

Valence Valence Valence Valence Valence Valence Valence Valence Valence
Valence

Stefano Sangiovanni

Supervisors: Andrea Ceron¹, Giovanna M. Invernizzi²

¹ Department of Social and Political Sciences, University of Milan

² Department of Social and Political Sciences, Bocconi University

NASP-POLS PhD Project Colloquium
April 22, 2025

Introduction and Theoretical Background

- **Valence theory:** Voters are influenced not only by policy positions, but also by concepts on which all voters hold near-identical preferences (Stokes, 1992; Clark, 2009)
 - **Policy-based:** perceived competence on universally valued goals (Groseclose, 2001; Jacoby, 2009; Clark, 2009)
 - **Character-based:** traits like honesty, competence, charisma, and unity (Clark, 2009; Adams, 2001)
- **Key questions:**
 - How parties strategically use valence appeals to shape voter perceptions and structure party competition in different contexts (parliamentary debates, electoral campaign)
 - How they navigate the trade-off between **positional** and **valence-based** appeals (Stokes, 1992; Clark, 2009)
 - How **negative valence shocks**, such as political scandals, affect voter perceptions of politicians

Structure of the Dissertation

Three (or more) **interconnected empirical papers**:

- **Paper 1:** Electoral Campaigns and Valence: Daily-level data on parties' valence signaling during campaigns
- **Paper 2:** Economic Performance and Strategic Valence: Linking macroeconomic indicators to parties' valence strategies
- **Paper 3:** Experimental Evidence on Political Scandals: Two experiments on the ..

Donald Trump: I could "shoot somebody and I wouldn't lose any voters"



Political Scandals and Valence Theory

- Political scandals involve **norm-breaking behavior** that violates societal norms, moral codes, or values (Genovese and Farrar-Myers, 2010; Thompson, 2013)
- Allegations of illegal, unethical, or immoral conduct directed at politicians or institutions (Rottinghaus, 2023), they attract public scrutiny and attention (Thompson, 2013; Marion, 2010)
- If scandals are perceived as **negative valence information**, then voters should negatively evaluate involved politicians (Doherty, Dowling, and Miller, 2014; Rottinghaus, 2023)
- Some studies find that scandals have negative political consequences even in polarized contexts (Darr et al., 2019; Wolsky, 2022), while others suggest minimal impact on politicians' careers and electoral behavior (Funck and McCabe, 2021; Lee et al., 2023)

Literature Gaps in Political Scandal Research

- Limited focus on types of scandals beyond corruption, reducing generalizability (Kumlin and Esaiasson, 2012)
- Insufficient research on voters' reactions to different types of scandals
- Lack of systematic comparisons across various contexts (moral values are country dependent), scandal types and valence informations (Kumlin and Esaiasson, 2012)
- Effects of different scandal types on electoral behavior in polarized contexts remain poorly understood (Puglisi and Snyder, 2011; Darr et al., 2019; Rottinghaus, 2023)

Research Design: Two Complementary Experiments

Main Research Question

How does different types of **political scandals** shape voter evaluations of political candidates?

Experiment 1: Conjoint Design ([Hainmueller, Hopkins, and Yamamoto, 2014](#))

- How do voters weigh different political scandals relative to other candidate attributes, such as party affiliation, policy positions, and positive valence?
- Do shared values (co-partisanship, ideological alignment) moderate the impact of political scandals on voter evaluations?

Experiment 2: Audio-Based Survey Experiment

- How does the tone and rhetorical delivery of a scandal accusation (calm vs. aggressive) influence voter perceptions of the accused politician?
- Do policy positions and ideological alignment condition the effect of scandal accusations on voter attitudes?

