricity that must come from renewable sources such as wind, solar, and hydro power as opposed to conventional, non-renewable energy sources such as coal, natural gas, and oil.

Supporters claim the increased standards will help reduce the state's carbon footprint and promote the growth of a new, clean energy economy. Opponents claim the proposal will raise energy costs and lead to job losses in the traditional energy sector.

After careful discussion, the committee (pictured above) voted to oppose increasing renewable energy standards.

Figure A3: Newspaper Treatment (Group 9)

1.6 YouGov Sample

Our study consists of a sample of 5,135 participants, recruited from the YouGov panel. Participants complete the survey through a link, which they can answer on any device. A total of 5,471 interviews were conducted within the target group: 5,144 completed the survey and 327 were screened out because they did not want to participate in the survey. The final N of 5,135 refers to those answering our outcome variables of interest.

This sample consists of respondents from the US, aged 18 years and above, and is nationally representative based on quotas for age (18-29, 30-44, 45-64, 65+), gender, education, race and region (Northeast, Midwest, South and West).

The survey was conducted from February 5th to February 29th, 2024, with the majority of respondents sampled within the first few days of the fieldwork period.

1.7 Dependent Variables

As noted in the main text, we distinguish between two types of legitimacy: procedural legitimacy (i.e., trust in decision-making institutions) and substantive legitimacy (i.e., evaluations of the decisions reached). Building on the gender-based designs used by Clayton et al. (2019) and Kao et al. (2024), we asked respondents to think about either the age composition of the committee (for procedural legitimacy) or the actual decision reached by the committee (for substantive legitimacy), and then respond to a set of four questions and statements.

For procedural legitimacy, the four items are:

1. How fair was the decision-making process?
2. The committee's decision should be overturned (reverse coded)
3. The committee can be trusted to make decisions that are right for the state's citizens
4. The committee can be trusted to make decisions that are right for future generations

For substantive legitimacy, the four items are:

1. The committee made the right decision for all the state's citizens
2. The committee made the right decision for young people
3. The committee made the right decision for future generations
4. Personally, I think the committee made the right decision

For the first question for procedural legitimacy, respondents answered on a 5-point Likert scale: Very unfair, Somewhat unfair, Neither fair nor unfair, Somewhat fair, Very fair. For all other items, respondents were asked to what extent they agreed with the following statements, and then again answered on a 5-point Likert scale: Fully disagree, Partly disagree, Neither agree nor disagree, Partly agree, Fully agree.

The questions above are the framing used for the eight “Policy Decision” treatment groups. For the two “Committee Formation” groups, we changed the tense of some verbs to ask about respondents’ future expectations since a decision had not yet been reached.

We use each set of questions to create four-item indices for procedural and substantive legitimacy. Each index represents the average of its four respective questions, which we rescale from 0 to 1 to ease interpretation.

1.8 Power Analysis

Clayton et al. (2019, p. 119–120) describe finding standardized effect sizes (d) that range from medium ($d = 0.56$) to very large ($d = 1.50$) in their study focused on gender. Since there has been considerably less work on age, the focus of our study, we wanted to ensure that we recruited sufficient respondents to detect substantially smaller effect sizes.

To determine our sample size, we used the `pwr` package in R. Assuming a small effect size ($d = 0.20$), a power of 0.80, and a two-sided test ($\alpha = 0.05$), the minimum sample size per treatment group should be 393 respondents. To be conservative, we designed our experiment such that group sample sizes range from 500 (at a minimum) to 2,000 respondents. This should enable us to detect even smaller effect sizes ranging from 0.09 to 0.18 standard deviations.

1.9 Ethics and IRB

We obtained ethical approval for this study [IRB no. xxx]. Respondents that participated in our survey did not run the risk of being exposed to any significant harm. The only possible sensitive aspect is that they were asked questions about their political ideology and beliefs. For instance, we can assess how close or far they consider themselves to identify with being a Republican or a Democrat. Yet, these questions are taken from established surveys and should not be seen as intrusive. Answering these questions, we believe, poses a minimal risk of discomfort or personal injury.

