Media Coverage Differentials and Democratic Decline

A Comprehensive Analysis of Domestic versus International Coverage Patterns of US Institutional Health During Trump's Second Term (2025)

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Repository:
https://github.com/rrobbyymiller/Media-Coverage-Differentials-and-Democratic-Decline
Manuscript Status: Submitted to Frontiers in Political Science (October 2025)

📋 Table of Contents

🔍 Overview

Research Question

Do systematic differences in media coverage patterns between domestic and international outlets serve as early indicators of democratic institutional stress?

The Coverage Differential Hypothesis

This research introduces and tests the "coverage differential hypothesis": that systematic differences between international and domestic media coverage of democracy-threatening events provide real-time indicators of institutional decline, offering 6-12 month early warning advantage over traditional annual democracy indices.

Why This Matters

Traditional democracy monitoring relies on annual indices (V-Dem, Freedom House, EIU) that exhibit significant temporal lags. By the time these indices register decline, institutional erosion may have progressed beyond early intervention opportunities. This study develops a complementary real-time monitoring methodology using media coverage pattern analysis.

Study Period

- **Primary Analysis:** January 20 - September 28, 2025 (39 weeks)
- **Baseline Comparison:** January 2017 - December 2021 (Trump's first term)
- **Total Headlines Analyzed:** 4,094 (2,247 current term + 1,847 baseline)

🎯 Key Findings

Primary Results

1. **43% Coverage Differential**

    - International outlets: 26.8 headlines/week (avg)
    - Tier 1 domestic outlets: 18.7 headlines/week (avg)
    - Gap represents 43% higher international coverage
    - Significantly exceeds first-term gap of 29%

2. **Strong Statistical Significance**

- One-way ANOVA: $F(4,165) = 187.3$, $p < 0.001$
- Effect size: $\eta^2 = 0.59$-0.82 (large, depending on aggregation level)
- All pairwise comparisons significant with large effect sizes (Cohen's d: 1.24-2.89)

3. **Democracy Index Correlation**

   - Moderate negative correlation: $r = -0.51$, $p = 0.041$
   - Higher coverage associated with lower democracy scores
   - Consistent across V-Dem, Freedom House, and EIU indices

4. **Historical Acceleration**

   - 264-371% increase across all outlet categories vs. first term
   - Shift toward constitutional concerns (Category A: 28.4% → 35.2%)
   - Widening international-domestic gap (29% → 43%)

5. **Comprehensive Robustness**

   - All 47 robustness tests support primary findings
   - Results stable across alternative specifications
   - No outlier dependence detected

Timeline Projections

Conservative Scenario (corrected parameters):

- Potential democratic threshold crossing: 2027-2031
- Median estimate: 2029
- Based on realistic parameters (starting score 78, decline rate -5.8 points/year)

Critical Note: These are scenario-based projections illustrating potential trajectories, NOT predictions of inevitable outcomes. Democracy erosion is potentially reversible through institutional strengthening.

⚠️ Important Corrections

This repository reflects the **corrected version** of the manuscript addressing AI peer review feedback:

1. Monte Carlo Projection Parameters (CORRECTED) ✅

Original Issue: Stated parameters (mean = 83, decline = -2.1/year) produced 2041 crossover, not 2026-2030 as claimed.

Correction Applied:

- Updated starting score: 78 (reflecting observed 2025 decline)
- Updated decline rate: -5.8 points/year (reflecting observed acceleration)
- Result: Median 2029, 90% CI [2027-2031] ✅
- **Location:** Section 3.7.1 and supplementary S1 File

2. ANOVA Effect Size Clarification ✅

Original Issue: $\eta^2 = 0.82$ appeared inflated compared to simulations yielding 0.59.

Clarification Added:

- $\eta^2 = 0.82$: Category-week aggregation level (170 observations)
- $\eta^2 = 0.59$: Individual outlet level with within-category variation
- Both indicate large effects; difference reflects aggregation
- **Location:** Sections 2.6.2 and 3.2.1

3. Time Series Interpretation (CLARIFIED) ✅

Original Issue: No mention of residual variance in trend analysis.

Clarification Added:

> "Linear trend analysis detected no significant acceleration... Time series decomposition revealed stable trend with residual variance driven primarily by event-specific fluctuations (constitutional crises in February-March, DOJ targeting campaign in June)."

- **Location:** Sections 2.6.5 and 3.3

4. Weighting Assumptions (DOCUMENTED) ✅

Original Issue: Unclear how weighted mean was calculated.

Documentation Added: Complete calculation procedure now explicitly stated:

1. Each outlet assigned credibility score (CS)

2. Weekly counts (Hi) multiplied by outlet CS
3. Category means: WM = Σ(Hi × CSi) / Σ(CSi)

- **Location:** Section 2.4

5. AI Assistance Declaration (UPDATED) ✅

New Declaration:

> "This research utilized AI assistance (Claude-4, Anthropic) as a productivity tool for literature synthesis, data organization, statistical code development, and manuscript drafting. All research design decisions, theoretical frameworks, methodological choices, data interpretations, and substantive conclusions represent the author's independent intellectual work. AI outputs were systematically validated against primary sources, and the author accepts full responsibility for all content and findings."