The Conjoint Experiment

- Present **detailed-rich fictional scenario** where two candidates compete in an actual election ([Galasso, Nannicini, and Nunnari, 2023](#))
- Participants will express a **preference between two politicians** with differing characteristics across various attributes
- Each respondent completes **3 tasks**, each time choosing between **2 candidates** and indicating their preferred choice
- **Sample:** 2,000 respondents per country (USA, UK, Italy) recruited via a survey company
- **Power Analysis:** Our sample size allows us to detect a 0.04 effect for an attribute with 5 levels with 0.84 statistical power ([Lukac and Stefanelli, 2020](#))

Experimental Design: Profile Attributes

- **General Attributes:** Gender, Party Affiliation, Incumbency Status, Position on Immigration, Position on Economic Policies

Attributes	Levels
Political Scandal	No scandal Investigated for unwanted sexual conduct towards staff members Falsification of credentials on curriculum vitae Investigated for corruption Participated in a violent anti-government protest while underage
Positive Valence	No positive valence Had 95% of campaign statements certified as accurate by an independent fact checker Led public-private partnership preventing layoffs during local economic downturn Successfully rallied party support for innovative policy agenda, turning initial 30% backing into 90% consensus Voted with party positions on 93% of legislative votes

Data Analysis Approach

- **AMCE:** The average effect of varying one attributes of a profile on the probability that that profile will be chosen by a respondent (Bansak et al., 2022)
- **Marginal Means:** An alternative estimator that does not rely on reference categories and is gaining preference in recent research (Casiraghi, Curini, and Alessandro Nai, 2024)
- **Exploratory Analyses:**
 - **ACIEs:** Examining how the impact of one attribute (e.g. party affiliation) depends on another (e.g. scandal)
 - **Subgroup analyses:** Preference heterogeneity across respondent characteristics (Leeper, Hobolt, and Tilley, 2020)

Audio Experiment

- Investigate how the **tone of delivery** influences the effectiveness of valence attacks (Tigue et al., 2012; Gerstle and A. Nai, 2019; Kulz et al., 2023)
- Utilize open-source multi-voice **TTS technology** to simulate realistic political debates
- **Sample:** 2,000 respondents per country (USA, UK) recruited via a survey company
- Participants will be randomly assigned to listen to three debates or read the text version. At the end of the experiment, respondents will indicate their preferred candidate
- **Debate Structure (Approx. 2 minutes):**
 - An anchor introduces the two politicians
 - One politician attacks the other over a political scandal (negative valence)
 - The second politician redirects the discussion to their own policy proposals

Experimental Manipulations

Gender "Accused" Politician	Male Female
Gender "Attacking" Politician	Male Female
Tone "Attacking" Politician	Calm Aggressive
Policy Topic	Promote strict border controls (Right-wing) More jobs, reduced unempl (Valence issue) Financial support for low-income families (Left-wing)
Valence Attack	Corruption Sexual Allegations

How are we generating the audios?

- **OS Text-To-Speech Model:** VITS ([Kim, Kong, and Son, 2021](#)), an end-to-end speech synthesis multispeaker model trained on the CSTR-VCTK Corpus ([Veaux, Yamagishi, and MacDonald, 2017](#))
- **Pipeline 1: Pre-written Scripts + TTS**
 - We manually write a set of debate scripts, covering different policy topics and valence attacks
 - A Python script processes the text with the TTS model, converting it into audio while adjusting speaker gender and voice tone
- **Pipeline 2: LLM-Generated Debates + TTS**
 - An LLM generates debate scripts based on prompts specifying the policy topic and the scandal
 - The generated text is fed into the TTS model for audio synthesis
- **Post-processing:** we apply enhancements such as noise reduction and pitch adjustments using Librosa and Soundfile to improve realism

Example: Pre-written Debate Script

Anchorman: Welcome to today's debate on **economic policy**. Senator Williamson, Senator Smith, thank you for being here.

Senator John Williamson: Good morning, and thank you for the opportunity to participate.

Senator Jane Smith: Good morning, I'm glad to be here.

Anchorman: Senator Williamson, let's start with you. What is your perspective on today's economic challenges?

Senator John Williamson: Our priority must be **job creation and unemployment reduction**. We've worked on policies that aims to reduce unemployment and provide more opportunities for our citizens. Our goal should be to improve living standards and ensure long-term stability.

Anchorman: Senator Smith, do you have a response?

Senator Jane Smith: Senator Williamson talks about job creation, but how can anyone take his words seriously when he's been investigated for **unwanted sexual conduct** towards staff members? This isn't just a matter of policy—it's about trust, integrity, and accountability.