2 Summary Statistics

2.1 Descriptive Statistics

Table A2: Descriptive Statistics

	N	Mean	SD	Min	Max
Age	5,135	46.35	17.31	18	94
Female	5,135	0.48	0.50	0	1
Education	5,135	3.27	1.46	1	6
Income	4,510	6.05	3.78	1	16
Married	5,135	0.43	0.50	0	1
Region 1	5,135	0.21	0.40	0	1
Region 2	5,135	0.20	0.40	0	1
Region 3	5,135	0.37	0.48	0	1
Region 4	5,135	0.22	0.41	0	1

2.2 Covariate Balance

Table A3: Covariate Balance

	Only Older		Age Balance		Difference in Means	Standard Error
	Mean	SD	Mean	SD		
Age	46.49	17.36	46.67	17.30	0.19	0.49
Female	0.48	0.50	0.48	0.50	0.01	0.01
Education	3.24	1.44	3.30	1.46	0.05	0.04
Income	6.02	3.80	6.09	3.76	0.07	0.11
Married	0.43	0.50	0.43	0.50	0.00	0.01
Region 1	0.20	0.40	0.21	0.41	0.01	0.01
Region 2	0.21	0.41	0.20	0.40	-0.01	0.01
Region 3	0.38	0.48	0.37	0.48	-0.01	0.01
Region 4	0.22	0.41	0.22	0.41	0.00	0.01

Notes: *p<.1; **p<.05; ***p<.01.

3 Complementary Analyses and Robustness Checks

3.1 Table Versions of Main Results

Table A4: Table Version of Figure 1 (Procedural Legitimacy)

	Estimate	SE	Constant	SE	N	R ²
Main Effect	0.051***	(0.006)	0.563***	(0.004)	5,034	0.012
Committee Stage						
Committee Formation	0.088***	(0.013)	0.555***	(0.009)	996	0.047
Policy Decision	0.041***	(0.007)	0.565***	(0.005)	4,038	0.008
Committee Decision						
Support Youth Issues	0.026***	(0.010)	0.588***	(0.007)	2,022	0.003
Oppose Youth Issues	0.057***	(0.010)	0.542***	(0.007)	2,016	0.015
Respondent Age						
Younger (18–34)	0.058***	(0.010)	0.585***	(0.007)	1,659	0.020
Middle-Aged (35–64)	0.059***	(0.009)	0.538***	(0.007)	2,503	0.017
Older (65+)	0.015	(0.017)	0.590***	(0.012)	872	0.001
Respondent Party						
Democrats	0.091***	(0.009)	0.552***	(0.006)	2,578	0.040
Republicans	-0.006	(0.012)	0.607***	(0.009)	1,351	0.0002

Table A5: Table Version of Figure 1 (Substantive Legitimacy)

	Estimate	SE	Constant	SE	N	R ²
Main Effect	0.040***	(0.009)	0.544***	(0.006)	5,034	0.004
Committee Stage						
Committee Formation	0.081***	(0.016)	0.513***	(0.016)	996	0.025
Policy Decision	0.029***	(0.010)	0.551***	(0.007)	4,038	0.002
Committee Decision						
Support Youth Issues	0.006	(0.015)	0.584***	(0.010)	2,022	0.0001
Oppose Youth Issues	0.053***	(0.015)	0.519***	(0.010)	2,016	0.006
Respondent Age						
Younger (18–34)	0.049***	(0.014)	0.593***	(0.010)	1,659	0.007
Middle-Aged (35–64)	0.040***	(0.013)	0.520***	(0.009)	2,503	0.004
Older (65+)	0.023	(0.023)	0.518***	(0.016)	872	0.001
Respondent Party						
Democrats	0.069***	(0.012)	0.550***	(0.009)	2,578	0.012
Republicans	0.009	(0.017)	0.563***	(0.012)	1,351	0.0002

Notes: *p<.1; **p<.05; ***p<.01.

