



Telegram (and Truth Social?) Lead the News: Early Warning of Ukraine Escalation

Will Beeson, GOVT 20.12 (Politics & AI)
Dartmouth College



ABSTRACT

Objective: Test whether Telegram discourse predicts war escalation 24h ahead of headlines.

Method: Scraped and scored 174 k Telegram messages and 110 k news headlines (0–10 escalatory scale) and ran cross correlation.

Result: Peak $r = 0.38$ at -1 day ($p < .01$).

Implication: NGOs & journalists gain ~24 h head start from grassroots telegram channels (both Russian and Ukrainian).

INTRODUCTION

Geopolitics' Blind Spot: The 36-hour gap between ground events and mainstream reporting creates deadly information voids. For NGOs allocating aid or journalists preparing coverage, even 24 hours of advance warning could save lives.

Do Telegram messages signal Ukraine-war escalation at least one day before it surfaces in news headlines?

DATA & METHODS

Three-Source Dataset:

Source	Messages	Date Range
Headlines	110,114	Feb 2022 – May 2025
Telegram	174,000	Feb 2022 – May 2025
Truth Social	2,536	Mar 2022 – May 2025

Multimodal Scoring Framework:

- **Escalation:** 0-10 scale (humanitarian to nuclear threats)*
- **Blame:** Ukraine/West (0) vs Russia (1) vs Neutral (-1)
- **Propaganda:** 0-3 intensity scale
- **Call-to-Action:** Binary (donate/volunteer/protest)

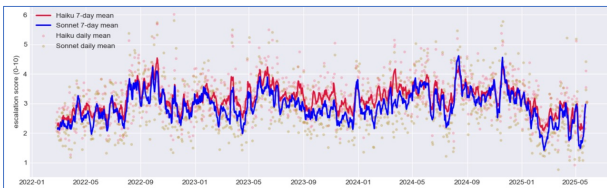


Figure 1. Model validation: Claude Haiku and Sonnet produce closely correlated headline escalation scores ($r=0.92$), confirming rubric reliability across two Anthropic models. Daily values shown as scatter points, 7 day rolling averages highlight temporal agreement.

METHODS & ANALYSIS

Pipeline:

Data Collection → LLM Scoring → Daily Aggregation → Statistical Tests

Statistical Approach:

- Cross-correlation function (-30 to +30 days)
- Granger causality tests (90-day VAR windows)
- Bootstrap 95% confidence intervals (1,000 iterations)
- Robustness checks with model ensembles

Cross-correlation formula:

$$r(\tau) = \frac{\sum[(X_t - \bar{X})(Y_{t+\tau} - \bar{Y})]}{\sqrt{\sum(X_t - \bar{X})^2 \sum(Y_t - \bar{Y})^2}}$$

RESULTS

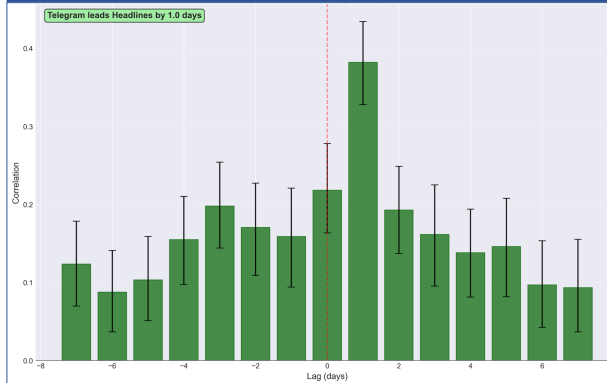


Figure 2. Telegram leads headlines by 1.0 days (peak $r=0.382$, $p<.01$). Error bars show 95% bootstrap CI.

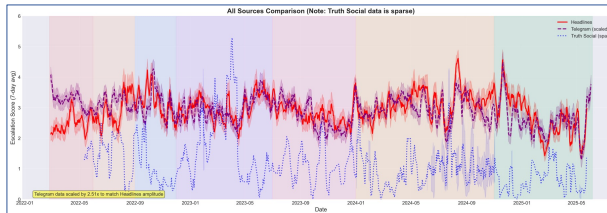


Figure 3. shows the complete 3-year evolution of escalation scores across all platforms (7-day rolling averages with 95% CI).

TRUMP "COUNTER-NARRATIVE" CASE STUDY

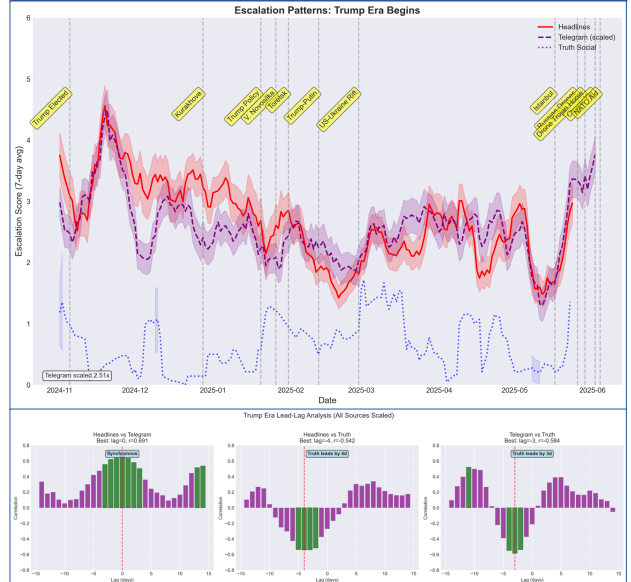


Figure 4. 2024-May 2025: Truth Social (dashed blue) shows inverse correlation with Headlines/Telegram, suggesting distinct "counter-narrative" ecosystem

DISCUSSION

Why Telegram Leads:

- Direct battlefield reports from soldiers/civilians
- No editorial gatekeeping delays
- 24/7 posting vs news production cycles
- Large channels amplify breaking developments

Truth Social's Inverse Pattern (Nov 2024+):

- Counter-cyclical: When mainstream escalates, TS de-escalates
- 3-4 day inverse lead: Could be coordinated counter-messaging
- Political signaling: May reflect administration's narrative strategy
- "Two realities" phenomenon: Fragmented information ecosystems

Limitations:

- Truth Social data spans only 6 months (sparse coverage)
- Inverse correlation could be artifact of small sample
- Needs validation across longer timeframe

Contact

Will Beeson
Dartmouth College
Hanover, NH
will.beeson.25@dartmouth.edu
864.909.5175

GitHub



<https://github.com/willbeeson1/ukraine-final-project>