The Impact of Valence on Polling Support during Electoral Campaigns

Main Research Questions:

- **RQ1:** Do parties gain polling support by increasing their valence signaling during electoral campaigns?
- **RQ2:** Does the effect of valence vary when parties shift or moderate their ideological positions?

Theoretical Expectations:

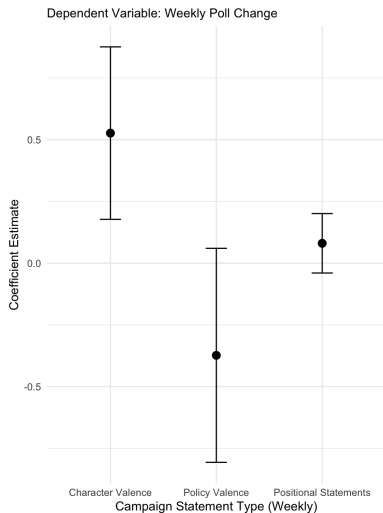
- Emphasizing valence is associated with gains in polling support.
- Character-based valence has a stronger effect than policy-based valence.
- The effect of valence is amplified for parties that have moderated their ideological stance since the previous election.

Research Design: Data and Methodology

- **Valence Data:** Comparative Campaign Dynamics Dataset (Debus, Somer-Topcu, and Tavits, 2018), coding of self-promotional statements in newspapers by political parties during campaigns.
- **Polling Data:** Polls dataset (Jennings and Wlezien, 2018), plus country-specific polling data from Wikipedia.
- **Sample:** 9 European countries, 17 elections.
- **Panel Dataset:**
 - Daily data for each party during the campaign, valence measured by the number of statements made each day.
 - Polling data computed daily, using the most recent available poll for each day.
- **Main Variables:**
 - **DV:** Weekly change in polling support (Δ Poll).
 - **IVs:** Weekly measures: Character-based valence, Policy-based valence, Positional statements.
- **Methods:** Fixed-Effect panel regression.

$$\Delta Poll_{i,t} = \beta_1 \cdot \text{Valence_Char}_{i,t} + \beta_2 \cdot \text{Valence_Policy}_{i,t} + \gamma \cdot \mathbf{X}_{i,t} + \alpha_i + \varepsilon_{i,t}$$

Preliminary Results



	Δ Poll Weekly
Policy Valence	-0.373 (0.221)
Character Valence	0.527** (0.178)
Positional	0.080 (0.061)
Observations	1,970
R ²	0.033

Note: Robust standard errors clustered at the party level.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Economic Performance Indicators and Strategic Valence Choices

Main Research Questions

- **RQ1:** How do governing parties adjust their emphasis on valence traits in response to positive economic indicators?
- **RQ2:** How do opposition parties adjust their communication strategies around economic issues in response to positive economic indicators?

Theoretical Expectations

- Governing parties emphasize valence traits when economic performance indicators are strong.
- Opposition parties highlight positional issues (e.g. redistribution) to challenge the incumbent.
- Parties select issue emphasis strategically, based on whether they can claim credit or shift blame.

Research Design: Data and Methodology

Data:

- Parliamentary debates (e.g., ParlaMint).
- Economic performance indicators (e.g., GDP growth, unemployment rates).

Methodology:

- Use a **Natural Language Inference (NLI)** approach to classify debates:
 - **"Economic-Related" valence traits:** competence in managing the economy, effective governance, and leadership during economic crises.
 - **Positional issues:** specific policy stances on economic matters.
- Fine-tune an NLI classifier, such as Political DEBATE ([Burnham et al., 2024](#)) to improve accuracy.
- Analyze how governing parties emphasize economic valence traits in response to positive economic indicators.
- Examine how opposition parties shift focus to positional issues under similar conditions.