3.2 Main Results with Covariates

Table A6: Main Results with Covariates

	Procedural Legitimacy	Substantive Legitimacy
	(1)	(2)
Age Balance	0.054*** (0.007)	0.044*** (0.010)
Age	-0.001*** (0.002)	-0.002*** (0.0003)
Female	0.022 (0.007)	0.011 (0.010)
Education	0.001 (0.003)	0.0002 (0.004)
Income	0.002* (0.001)	0.003** (0.001)
Region 1	-0.013 (0.011)	-0.006 (0.015)
Region 2	-0.008 (0.011)	-0.016 (0.015)
Region 3	0.003 (0.009)	0.007 (0.013)
Democrat	0.003 (0.008)	0.029*** (0.011)
Independent	-0.044*** (0.011)	-0.026* (0.016)
Constant	0.582*** (0.016)	0.603*** (0.023)
N	4,423	4,423
R ²	0.022	0.024

Notes: *p<.1; **p<.05; ***p<.01.

3.3 Interaction Effects

Table A7: Interaction Between Age Balance and Committee Decision

	Procedural Legitimacy	Substantive Legitimacy
	(1)	(2)
Age Balance \times Support Youth Issues	-0.031** (0.015)	-0.047** (0.021)
Age Balance	0.057*** (0.010)	0.053*** (0.015)
Support Youth Issues	0.046*** (0.010)	0.065*** (0.015)
Constant	0.542*** (0.007)	0.519*** (0.010)
N	4,038	4,038
R ²	0.013	0.007

Notes: *p<.1; **p<.05; ***p<.01.

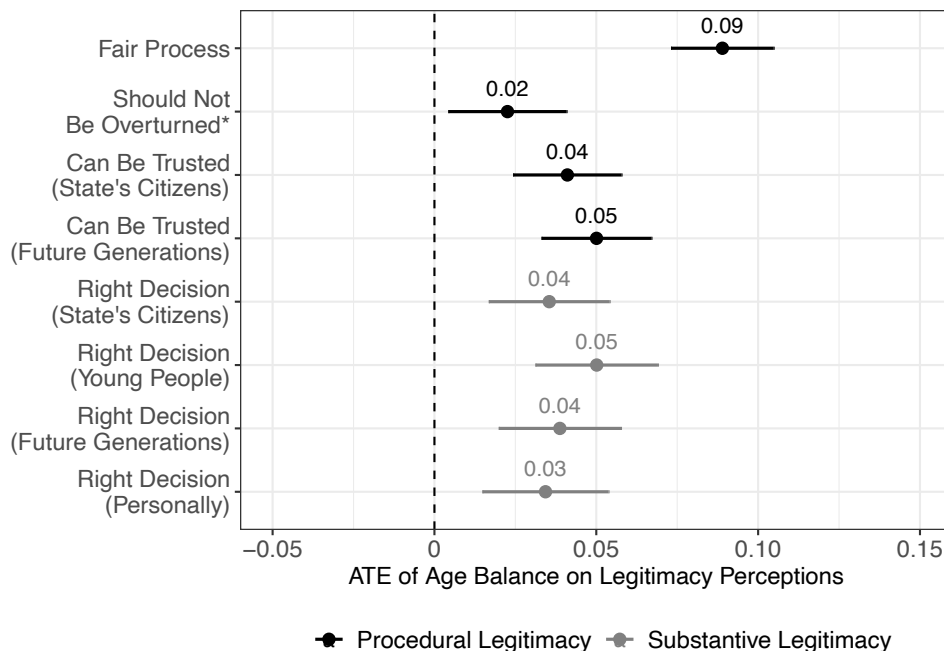
Table A8: Interaction Between Age Balance and Respondent Age

	Procedural Legitimacy	Substantive Legitimacy
	(1)	(2)
Age Balance \times Younger (18-34)	0.043** (0.019)	0.026 (0.026)
Age Balance \times Middle-Aged (35-64)	0.044** (0.018)	0.017 (0.025)
Age Balance	0.015 (0.015)	0.023 (0.021)
Younger (18-34)	-0.005 (0.013)	0.075*** (0.019)
Middle-Aged (35-64)	-0.052*** (0.013)	0.002 (0.019)
Constant	0.590*** (0.011)	0.518*** (0.015)
N	5,034	5,034
R ²	0.022	0.018

Notes: *p<.1; **p<.05; ***p<.01.

