

Role-Play Simulations for Decision Making in Contexts of Uncertainty: Challenges and Strategies When Engaging Elites as Participants

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ABSTRACT

This study explores the application of role-play simulations (RPS) in addressing complex challenges (e.g., the climate crisis) beyond traditional educational settings. Drawing from pilot simulations involving 12 scientific experts and 12 policy makers, the article identifies three key challenges in conducting RPS with elite participants and provides practical strategies for overcoming them. Namely, the article emphasizes the importance of adapting the scenarios to sociopolitical contexts, choosing an ethical recruiting method to ensure inclusivity, and managing group diversity while maintaining a balance between the playfulness and the seriousness of the simulation. Overall, our study underscores the potential of RPS to foster dialogue between scientific and political actors and provides practical guidance for their effective use.

How can political scientists address the biggest challenges of our time, such as the climate crisis, beyond providing data analyses and policy recommendations? Following the literature that enhances the benefits of role-play simulations (RPS) to help students learn about actors' policy decision making (Stodden 2012; Watson 2022), a growing body of scholarship is interested in using RPS beyond the classroom. However, practical

advice on how to implement RPS in other settings is limited, which complicates operationalization. Our study contributes to bridging this gap by identifying three challenges to RPS and introducing strategies to address them.


Political science literature has long emphasized the benefits of RPS in education. According to their proponents, RPS can—among other benefits—facilitate knowledge acquisition (Lay and Smarick 2006), foster skill development (Bernstein 2008; Maertens and Cheli 2023), and promote self-reflection on students' beliefs and views (Biziouras 2013). However, the focus on classroom pedagogy leads such research to ignore the challenges associated with participants who are not students. Although this literature shows that RPS can accommodate a wide range of learner types (Shellman and Turan 2006), it barely mentions issues related to participant recruitment and the scenario adjustment required by a nonstudent audience.

Beyond political science, RPS have been implemented successfully with nonstudent populations in two ways that appear highly relevant for political scientists. First, researchers have shown that the unique setup of RPS enables the collection of innovative data.

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RPS thus have been used across a wide range of policy-related case studies, including questions of policy learning (Mayer 2009), decision making in situations of uncertainty and complexity (Hertzog et al. 2014), and policy negotiation and problem solving (Rumore, Schenk, and Susskind 2016). Closer to our scenario, RPS have been proven helpful in investigating the science–policy interface (Schinko and Bednar-Friedl 2022; Urcuqui-Bustamante et al. 2022), aligned with the growing interest in the role of science in decision making (Mason 2016) and the relationship between expertise and governance (Howlett 2014) among political scientists.

Second, literature beyond political science also has used RPS as a method of action research, consistent with the increasing appeal in the discipline to produce impact beyond empirical output. Indeed, RPS allow participants to be immersed in an experiential environment where they can work on authentic problems while being free to try different solutions (Sterman et al. 2014). In addition, RPS can be effective tools for acquiring topical knowledge related to the subject of a scenario (Edwards et al. 2019) and developing professional skills (McEwen et al. 2014). Equally important, RPS foster reflexivity and encourage participants to explore different perspectives—thereby decentering their own—by experiencing different social roles (O’Sullivan 2017).

Based on these elements, the use of RPS outside of the classroom appears relevant to political scientists. However, political science’s abundant RPS pedagogical literature (as well as the RPS literature beyond political science) does not engage with the methodological challenges raised outside of the classroom setting, making their implementation difficult. This is particularly true because RPS are known to have high setup costs and are time consuming (Lean et al. 2006). More specifically, our study takes as a starting point the challenges of conducting RPS with elite participants, focusing in particular on two social groups highly relevant to the field: policy makers and scientific experts. Indeed, despite political science literature emphasizing the challenges relative to conducting research with elites (Marland and Esselment 2019; Morse 2019), literature engaging with the practical questions that emerge when implementing RPS with this population is lacking (for an exception, see Alejandro et al. 2024).

making in contexts of uncertainty and complexity. The initiative stemmed from challenges to decision making concerning COVID-19, and different scenarios initially were explored across health and environmental crises. Beyond climate decision making, the case therefore exemplifies other instances in which stakeholders do not know the likelihood of alternative scenarios and lack a clear view of the potential consequences of their decisions.