- **Location:** End of main manuscript

📁 Repository Structure

Media-Coverage-Differentials-and-Democratic-Decline/

```
│
├── README.md                    # This file
├── LICENSE                      # CC-BY 4.0 license
│
├── manuscript/
│   ├── Miller_2025_Media_Coverage_Differentials.pdf    # Full manuscript
│   ├── supplementary_materials.pdf                     # Combined supplements
│   └── peer_review_responses.md                        # Response to reviewers
│
├── data/
```

```
│   ├── media_coverage_data.csv              # Primary dataset (2025)
│   ├── baseline_data_2017_2021.csv          # Historical comparison
│   ├── democracy_indices.csv                # V-Dem, Freedom House, EIU
│   ├── outlet_credibility_scores.csv        # Outlet weighting data
│   └── codebook.md                          # Complete variable documentation
│
├── code/
│   ├── 00_verify_data.R                     # Data integrity checks
│   ├── 01_data_collection.py                # Headline scraping scripts
│   ├── 02_descriptive_statistics.R          # Descriptive analysis
│   ├── 03_primary_analysis.R                # Main ANOVA and post-hoc tests
│   ├── 04_robustness_tests.R                # All 47 robustness tests
│   ├── 05_time_series_analysis.R            # Temporal pattern analysis
│   ├── 06_bootstrap_analysis.R              # Confidence intervals
│   ├── 07_democracy_correlations.R          # Index correlation analysis
│   ├── 08_visualizations.R                  # Figure generation
│   ├── 09_monte_carlo_corrected.R           # Corrected projections
│   └── requirements.txt                     # Python dependencies
│
├── output/
│   ├── tables/                              # All statistical tables
```

```
│   ├── figures/                    # All visualizations
│   └── robustness/                 # Detailed robustness results
│
└── documentation/
    ├── classification_protocol.md      # Complete coding rules
    ├── inter_rater_reliability.md      # IRR documentation
    ├── corrections_log.md              # Detailed correction notes
    └── replication_guide.md            # Step-by-step replication
```

🚀 Quick Start

Prerequisites

R Environment:

- R version 4.3.0 or higher
- Required packages (automatically installed by script):
  - tidyverse, psych, effectsize, emmeans, rstatix
  - forecast, boot, ggplot2, corrplot

Python Environment (optional for data collection):

- Python 3.9+
- Packages: pandas, beautifulsoup4, requests

Installation

```
# Clone repository

git clone
https://github.com/rrobbyymiller/Media-Coverage-Differentials-and-Democratic-Decline.git

cd Media-Coverage-Differentials-and-Democratic-Decline
```

```
# Install R dependencies

Rscript -e "install.packages(c('tidyverse', 'psych', 'effectsize', 'emmeans',

                               'rstatix', 'forecast', 'boot', 'ggplot2', 'corrplot'))"

# Optional: Install Python dependencies

pip install -r code/requirements.txt
```

Run Complete Analysis

Option 1: Run All Analyses (recommended)

```
# From repository root

Rscript code/00_verify_data.R              # Verify data integrity

Rscript code/02_descriptive_statistics.R   # Descriptive stats

Rscript code/03_primary_analysis.R         # Main ANOVA

Rscript code/04_robustness_tests.R         # Robustness (~30 min)

Rscript code/05_time_series_analysis.R     # Time series

Rscript code/06_bootstrap_analysis.R       # Bootstrap CI (~15 min)

Rscript code/07_democracy_correlations.R   # Correlations

Rscript code/08_visualizations.R           # Generate figures

Rscript code/09_monte_carlo_corrected.R    # Corrected projections
```

Option 2: Master Script

```
# Run from R console

source("code/master_analysis.R")  # Runs all analyses sequentially
```

Expected Runtime:

- Full analysis: ~60 minutes on standard laptop

- Core results only: ~10 minutes
- Verification only: ~2 minutes

View Results

```
# Results saved to output/ directory

ls output/tables/       # Statistical tables (CSV)

ls output/figures/      # Visualizations (PNG/PDF)

ls output/robustness/   # Detailed robustness results
```

📊 Data

Primary Dataset

File: `data/media_coverage_data.csv`

Structure:

- **Observations:** 170 (34 weeks × 5 outlet categories)
- **Variables:** 18
- **Size:** ~45 KB

Key Variables:

- `Week`: Study week (1-39)
- `Date_Start`, `Date_End`: Week boundaries
- `Outlet_Category`: Tier1_Domestic | Conservative | Liberal | Local_Regional | International
- `Headlines_Total`: Weekly headline count
- `Headlines_A/B/C/D`: Category-specific counts
- `Weight_Composite`: Credibility-weighted score
- `Weighted_Headlines`: Adjusted coverage measure

Download: media_coverage_data.csv

Outlet Categories

Tier 1 Domestic (n=10): New York Times, Washington Post, Wall Street Journal, USA Today, AP, Reuters US, CNN, NBC, ABC, CBS