3.4 Main Results by Legitimacy Index Items

Figure A4: Effect of Age Balance on Legitimacy Index Items



Notes: Figure A4 shows the average treatment effect (ATE) of our age balance treatment on the eight individual items making up our indices for procedural (black) and substantive legitimacy (dark gray). *This question asked respondents “whether the decision should be overturned.” We reversed the result here to match the other items.

Table A9: Table Version of Figure A4

	Estimate	SE	Constant	SE	N	R ²
Procedural Legitimacy						
Fair Process	0.089***	(0.008)	0.604***	(0.006)	5,034	0.023
Should Not Be Overturned	0.023**	(0.009)	0.544***	(0.007)	5,034	0.001
Can Be Trusted (State's Citizens)	0.041***	(0.009)	0.555***	(0.006)	5,034	0.005
Can Be Trusted (Future Generations)	0.050***	(0.009)	0.548***	(0.006)	5,034	0.007
Substantive Legitimacy						
Right Decision (State's Citizens)	0.035***	(0.010)	0.537***	(0.007)	5,034	0.003
Right Decision (Young People)	0.050***	(0.010)	0.535***	(0.007)	5,034	0.005
Right Decision (Future Generations)	0.039***	(0.010)	0.545***	(0.007)	5,034	0.003
Right Decision (Personally)	0.034***	(0.010)	0.558***	(0.007)	5,034	0.002

Notes: *p<.1; **p<.05; ***p<.01.

3.5 Robustness Checks

One potential concern with online surveys is participant attentiveness. Respondents may become distracted or disengaged while completing the survey, which could harm the quality of the data if they are not reading questions carefully. To address this concern, we included a relatively tougher attention check just before the experimental treatment: asking respondents how often they consume political news, but then instructing them to select both ‘every day’ and ‘never’ among the options regardless of how often they consume news. Two thirds (67%) of respondents (3,348) passed the check.

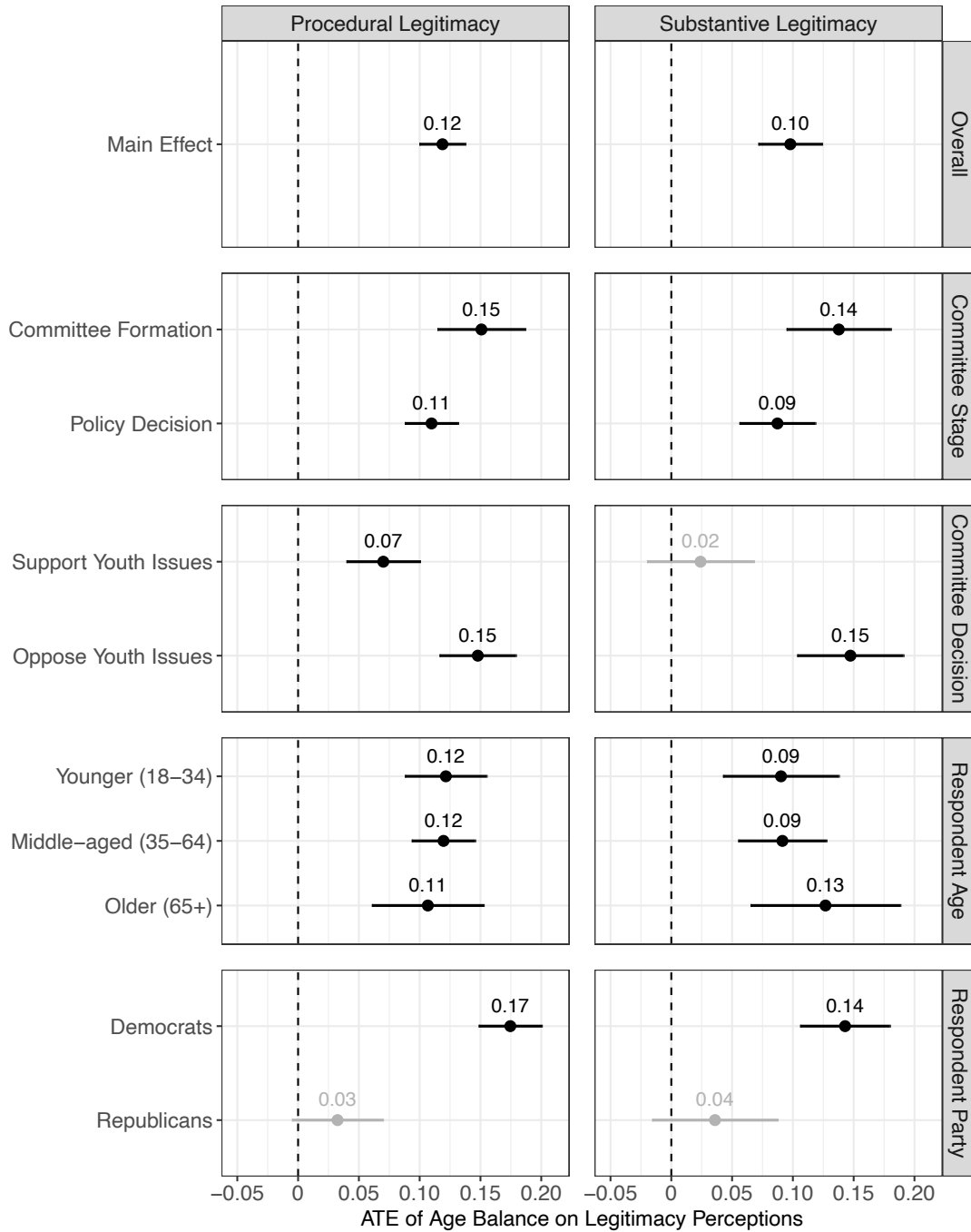
Another potential concern is treatment recall. In order for our mock newspaper vignettes to have their desired effect, respondents need to be able to recall certain salient details of their assigned treatment group. If respondents cannot accurately recall the treatment, then this could also harm the quality of our survey data. To tackle this issue, we included a question after the experimental treatment asking respondents to identify whether the committee in their newspaper vignette had only older members or a balance of younger and older members. Again, just over two thirds (69%) of respondents (3,466) passed the check.