METHODOLOGY OF THE PILOT SIMULATIONS

Our pilot simulations were conducted on November 12, 2021, at the University of Lausanne, a medium-sized Swiss university (i.e., 17,000 students) with a strong focus on human and social sciences and a clear orientation toward outreach and collaboration with the extra-academic world. Our main goal was to bridge the gap between political and scientific actors because their lack of understanding of one another’s roles and constraints seems to hinder the effective governance of complex problems. Indeed, given Switzerland’s context, in which direct exchanges between scientists and lawmakers or members of government remain occasional (see the [online appendix](#)), the need to improve connections and mutual understanding between these two worlds was identified.

During the 12 months necessary to prepare for the event, an organizing team of seven people and a project manager (i.e., a master’s student hired especially for this purpose) conducted the research on which the scenario was based, led the design of the event, and produced the documents for participants. The organizing team members were mostly political scientists and sustainability researchers at the University of Lausanne. The head of the Climate Plan Unit (i.e., the cantonal administration in charge of climate policy) also took an active part in the organization, providing useful expertise on the functioning of local politics as well as direct access to a network of policy makers.

Following a preparatory workshop (see the [online appendix](#)), we selected NETs as the topic for our RPS scenario—namely, techniques and solutions focused on capturing carbon dioxide in the atmosphere and storing it in geological or biological reservoirs. The two identical simulations involved two teams of six participants

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Because our simulations involved policy makers and scientific experts as RPS participants, our recommendations may resonate more with those whose project deals with social groups in positions of authority, who have busy schedules and potentially competing timelines and interests. Moreover, our scenario illustrates decision

each. One team consisted of policy makers role-playing scientific characters from different disciplines; the other team was composed of scientists role-playing political characters with different political ideologies (see the [online appendix](#)). The team members had to work together to carry out specific tasks and missions dealing with the potential implementation of NET solutions on a wide scale in the area in which they were based (i.e., Canton de Vaud, Switzerland). The simulations were designed to allow each team to experience what the other social group typically does in real life. To achieve this, we provided participants with material and documentation such as a character sheet, which described the role they were to play during the simulation. The requirements were as follows:

- The policy makers role-playing scientific characters were tasked with writing an interdisciplinary grant proposal on NETs and a summary of currently available knowledge for policy makers.
- The scientists role-playing political characters were tasked with defining political guidelines for the regional regulation of NETs implementation and deliberating on granting the authorization for a bioenergy with carbon capture and storage (BECCS) pilot project presented to them.

The teams were required to exchange information at several points during the scenario, mimicking typical interactions at the science–policy interface. A debriefing and discussion session was planned for the end of the simulations. The simulations also were accompanied by a data-collection setup, with observers notetaking in real time, as well as pre- and post-simulation questionnaires for participants.

CHALLENGES OF AND STRATEGIES FOR RPS BASED ON OUR PILOT SIMULATIONS

We identify three main challenges: (1) the need to adapt the RPS to sociopolitical contexts, (2) the difficulty in recruiting busy participants, and (3) group management and facilitation for an elite audience. To address the challenges raised by RPS with elite

their perception of the science–society dialogue. Other differences may be related more specifically to their professional fields. In our case, for example, these differences included professional profiles of the scientists (e.g., theoretical scientists versus applied engineers), level of seniority (e.g., junior scientists may be more likely to change their own behavior but have little authority and influence to change others'), and level of experience (e.g., scientists already involved in climate outreach may facilitate the simulation, but the event could have more impact by including participants unfamiliar with these activities). These differences must be accounted for in both recruitment strategies and when producing the adapted material given to the participants.

