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DISCUSSION PAPER SERIES

Gender Analysis and the Treaty on the Prohibition of Nuclear Weapons: A Response to Daarstad, Park, and Balogh

Stephen Herzog

Jonathon Baron

Rebecca Davis Gibbons

This paper responds to:

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Stephen Herzog¹, Jonathon Baron, Rebecca Davis Gibbons²

¹Center for Security Studies and ETH Zurich/Switzerland, Harvard Kennedy School, Cambridge, MA/USA

²University of Southern Maine, Portland/USA

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Written for the Institute for Replication.

Stephen Herzog
ETH Zurich, Center for Security Studies
Harvard Kennedy School, Project on Managing the Atom
stephen.herzog@sipo.gess.ethz.ch

Jonathon Baron
Independent Scholar
jonathon.baron@gmail.com

Rebecca Davis Gibbons
University of Southern Maine
rebecca.gibbons@maine.edu

We are grateful to Haley Darstaad, RyuGyung Park, and Timea Balogh for their thoughtful engagement with our 2022 short article in *The Journal of Politics*.¹ In that article, we tested the malleability of U.S. public support for nuclear disarmament, specifically in the context of the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW).² Our survey experiment reveals that—despite majority public support for eliminating nuclear weapons—Americans’ backing of the TPNW can be significantly attenuated by exposure to elite and group cues opposing the treaty. The resultant article has received considerable attention from policymakers and anti-nuclear activists alike.

Darstaad, Park, and Balogh (DPB) offer three main substantive points of comment. First, DPB indicate that our results successfully replicate and note that they “do not find any coding errors that undermine the authors’ analysis or conclusions.” Second, DPB show that

¹ Haley Darstaad, RyuGyung Park, and Timea Balogh, “A Comment on Herzog, Baron, and Gibbons (2022),” Institute for Replication, 2023.

² Stephen Herzog, Jonathon Baron, and Rebecca Davis Gibbons, “Antinormative Messaging, Group Cues, and the Nuclear Ban Treaty,” *The Journal of Politics*, Vol. 84, No. 1 (2022), pp. 591–596.

our findings also replicate when partisan leaners are coded as political Independents. Finally, and most interestingly, DPB conduct gender-based subgroup analysis and show that there are heterogenous treatment effects among male and female respondents in our sample. We address each of these points in turn.

To start, we commend DPB for taking on the task of replicating our article. Replication is deeply important, and we are glad that the academic community has made proper use of our replication materials.³ We recognize that even research published in top peer-reviewed journals sometimes does not replicate as expected.⁴ This is an unsettling reality. We thus prepared our replication materials thoroughly to ensure that researchers would be able to reproduce our findings without great difficulty. Furthermore, we are highly encouraged by this new initiative from the Institute for Replication to validate the findings of all recent quantitative articles published in several high-impact economics and political science journals. This is a highly useful service for social scientists. And we are glad to have played a small part in the Institute's early work.

Next, we are also pleased that our results replicated under DPB's robustness checks. Our article includes both a model without controls and a regression-adjusted model. Both have consistent results, so we believe our findings to be highly robust. Data analysis always involves choices to manage trade-offs. We intentionally chose to group self-identified Independents that lean toward the Democratic and Republican Parties together with self-identified partisans. We continue to view this as the correct approach. Although Independents make up over one-third of the total U.S. adult population, the literature is clear

³ See, e.g., Brian A. Nosek et al., "Promoting an Open Research Culture," *Science*, Vol. 34, No. 6242 (2015), pp. 1422–1425.

⁴ Colin F. Camerer et al., "Evaluating the Replicability of Social Science Experiments in *Nature* and *Science* Between 2010 and 2015," *Nature Human Behaviour*, Vol. 2, No. 9 (2018), pp. 637–644.

that these “leaners” consistently vote for one of the parties in the American two-party system.⁵ For example, a study by the Pew Research Center concluded that 81% of Independents lean toward one of the two parties.⁶

But the most interesting part of DPB’s replication to us was their subgroup analysis based on respondents’ gender identities. We did not pre-register any gender-related hypotheses in our pre-analysis plan filed with Evidence in Governance and Politics and were constrained by the word count for short articles in *The Journal of Politics*.⁷ Accordingly, we appreciate DPB’s finding that women’s support for the TPNW is higher than among men at the baseline. In fact, we included gender as a control in our Model 2 precisely because we recognize its influence on foreign policy attitudes.⁸ The domain of nuclear weapons policy is certainly no exception, as revealed in large-scale analysis of recent survey experimental work.⁹ Our own research shows an influence of gender on U.S. public opinion toward nuclear weapons testing and at the nexus of attitudes toward civilian and military nuclear technologies.¹⁰ DPB’s gender analysis is also consistent with the results of a study on Japanese

⁵ See, e.g., John Richard Petrocik, “Measuring Party Support: Leaners Are Not Independents,” *Electoral Studies*, Vol. 28, No. 4 (2009), pp. 562–572.