Figure A5 shows our main results among the 50% of participants (2,492) who passed both the attention and manipulation check. For the most part, we find even larger effects, including ones that are up to twice the magnitude of our original findings. This pattern suggests our age balance treatment was particularly impactful among careful readers of our survey questions.

One slightly changed result is for respondent age, as we find no significant differences by age group. Among this subset of participants, older individuals also perceived age balance as enhancing their trust in institutions (procedural legitimacy) and belief that the committee made the right decision (substantive legitimacy). Investigating this pattern further, we find it is driven by older participants who passed the manipulation check rather than the attention check. While it is important to add a caveat here that the manipulation check is a post-treatment measure, these results offer suggestive evidence that age representation may also

be important for older people's perceptions of legitimacy.

Figure A5: Robustness Checks



Notes: Figure A5 shows the main results (Figure 1) among respondents who passed attention and manipulation checks.

Table A10: Table Version of Figure A5 (Procedural Legitimacy)

	Estimate	SE	Constant	SE	N	R ²
Main Effect	0.119***	(0.010)	0.527***	(0.007)	2,492	0.057
Committee Stage						
Committee Formation	0.151***	(0.018)	0.527***	(0.013)	529	0.113
Policy Decision	0.110***	(0.011)	0.527***	(0.008)	1,963	0.047
Committee Decision						
Support Youth Issues	0.070***	(0.015)	0.566***	(0.011)	986	0.021
Oppose Youth Issues	0.148***	(0.016)	0.489***	(0.011)	977	0.080
Respondent Age						
Younger (18–34)	0.122***	(0.017)	0.547***	(0.012)	702	0.067
Middle-Aged (35–64)	0.120***	(0.013)	0.508***	(0.009)	1,309	0.058
Older (65+)	0.107***	(0.023)	0.553***	(0.017)	481	0.042
Respondent Party						
Democrats	0.175***	(0.013)	0.502***	(0.009)	1,288	0.119
Republicans	0.032*	(0.019)	0.595***	(0.014)	618	0.005

Table A11: Table Version of Figure A5 (Substantive Legitimacy)