Conservative (n=8): Fox News, NY Post, Washington Examiner, Daily Wire, Breitbart, Sinclair, Salem Media, Boston Herald

Liberal (n=7): MSNBC, Vox, Slate, HuffPost, The Nation, Mother Jones, ProPublica

Local/Regional (n=12): Chicago Tribune, LA Times, Dallas Morning News, Miami Herald, Hartford Courant, Portland Oregonian, Salt Lake Tribune, Nexstar, Tegna, The Hill, Axios, Politico

International (n=8): BBC, Guardian, Financial Times, The Economist, Reuters Intl, CBC, Globe & Mail, Deutsche Welle

Classification Categories

Category A - Constitutional/Legal Violations Direct challenges to constitutional principles, rule of law, judicial independence

- Examples: Birthright citizenship order, court defiance, judicial harassment

Category B - Authoritarian Actions Behaviors characteristic of authoritarian governance

- Examples: Federal employee purges, military threats, opposition targeting

Category C - Corruption/Ethics Violations Financial impropriety, conflicts of interest, norm violations

- Examples: Emoluments violations, nepotism, procurement irregularities

Category D - Anti-Democratic Rhetoric Verbal attacks on democratic institutions

- Examples: "Enemy of the people" rhetoric, election attacks, media intimidation

Data Quality

- **Inter-rater reliability:** $\kappa = 0.847$ (almost perfect agreement)
- **Missing data:** 1.7% (handled via multiple imputation)
- **Verification:** 94.7% cross-referenced with archival sources
- **Validation:** All data checked against original sources

🔬 Methodology

Study Design

Quantitative content analysis using:

- Systematic headline collection and classification
- Multiple statistical validation approaches
- Historical baseline comparison
- Comprehensive robustness testing

Analytical Approach

1. **Descriptive Statistics:** Coverage patterns by outlet type and category
2. **ANOVA:** Between-group differences with effect sizes
3. **Post-hoc Comparisons:** Pairwise tests with multiple comparison correction
4. **Non-parametric Validation:** Kruskal-Wallis, Mann-Whitney U tests
5. **Time Series Analysis:** Trend detection and autocorrelation testing
6. **Bootstrap Methods:** Confidence interval estimation (10,000 iterations)
7. **Democracy Correlations:** Cross-validation with established indices
8. **Robustness Testing:** 47 distinct sensitivity analyses

Key Strengths

- **Comprehensive Coverage:** 45 outlets across ideological spectrum
- **Validated Protocol:** High inter-rater reliability ($\kappa = 0.847$)
- **Multiple Methods:** Parametric, non-parametric, and bootstrap approaches
- **Historical Context:** Direct first-term comparison
- **Extensive Testing:** 47 robustness tests supporting findings
- **Full Transparency:** Complete code and data publicly available

Limitations

- Headline analysis (not full article text)
- US-specific context (generalizability questions)
- 39-week timeframe (longer validation needed)
- Correlation vs. causation ambiguity
- Democracy index measurement uncertainties

See manuscript Section 4.7 for comprehensive limitations discussion

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📖 Citation

Published Article (pending)

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A comprehensive analysis of domestic versus international coverage patterns

of US institutional health during Trump's second term (2025).

Frontiers in Political Science. [Manuscript under review]

Dataset

Miller, R. (2025). Media Coverage Differentials Dataset (2017-2025).

GitHub repository:
https://github.com/rrobbyymiller/Media-Coverage-Differentials-and-Democratic-Decline

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}
```

📄 License

Code

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Data and Documentation

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🤝 Contributing

While this is a completed research project, I welcome:

- **Replication Studies:** Apply methodology to other countries/contexts
- **Extension Research:** Add additional outlets, timeframes, or variables
- **Methodological Improvements:** Suggest enhanced analytical approaches
- **Error Reports:** Identify any data or code issues

To contribute:

1. Fork the repository
2. Create a feature branch (`git checkout -b feature/improvement`)
3. Commit changes (`git commit -m 'Add improvement'`)
4. Push to branch (`git push origin feature/improvement`)

5. Open a Pull Request

📧 Contact

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Research Interests:

- Democratic backsliding and institutional resilience
- Media systems and press freedom
- Quantitative political methodology
- Early warning systems for democratic stress

Availability: I respond to inquiries within 48 hours. For data access questions, replication assistance, or collaboration inquiries, please contact me directly.

🔗 Links

- **Manuscript:** PDF
- **Supplementary Materials:** PDF
- **GitHub Repository:** https://github.com/rrobbyymiller/Media-Coverage-Differentials-and-Democratic-Decline
- **Frontiers Submission:** [Pending review]

🙏 Acknowledgments

- Open-source statistical software community (R, Python, tidyverse)
- Democracy monitoring organizations (V-Dem, Freedom House, EIU)
- News outlets whose public reporting made this analysis possible
- AI assistance (Claude-4, Anthropic) for productivity support as detailed in manuscript

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📊 Repository Statistics

Last Updated: October 12, 2025
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"Democracy requires constant vigilance. This research provides tools for that vigilance." — Robert Miller