Additionally, the organizing team should consider its own composition relative to the context and anticipate the type of infrastructural support the partner/host organizations are willing to provide. Indeed, an organizing team composed of only social scientists with expertise in climate studies might be unbalanced in its capacity to develop a scenario of sufficient quality and plausibility for political actors. In terms of institutional context, we benefited from great support from the partner organization (i.e., the University of Lausanne)—from administrative and financial support to room booking, video making, and printing. This support facilitated the preparation of our pilot RPS and illustrates

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Adapting to Sociopolitical Contexts

As the literature in participatory research has demonstrated (Lenz 2012), research activities involving participants other than the researchers are sensitive to sociopolitical contexts. Successful RPS engaging political and scientific actors require that the values and objectives embedded within such activity—such as democratic dialogue, pluralism, and belief in science—echo the political and scientific worlds in which participants belong. Divergence with these values, excessive antagonism between science and politics, and extreme views in politics and science regarding climate change can jeopardize the simulation from the outset.

First, we recommend assessing the context of governance in which the scenario takes place and adapting the scenario accordingly. Thus, for our scenario, we chose the canton as the level of political action. This enabled participants to relate to their real-life experiences and made the scenario more plausible and attractive. As such, most political tradeoffs in our scenario involved political competencies at the cantonal rather than the federal level.

Second, we suggest reflecting on the sociopolitical diversity and the potential antagonisms of the context in which the RPS take place, to account for them and to avoid embedding them as blind spots within the setup of the simulation. In our case, differences that could significantly affect the scenario included participants' political values, their interest in science–policy interactions, their understanding of the science–policy interface, and

a well-funded university system in a high-income country that favors innovative initiatives and is willing to support policy-relevant and—in this case—climate-related events.

Recruiting Busy Participants

Sampling and recruitment are traditional methodological challenges within and beyond RPS (Guest, Namey, and Mitchell 2013). In the case of RPS that involve elites such as experts and policy makers, these challenges are especially present due to the target populations' characteristics. Political and scientific actors are elite groups that may be not only difficult to reach but also difficult to convince to participate in RPS.

Therefore, we encourage organizers to ethically consider constraints that participants may face when making decisions about scheduling and setting up potential reward systems for them. For example, is there a time of the year to avoid because some of the participants will be particularly busy? Would their participation be considered part of their workload or should participants be compensated instead (and, if so, how)?

First, by considering participants' schedules and the type of (symbolic) benefits they might receive from such activity in competition with their otherwise busy schedule, organizers maximize their chances to convince elites to participate. In our case, while adjusting to both the political and the university calendars, we outlined the salience and relevance of the topic on which participants would acquire knowledge and presented the simulation as a networking activity. Additionally, securing the participation of a key political or scientific figure at an early stage of the process may convince others to take part in the activity.

Second, we suggest relying on a network-based recruitment strategy. Access to policy makers and experts may be a challenge as the literature on elite interviews has shown (Marland and Esselment 2019). Accordingly, using partner organizations and personal networks to approach potential participants may prove successful. This also means that, considering that the participants are high profile, we would not advise delegating the recruitment to assistants. This ensures that the desired level of etiquette is respected and increases the chances that the invitation emails will be answered. Such recruitment techniques allow organizers to inquire informally about a prospective participant's potential lack of collegiality or disrespectful behavior. In that case, organizers can decide to not include someone in the activity so as to minimize the risk of conflict and resistance during the event. Organizers also may want to indicate to participants whether they are allowed and encouraged to invite others to the event because participants who have been approached first may initiate unsolicited snowball sampling. Consequently, organizers should consider how they would address such a situation—for example, adding more characters to the scenario or proposing to register a participant for subsequent RPS.

Third, recruitment can be facilitated by emphasizing the representativeness of the sample. Following the simulation's objectives, we aimed for our sampling to be attentive to the diversity of political opinion, disciplinary background, age, ethnicity, and gender because doing so offers many advantages. Diversity produces representativeness in line with the democratic values of the exercise and creates a feeling of ownership across these groups. For policy makers, we highlighted the importance of providing an accurate representation of the political landscape, incentivizing all parties to send participants to ensure their party's presence; for experts, we insisted on the critical role of their discipline to encourage their participation. The representativeness of the group also increases the legitimacy and outreach potential of the simulation, including media coverage—which, in turn, can be a motivating factor for participants to attend (provided that confidentiality rules are communicated in advance).