	Estimate	SE	Constant	SE	N	R ²
Main Effect	0.098***	(0.013)	0.500***	(0.009)	2,492	0.021
Committee Stage						
Committee Formation	0.138***	(0.022)	0.471***	(0.016)	529	0.070
Policy Decision	0.087***	(0.016)	0.507***	(0.011)	1,963	0.015
Committee Decision						
Support Youth Issues	0.024	(0.022)	0.576***	(0.016)	986	0.001
Oppose Youth Issues	0.147***	(0.022)	0.441***	(0.015)	977	0.043
Respondent Age						
Younger (18–34)	0.090***	(0.024)	0.556***	(0.017)	702	0.019
Middle-Aged (35–64)	0.091***	(0.019)	0.483***	(0.013)	1,309	0.018
Older (65+)	0.127***	(0.031)	0.461***	(0.023)	481	0.033
Respondent Party						
Democrats	0.143***	(0.019)	0.485***	(0.013)	1,288	0.043
Republicans	0.036	(0.026)	0.555***	(0.019)	618	0.003

Notes: *p<.1; **p<.05; ***p<.01.

3.6 Additional Analyses

Finally, we use this last section to report results from additional pre-registered hypotheses and exploratory analyses. While some of these analyses refer back to Figure 1 from the main text, the results for others are shown in a similarly organized Figure A6. For space reasons and comparability with Figure A5, we include only respondents who passed both the attention and manipulation checks in this new figure, although we find substantively similar results if we use the full set of respondents.

3.6.1 Committee Stage

First, in our pre-analysis plan (PAP), we offered two distinct hypotheses intended to address committee stage. Our expectation was that an age-balanced committee would increase the perceptions of a committee’s legitimacy regardless of whether a policy decision had been reached—i.e., whether the newspaper was only announcing the formation of a committee or also reporting on the committee’s decision on a policy issue. We find support for this expectation in Figure 1, as discussed in the main text. However, we opted not to include two distinct hypotheses in the main text, as we felt H1 sufficiently covered our main expectations.

3.6.2 Type of Legitimacy

Second, we predicted that age balance would matter relatively more for citizen evaluations of procedural legitimacy than substantive legitimacy. While we do find a larger effect for procedural legitimacy in Figure 1, it is not significantly larger than the estimate for substantive legitimacy.

3.6.3 Intergenerational Legitimacy

Third, we pre-registered some additional hypotheses related to intergenerational legitimacy. In the questions for our procedural and substantive legitimacy indices, we distinguish between whether respondents perceive committees to be fair and making the right decision for current citizens compared to future generations. Our expectation was that having young people on

the committee would increase perceptions of legitimacy for future generations, and that this effect would be significantly larger compared to the perceived legitimacy for current citizens. The results are shown in the first panel of Table A6. We do find a significant effect for future generations, and the estimate is larger in magnitude than the one for current citizens, although the difference between groups is not statistically significant.