Conclusions and Next Steps

Conjoint Experiment

- Findings will show the relative weight of scandal information compared to party affiliation, policy positions, and positive valence in respondents evaluations
- Ensure proper randomization of valence attributes while maintaining realistic candidate profiles

Audio Experiment


- Offering insights into how tone and framing of political scandals related attacks influence candidate perceptions and voter decision-making
- Validate the emotional tone of political speech (Calm vs. Aggressive). Potential approach: use SpeechBrain ([Ravanelli et al., 2021](#)) trained on IEMOCAP
- Compare the advantages of LLM-generated vs. manually written debate scripts: which approach better captures natural political discourse while maintaining experimental validity

Thank You for Your Attention!

`stefano.sangiovanni@unimi.it`

 `ste-sangiovanni`

 `@stesangio`

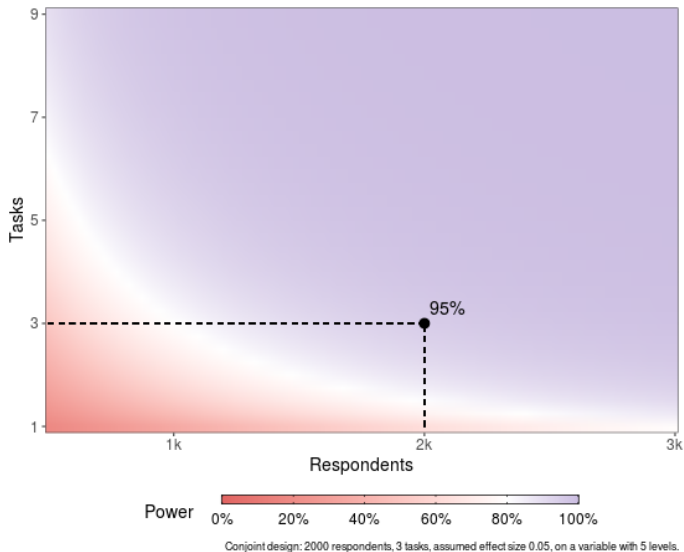
 `@stesangio.bsky.social`

- Adams, James (2001). "A Theory of Spatial Competition with Biased Voters: Party Policies Viewed Temporally and Comparatively". *British Journal of Political Science* **31**.(1), 121–158.
- Bansak, Kirk et al. (2022). "Using Conjoint Experiments to Analyze Election Outcomes: The Essential Role of the Average Marginal Component Effect (AMCE)". *Social Science Research Network (SSRN)*.
URL: <https://ssrn.com/abstract=3588941>.
- Burnham, Michael et al. (2024). "Political DEBATE: Efficient Zero-shot and Few-shot Classifiers for Political Text". *arXiv preprint arXiv:2409.02078*.
- Casiraghi, Matteo C. M., Luigi Curini, and Alessandro Nai (2024). "Populism in the eye of the beholder? A conjoint experiment on citizens' identification of populists". *European Journal of Political Research* **63**.(1), 214–235.
- Clark, Michael (2009). "Valence and Electoral Outcomes in Western Europe, 1976–1998". *Electoral Studies* **28**.(1), 111–122.
- Darr, Joshua P. et al. (2019). "Collision with Collusion: Partisan Reaction to the Trump-Russia Scandal". *Perspectives on Politics* **17**.(3), 772–787.
- Debus, Marc, Zeynep Somer-Topcu, and Margit Tavits (2018). *Comparative Campaign Dynamics Dataset*.
- Doherty, David, Conor M Dowling, and Michael G Miller (2014). "Does Time Heal All Wounds? Sex Scandals, Tax Evasion, and the Passage of Time". *PS: Political Science & Politics* **47**.(2), 357–366.
- Funck, Amy S. and Katherine T. McCabe (2021). "Partisanship, Information, and the Conditional Effects of Scandal on Voting Decisions". *Political Behavior* **44**, 1389–1409.
- Galasso, Vincenzo, Tommaso Nannicini, and Salvatore Nunnari (2023). "Positive Spillovers from Negative Campaigning". *American Journal of Political Science* **67**.(1), 5–21.
- Genovese, Michael A. and Victoria A. Farrar-Myers (2010). *Corruption and American Politics*. Amherst, N.Y.: Cambria Press.
- Gerstle, J. and A. Nai (2019). "Negativity, emotionality and populist rhetoric in election campaigns worldwide, and their effects on media attention and electoral success". *European Journal of Communication* **34**.(4), 410–444.
DOI: [10.1177/0267323119861875](https://doi.org/10.1177/0267323119861875).