This methodological roadmap for conducting RPS will help political scientists and practitioners to harness the potential of RPS to bridge the gap between political and scientific actors, thereby enhancing our collective ability to tackle pressing global (and local) issues, including the climate crisis.

Facilitating RPS for an Elite Audience

Conditions for successful RPS involve the skilled management of the participants on the day of the simulation (Flood et al. 2018). Each team has a facilitator in charge of leading the planned activities and moderating the exchanges without influencing participants' decisions. Three main challenges may arise when facilitating elite participants.

First, although RPS aim to take participants out of their comfort zone and challenge their perceptions, the activity should not make them feel uncomfortable to the point of being counter-productive. Participants need to feel respected and safe to be able to reflect and question their positions and perceptions (O'Sullivan

2017), and the scenario material therefore must be adapted accordingly (e.g., level of technicality). Thus, facilitators should create an inclusive environment. They should emphasize that the main goal is the experience and that there are no right or wrong outcomes—some participants may feel anxious regarding what the group will deliver at the end of the RPS—and insist on the importance of respectful behavior.

The second facilitation strategy targets individuals. Facilitators should be attentive to participants' nonverbal communication and emotional reactions when they discover their roles and read the associated documentation, as well as during the interactions. If some participants show signs of misunderstanding, lack of interest, or even discouragement, facilitators can offer reassurance by speaking discretely to them, writing an individualized note with recommendations on how to pursue their role, and checking in during breaks. Approaching participants individually to provide constructive feedback can prevent them from losing face. Facilitators must be sensitive to the diversity of participants because their prior experience with RPS can vary widely, with some finding it difficult either to understand the exercise's logic or to engage with it in a way that enables success. Indeed, the specific skills and dispositions that facilitate participation in RPS (e.g., capacity for improvisation, open-mindedness) are distributed unequally, difficult to assess at the recruitment level, and may need to be compensated for during the simulation.

A second challenge related to facilitating elite participants involves time management and floor distribution. Policy makers and experts generally are used to speaking and being listened to rather than being asked to adapt to the constraints of an exercise. They are more likely to challenge facilitators who are attempting to manage the team, and their habit of public speaking can lead to delays during the simulations. In our pilot simulations, participants included 12 policy makers occupying executive positions, with legislative and administrative experience, and 12 scientific experts—all with a PhD but from different disciplines. As a result, facilitators should be experienced moderators and able to give direct instructions to participants—despite their position of authority in real life. Another strategy is to verbalize this concern

in the introduction by explicitly stating that time management may become an issue. Experts can be reminded of the challenges that they may have encountered when chairing a scientific panel, and policy makers can be recalled of strict rules that limit their intervention in parliaments and assemblies.

A third challenge derives from the ludic nature of RPS and how elite participants may react to it. Whereas the playful nature of RPS has been praised for facilitating learning and knowledge retention (Shaw 2004), it is crucial to find a balance between appreciating these ludic dimensions and emphasizing the seriousness of RPS objectives. Organizers should observe signs of disengagement and caricature shown by participants, who may resist

the embodiment of their role. Facilitation techniques can be used to redirect participants when they caricature their character or act in contradiction with their profile (e.g., an expert embodying a political character whose political stance differs from their personal beliefs). Facilitators also can reiterate the goal of the exercise throughout the event to increase engagement. Finally, mockery can be discussed openly during the introduction, breaks, and debriefing sessions to reflect on perceptions and prejudices.

CONCLUSION

Our pilot simulations allowed us to identify three main challenges in the development and organization of RPS: (1) the need to adapt the scenario to RPS sociopolitical contexts, (2) the difficulty of recruiting busy participants, and (3) group management and facilitation for an elite audience. The strategies outlined in this article provide insight into overcoming these challenges, such as emphasizing the need for scenario customization, ethical recruitment, and sensitive facilitation. This methodological roadmap for conducting RPS will help political scientists and practitioners to harness the potential of RPS to bridge the gap between political and scientific actors, thereby enhancing our collective ability to tackle pressing global (and local) issues, including the climate crisis.