3.6.4 Policy Issue

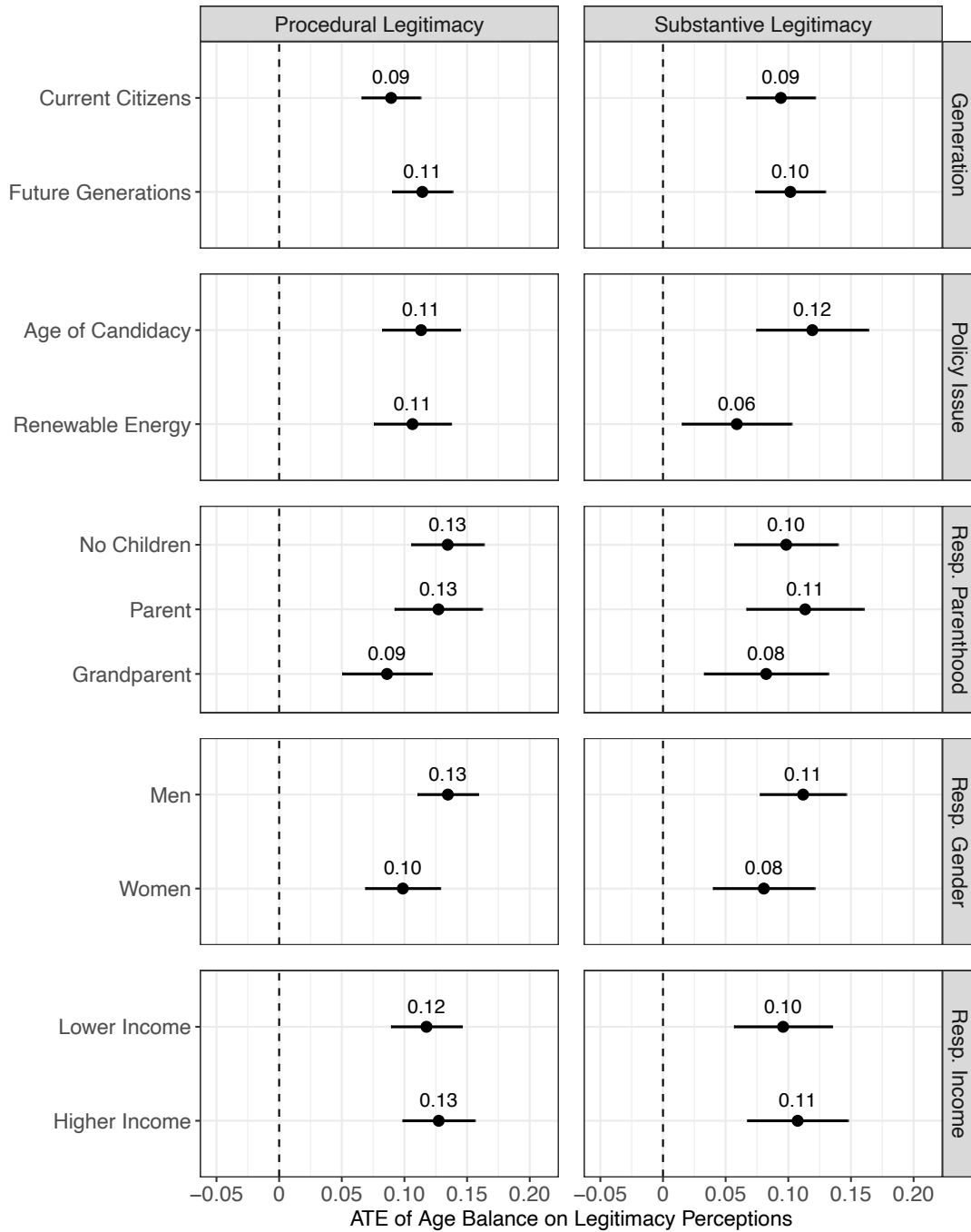
Fourth, we hypothesized that we would find differences across our two policy issues: lowering the age of candidacy and increasing renewable energy standards. In a similar line of reasoning to our expectations for respondent age, we anticipated that the public would have stronger, pre-existing preferences when it came to tackling climate change than reducing the minimum age a person could run for office. As such, we thought that youths' presence might matter more for substantive legitimacy for lowering the age of candidacy (vs. renewable energy), as respondents would view having young people on the committee as a stronger signal that the group had come to the "right" decision. By contrast, we thought the saliency of climate change might mean that age representation would have a stronger effect on procedural legitimacy for the renewable energy standards issue, as the public would view young people's participation in the committee as especially important for an issue that is more likely to affect younger generations.

We find mixed support for these hypotheses in the second panel of Figure A6. For substantive legitimacy, we do find that age diversity has a larger effect for the age of candidacy issue as predicted. However, we do not find significant differences for procedural legitimacy. Instead, respondents appear to view having young people at the decision-making table as equally important for perceptions of institutional fairness across the two policy issues.

3.6.5 Respondent Demographics

Fifth, moving beyond our pre-registered hypotheses, we indicated in the PAP that we would conduct exploratory analyses to see if our results are heterogeneous by respondent parent-

Figure A6: Additional Analyses



Notes: Figure A6 shows the ATE of our age balance treatment on perceptions of procedural and substantive legitimacy by generation, policy issues, respondent parenthood, respondent gender, and respondent income. Results are limited to those who passed attention and manipulation checks.

hood, gender, and income levels. The results for these three factors are shown in the third, fourth, and fifth panels of Figure A6.