⁶ Pew Research Center, “Political Independents: Who They Are, What They Think,” March 14, 2019, <https://www.pewresearch.org/politics/2019/03/14/political-independents-who-they-are-what-they-think/>. See also, e.g., Bruce E. Keith et al., *The Myth of the Independent Voter* (Berkeley, Calif.: University of California Press, 1992).

⁷ Jonathon Baron, Rebecca Gibbons, and Stephen Herzog, “Pre-Analysis Plan for Political Persuasion on the Treaty on the Prohibition of Nuclear Weapons: Evidence from Parallel Survey Experiments in the United States and Japan,” Evidence in Governance and Politics, Pre-Analysis Plan, No. 20190806AA, August 4, 2019.

⁸ See, e.g., David Fite, Marc Genest, and Clyde Wilcox, “Gender Differences in Foreign Policy Attitudes: A Longitudinal Analysis,” *American Politics Quarterly*, Vol. 18, No. 4 (1990), pp. 492–513; and Lise Togeby, “The Gender Gap in Foreign Policy Attitudes,” *Journal of Peace Research*, Vol. 31, No. 4 (1994), 375–392.

⁹ Ellen Willio and Michal Onderco, “Gendered Differences in Nuclear Weapons Attitudes,” United Nations Institute for Disarmament Research, Gender and Disarmament Programme, unpublished working paper, 2023.

¹⁰ Stephen Herzog and Jonathon Baron, “Public Support, Political Polarization, and the Nuclear-Test Ban: Evidence from a New US National Survey,” *The Nonproliferation Review*, Vol. 24, No. 3-4 (2017), p. 367; and Jonathon Baron and Stephen Herzog, “Public Opinion on Nuclear Energy and Nuclear Weapons: The Attitudinal Nexus in the United States,” *Energy Research & Social Science*, Vol. 68, No. 101567 (2020), p. 6.

attitudes toward the TPNW that we conducted in parallel with our research on U.S. public views in 2019.¹¹

We were, however, surprised that female support for the TPNW was more sensitive to security cues and male support to institution cues. DPB's analysis also shows that, on average, women's support for the TPNW is more malleable than men's support. This assessment may be policy-relevant to the various actors tailoring outreach strategies both for and against the accord.

Separate from DPB's replication, we do wonder how our results might look if we re-fielded the survey in today's geopolitical context. Survey experiments are a powerful tool for testing theory-driven hypotheses and showcasing well-identified causal effects. But such studies are, after all, products of a specific period of time. Russia's persistent use of nuclear threats since the onset of its February 2022 full-scale invasion of Ukraine has had wide-ranging implications for the global nuclear order.¹² Among them have been shifting cross-national views on nuclear disarmament and nuclear deterrence, which have predictably had marked consequences for the TPNW.¹³ This changing context in nuclear politics highlights the necessity of examining arguments both for and against nuclear weapons.¹⁴ It would be

¹¹ Jonathon Baron, Rebecca Davis Gibbons, and Stephen Herzog, "Japanese Public Opinion, Political Persuasion, and the Treaty on the Prohibition of Nuclear Weapons," *Journal for Peace and Nuclear Disarmament*, Vol. 3, No. 2 (2020), p. 304.

¹² Alexander K. Bollfrass and Stephen Herzog, "The War in Ukraine and Global Nuclear Order," *Survival*, Vol. 64, No. 4 (2022), pp. 7–32; and Mariana Budjeryn, "Distressing a System in Distress: Global Nuclear Order and Russia's War Against Ukraine," *Bulletin of the Atomic Scientists*, Vol. 78, No. 6 (2022), pp. 339–346.

¹³ Rebecca Davis Gibbons and Stephen Herzog, "The First TPNW Meeting and the Future of the Nuclear Ban Treaty," *Arms Control Today*, Vol. 52, No. 7 (2022), pp. 12–17; and Rebecca Davis Gibbons and Stephen Herzog, "Nuclear Disarmament and Russia's War on Ukraine: The Ascendance and Uncertain Future of the Treaty on the Prohibition of Nuclear Weapons," in Rebecca Davis Gibbons, Stephen Herzog, Wilfred Wan, and Doreen Horschig, *The Altered Nuclear Order in the Wake of the Russia-Ukraine War* (Cambridge, Mass.: American Academy of Arts and Sciences, forthcoming).

¹⁴ See, e.g., Scott D. Sagan and Benjamin A. Valentino, "Atomic Arguments: How Exposure to Conflicting Information Influences Public Support for the Use of Nuclear Weapons," Stanford University and Dartmouth College, unpublished working paper, 2023.

fascinating to compare the magnitude of elite and group cue treatment effects today to those we found among our August 2019 sample.

Overall, we were impressed by the thoroughness of DPB's replication. We find very little to disagree with and will certainly be interested readers of their future replication work.

**–Stephen Herzog,
Zurich, Switzerland**

**–Jonathon Baron,
Los Angeles, California**

**–Rebecca Davis Gibbons
Portland, Maine**