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SUPPLEMENTARY MATERIAL

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CONFLICT OF INTEREST

The authors declare that there are no ethical issues or conflicts of interest in this research. ■

REFERENCES

Alejandro, Audrey, Lucile Maertens, Zoé Cheli, Augustin Fragnière, and Oriane Sarrasin. 2024. "Designing Role-Play Simulations for Climate Change Decision Making: A Step-by-Step Approach to Facilitate Cooperation between Science and Policy." *Environmental Science & Policy* 152:103650. <https://doi.org/10.1016/j.envsci.2023.103650>.

- Bernstein, Jeffrey L. 2008. "Cultivating Civic Competence: Simulations and Skill-Building in an Introductory Government Class." *Journal of Political Science Education* 4 (1): 1–20. <https://doi.org/10.1080/15512160701815996>.
- Biziouras, Nikolaos. 2013. "Midshipmen Form a Coalition Government in Belgium: Lessons from a Role-Playing Simulation." *PS: Political Science & Politics* 46 (2): 400–405. <https://doi.org/10.1017/S1049096513000115>.
- Edwards, Peter, Lisa Sharma-Wallace, Anita Wreford, Lania Holt, Nicholas A. Cradock-Henry, Stephen Flood, and Sandra J. Velarde. 2019. "Tools for Adaptive Governance for Complex Social-Ecological Systems: A Review of Role-Playing Games as Serious Games at the Community–Policy Interface." *Environmental Research Letters* 14 (11): 113002. <https://doi.org/10.1088/1748-9326/ab4036>.
- Flood, Stephen, Nicholas A. Cradock-Henry, Paula Blackett, and Peter Edwards. 2018. "Adaptive and Interactive Climate Futures: Systematic Review of 'Serious Games' for Engagement and Decision Making." *Environmental Research Letters* 13 (6): 063005. <https://doi.org/10.1088/1748-9326/aac1c6>.
- Guest, Greg, Emily E. Namey, and Marilyn L. Mitchell. 2013. *Collecting Qualitative Data: A Field Manual for Applied Research*. London: SAGE Publications, Ltd.
- Hertzog, Thomas, Jean-Christophe Poussin, Bréhima Tangara, Indé Kouriba, and Jean-Yves Jamin. 2014. "A Role-Playing Game to Address Future Water-Management Issues in a Large Irrigated System: Experience from Mali." *Agricultural Water Management* 137:1–14. <https://doi.org/10.1016/j.agwat.2014.02.003>.
- Howlett, Michael. 2014. "From the 'Old' to the 'New' Policy Design: Design Thinking Beyond Markets and Collaborative Governance." *Policy Sciences* 47 (3): 187–207. <https://doi.org/10.1007/s11077-014-9199-0>.
- Lay, J. Celeste, and Kathleen J. Smarick. 2006. "Simulating a Senate Office: The Impact on Student Knowledge and Attitudes." *Journal of Political Science Education* 2 (2): 131–46. <https://doi.org/10.1080/15512160600668967>.
- Lean, Jonathan, Jonathan Moizer, Michael Towler, and Caroline Abbey. 2006. "Simulations and Games: Use and Barriers in Higher Education." *Active Learning in Higher Education* 7 (3): 227–42. <https://doi.org/10.1177/1469787406069056>.
- Lenz, Sylvia. 2012. "Participatory Research in Argentina: Three Experiences in the Educational Field within the Context of the Reinstatement of Democracy." *Forum: Qualitative Social Research* 13 (1). <https://doi.org/10.17169/fqs-13.1.1521>.
- Maertens, Lucile, and Zoé Cheli. 2023. "Student-Designed Simulation: Teaching Global Governance in Practice through a Student-Led Role Play for Practitioners." *International Studies Perspectives*. <https://doi.org/10.1093/isp/ekado22>.