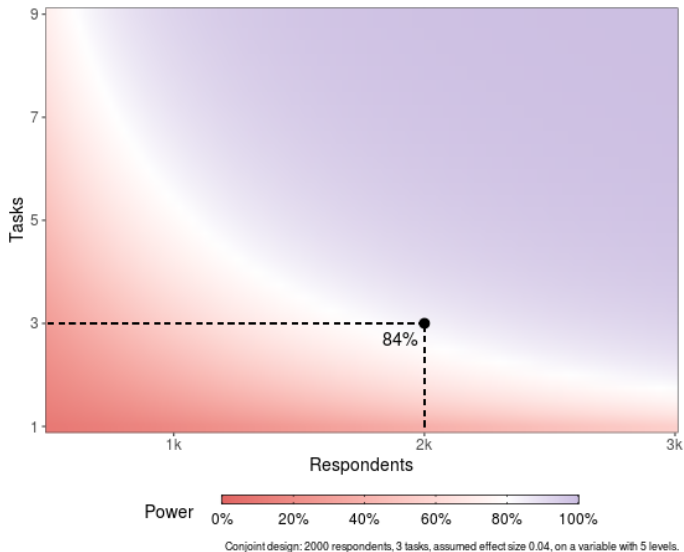
- Groseclose, Tim (2001). "A Model of Candidate Location When One Candidate Has a Valence Advantage". *American Journal of Political Science*, 862–886.
- Hainmueller, Jens, Daniel J. Hopkins, and Teppei Yamamoto (2014). "Causal Inference in Conjoint Analysis: Understanding Multidimensional Choices via Stated Preference Experiments". *Political Analysis* 22.(1), 1–30. ISSN: 1047-1987, 1476-4989.
DOI: 10.1093/pan/mpt024.
- Jacoby, William G (2009). "Public Opinion during a Presidential Campaign: Distinguishing the Effects of Environmental Evolution and Attitude Change". *Electoral Studies* 28.(3), 422–436.
- Jennings, W. and C. Wlezien (2018). "Election polling errors across time and space". *Nat Hum Behav* 2, 276–283.
DOI: 10.1038/s41562-018-0315-6.
- Kim, Jaehyeon, Jungil Kong, and Juhee Son (2021). "Conditional Variational Autoencoder with Adversarial Learning for End-to-end Text-to-speech". *International Conference on Machine Learning*. PMLR, 5530–5540.
- Kulz, J. et al. (2023). "United States politicians' tone became more negative with 2016 primary campaigns". *Scientific Reports* 13.(1), 10495.
DOI: 10.1038/s41598-023-36839-1.
- Kumlin, Staffan and Peter Esaiasson (2012). "Scandal Fatigue? Scandal Elections and Satisfaction with Democracy in Western Europe, 1977–2007". *British Journal of Political Science* 42.(2), 263–282.
- Lee, Amber Hye-Yon et al. (2023). "Motivated to Forgive? Partisan Scandals and Party Supporters". *Political Psychology* 44.(4), 729–747.
- Leeper, Thomas J., Sara B. Hobolt, and James Tilley (2020). "Measuring Subgroup Preferences in Conjoint Experiments". *Political Analysis* 28.(2), 207–221.
DOI: 10.1017/pan.2019.30.
- Lukac, M. and A. Stefanelli (2020). *Conjoint Experiments: Power Analysis Tool*. Retrieved from <https://mblukac.shinyapps.io/conjoints-power-shiny/>.
- Marion, Nancy E. (2010). *The politics of disgrace: The role of political scandal in American politics*. Carolina Academic Press.