For parenthood, we find that age balance has a smaller effect on perceptions of procedural legitimacy for grandparents compared to parents and respondents without children, though this pattern does not translate to substantive legitimacy. For gender, we find larger effects for procedural legitimacy for men compared to women. This pattern is similar for substantive legitimacy, although the difference across groups is not statistically significant. Lastly, for income, we do not find significant differences for either procedural or substantive legitimacy.

Table A12: Table Version of Figure A6 (Procedural Legitimacy)

	Estimate	SE	Constant	SE	N	R ²
Generation						
Current Citizens	0.089***	(0.012)	0.528***	(0.008)	2,492	0.022
Future Generation	0.114***	(0.014)	0.498***	(0.009)	2,492	0.034
Policy Issue						
Age of Candidacy	0.113***	(0.016)	0.522***	(0.011)	921	0.029
Renewable Energy	0.106***	(0.016)	0.531***	(0.011)	1,042	0.042
Respondent Parenthood						
No Children	0.134***	(0.015)	0.516***	(0.010)	1,046	0.074
Parent	0.127***	(0.018)	0.525***	(0.013)	738	0.065
Grandparent	0.086***	(0.018)	0.546***	(0.013)	708	0.031
Respondent Gender						
Men	0.135***	(0.012)	0.521***	(0.009)	1,385	0.079
Women	0.099***	(0.015)	0.534***	(0.011)	1,107	0.037
Respondent Income						
Lower Income	0.118***	(0.014)	0.525***	(0.010)	1,050	0.060
Higher Income	0.127***	(0.015)	0.524***	(0.010)	1,142	0.062

Table A13: Table Version of Figure A6 (Substantive Legitimacy)

	Estimate	SE	Constant	SE	N	R ²
Generation						
Current Citizens	0.094***	(0.014)	0.492***	(0.010)	2,492	0.018
Future Generation	0.102***	(0.014)	0.500***	(0.010)	2,492	0.020
Policy Issue						
Age of Candidacy	0.119***	(0.023)	0.488***	(0.016)	921	0.029
Renewable Energy	0.059***	(0.022)	0.524***	(0.016)	1,042	0.007
Respondent Parenthood						
No Children	0.098***	(0.021)	0.506***	(0.015)	1,046	0.020
Parent	0.113***	(0.024)	0.497***	(0.017)	738	0.030
Grandparent	0.082***	(0.025)	0.492***	(0.018)	708	0.015
Respondent Gender						
Men	0.112***	(0.018)	0.492***	(0.012)	1,385	0.029
Women	0.080***	(0.021)	0.508***	(0.015)	1,107	0.014
Respondent Income						
Lower Income	0.096***	(0.020)	0.508***	(0.014)	1,050	0.022
Higher Income	0.107***	(0.020)	0.490***	(0.014)	1,142	0.024

Notes: *p<.1; **p<.05; ***p<.01.

4 References

- Center for American Women and Politics. 2024. “Women in state legislatures 2024”. <https://cawp.rutgers.edu/facts/levels-office/state-legislature/women-state-legislatures-2024>, accessed June 2024.
- Clayton, Amanda, Diana Z. O’Brien, and Jennifer M. Piscopo. 2019. “All Male Panels? Representation and Democratic Legitimacy”. *American Journal of Political Science* 63 (1): 113–129.
- Kao, Kristen, Ellen Lust, Marwa Shalaby, and Chagai M. Weiss. 2024. “Female Representation and Legitimacy: Evidence from a Harmonized Experiment in Jordan, Morocco, and Tunisia”. *American Political Science Review* 118 (1): 495–503.
- KnowWho. 2024. “State legislators data service”. <https://kw1.knowwho.com/state-legislators-data-service/>, accessed January 2024.
- Smith, Carl. 2021, January 13. “Blacks in state legislatures: A state-by-state map”. *Governing*, <https://www.governing.com/now/blacks-in-state-legislatures-a-state-by-state-map.html>.