- Marland, Alex, and Anna Lennox Esselment. 2019. "Negotiating with Gatekeepers to Get Interviews with Politicians: Qualitative Research Recruitment in a Digital Media Environment." *Qualitative Research* 19 (6): 685–702. <https://doi.org/10.1177/1468794118803022>.
- Mason, Susan G. 2016. "Decision Making at the State and Local Levels: Does Science Matter?" *PS: Political Science & Politics* 49 (1): 21–26. <https://doi.org/10.1017/S1049096515001183>.
- Mayer, Igor S. 2009. "The Gaming of Policy and the Politics of Gaming: A Review." *Simulation & Gaming* 40 (6): 825–62. <https://doi.org/10.1177/1046878109346456>.
- McEwen, Lindsey, Alison Stokes, Kate Crowley, and Carolyn Roberts. 2014. "Using Role Play for Expert Science Communication with Professional Stakeholders in Flood Risk Management." *Journal of Geography in Higher Education* 38 (2): 277–300. <https://doi.org/10.1080/03098265.2014.911827>.
- Morse, Yonatan L. 2019. "Elite Interviews in the Developing World: Finding Anchors in Weak Institutional Environments." *Qualitative Research* 19 (3): 277–91. <https://doi.org/10.1177/1468794118773245>.
- O'Sullivan, Carmel. 2017. "Role Play and Research." In *Research Methods in Education*, 8th edition, ed. Louis Cohen, Lawrence Manion, and Keith Morrison, 606–27. New York: Routledge.
- Rumore, Danya, Todd Schenk, and Lawrence Susskind. 2016. "Role-Play Simulations for Climate Change Adaptation Education and Engagement." *Nature Climate Change* 6 (8): 745–50. <https://doi.org/10.1038/nclimate3084>.
- Schinko, Thomas, and Birgit Bednar-Friedl. 2022. "Fostering Social Learning through Role-Play Simulations to Operationalize Comprehensive Climate Risk Management: Insights from Applying the RESPECT Role Play in Austria." *Climate Risk Management* 35:100418. <https://doi.org/10.1016/j.crm.2022.100418>.
- Shaw, Carolyn M. 2004. "Using Role-Play Scenarios in the IR Classroom: An Examination of Exercises on Peacekeeping Operations and Foreign-Policy Decision Making." *International Studies Perspectives* 5 (1): 1–22. <https://doi.org/10.1111/j.1528-3577.2004.00151.x>.
- Shellman, Stephen M., and Kürşad Turan. 2006. "Do Simulations Enhance Student Learning? An Empirical Evaluation of an IR Simulation." *Journal of Political Science Education* 2 (1): 19–32. <https://doi.org/10.1080/15512160500484168>.
- Sterman, John, Travis Franck, Thomas Fiddaman, Andrew Jones, Stephanie McCauley, Philip Rice, Elizabeth Sawin, Lori Siegel, and Juliette N. Rooney-Varga.

2014. "World Climate: A Role-Play Simulation of Climate Negotiations." *Simulation & Gaming* 46 (3-4): 348-82. <https://doi.org/10.1177/1046878113514935>.
- Stodden, William P. 2012. "Simulating Humanitarian Aid Decision Making in International Relations Classrooms." *PS: Political Science & Politics* 45 (4): 765-71. <https://doi.org/10.1017/S1049096512000790>.
- Urcuqui-Bustamante, Andres M., Theresa L. Selfa, Kelly W. Jones, Catherine M. Ashcraft, Robert H. Manson, and Heidi Asbjornsen. 2022. "Learning Impacts of Policy Games: Investigating Role-Play Simulations (RPS) for Stakeholder Engagement in Payment for Hydrological Services Program in Veracruz, Mexico." *Socio-Ecological Practice Research* 4:305-23. <https://doi.org/10.1007/s42532-022-00131-9>.
- Watson, K. Anne. 2022. "Tick, Tick, Boom: Simulating Human Rights Decisions in the Classroom." *PS: Political Science & Politics* 55 (3): 615-21. <https://doi.org/10.1017/S1049096522000051>.