- Puglisi, Riccardo and James M. Snyder (July 2011). “Newspaper Coverage of Political Scandals”. *The Journal of Politics* **73**(3), 931–950. ISSN: 0022-3816, 1468-2508.
DOI: 10.1017/S0022381611000569.
- Ravanelli, Mirco et al. (2021). *SpeechBrain: A General-Purpose Speech Toolkit*. arXiv:2106.04624. arXiv: 2106.04624 [eess.AS].
- Rottinghaus, Brandon (2023). “Do Scandals Matter?” *Political Research Quarterly* **76**(4), 1932–1943.
DOI: 10.1177/10659129231185532. eprint: <https://doi.org/10.1177/10659129231185532>.
- Stokes, D. E. (1992). “Valence Politics”. *Electoral Politics*. Ed. by D. Kavanagh. Oxford: Clarendon Press.
- Thompson, John B. (2013). *Political scandal: Power and visibility in the media age*. Polity Press.
- Tigue, C. C. et al. (2012). “Voice pitch influences voting behavior”. *Evolution and Human Behavior* **33**, 210–216.
- Veaux, Christophe, Junichi Yamagishi, and Kirsten MacDonald (2017). “CSTR VCTK Corpus: English Multi-speaker Corpus for CSTR Voice Cloning Toolkit”.
- Wolsky, Adam D. (2022). “Scandal, Hypocrisy, and Resignation: How Partisanship Shapes Evaluations of Politicians’ Transgressions”. *Journal of Experimental Political Science* **9**, 74–87.

Appendix 1.1 - Power Analysis - 0.05 es



Appendix 1.2 - Power Analysis - 0.04 es



Appendix 2.1 - Prompt Example

```
prompt = (  
    f"This is a dialogue between two politicians, introduced by a journalist. The debate focuses on {selected_policy}. "  
    f"Politician A defends their plan, while Politician B questions Politician A's competence due to a past political scandal. The political scandal is {selected_scandal}."  
    "Politician A keeps emphasizing the policy, while Politician B focuses on the scandal. The debate should last 2 minutes max."
```

Appendix 2.2 - Prompt Example

```
prompt = (  
    f"This is a dialogue between two politicians, introduced by a journalist. "  
    f"The debate focuses on {selected_policy}, with Politician A defending their plan "  
    f"and Politician B criticizing them based on {selected_scandal}. They will keep doing that everytime. I will write you the start of the dialogue"  
    f"Policy: {selected_policy}\n"  
    f"Scandal: {selected_scandal}\n\n"  
    f"Moderator (Journalist): Welcome to today's debate on the new proposal about {selected_policy}. "  
    "We have two guests: First Senator John Williamson will speak and then Senator Jane Smith will reply. "  
    "Let's begin.\n\n"  
    "Politician A: Thank you for having me. I believe our plan will bring great benefits to our nation.\n"  
    f"Politician B: While Senator Williamson talks about benefits, let's not forget their involvement in {selected_scandal}.\n"  
)
```

Appendix 3.1 - Full Profile Table

Attributes	Levels
Gender	Male Female
Party Affiliation	Right-Wing Left-Wing
Incumbency Status	Incumbent Opposition
Position on Immigration	Implement strict border controls and reduce immigration Promote inclusive immigration policies and increase quotas for asylum seekers
Position on Economic Policies	Advocates for tax reductions, market deregulation and business-friendly policies Supports stronger market regulations, higher corporate taxation and expanded welfare programs
Political Scandal	No scandal Investigated for unwanted sexual conduct towards staff members Falsification of credentials on curriculum vitae Investigated for corruption Participated in a violent anti-government protest while underage
Positive Valence	No positive valence Had 95% of campaign statements certified as accurate by an independent fact checker Led public-private partnership preventing layoffs during local economic downturn Successfully rallied party support for innovative policy agenda, turning initial 30% backing into 90% consensus Voted with party positions on 93% of legislative votes

Appendix 3.2 - Valence vs Valence

Attributes	Levels
Political Scandal	No scandal Investigated for unwanted sexual conduct towards staff members Falsification of credentials on curriculum vitae Investigated for appropriation of illegal funding Participated in a violent anti-government protest while underage
Positive Valence	No positive valence Received an award for championing workplace equity and inclusion from the National Diversity & Inclusion Association He had 95% of campaign statements certified as accurate by an independent fact checker Led a public-private partnership that prevented layoffs during a local economic downturn Received a national award for community service while underage