Event Analysis with Polling Data: The Unexpected Events during Survey Design (UESD) Method

Public Opinion Analytics Lab (POAL)

Victor Araújo and Miriam Sorace

10/03/2026

Executive Summary

- This brief introduces the Unexpected Event during Survey Design (UESD) approach, which leverages an event occurring during fieldwork to estimate its causal effect on public opinion.
- The method is suited for analysing events such as major political speeches/debates or political shocks.
- The brief further outlines the key diagnostics needed to check whether the excludability and temporal ignorability assumptions are met.

1 Introduction

Analysts studying whether an event (i.e. political debate, or a political shock, such as a terrorist attack, a scandal or a policy crisis) impacts public opinion typically leverage simple pre-post designs or pose direct questions about the event to respondents who report being aware of it. Both strategies, however, fail to disentangle whether any observed effect of the event in question is genuinely causal or instead reflects the distinct characteristics and attitudes of politically aware individuals, or shifts in pre-post samples that are unrelated to the event itself.

The UESD method is a promising solution, particularly when the goal is to capture the *immediate* causal effects of an event. The method still relies on a pre–post design, but it ensures that respondents interviewed before the event and those interviewed after the event are randomly assigned to the pre- or post-event condition. This is most commonly achieved through 'unexpected' events occurring while a regular survey is in the field, but pollsters can also plan for it in the case of anticipated events (e.g. a televised debate) by randomly assigning panellists to pre- or post-event recruitment into the survey. UESD thus leverages interview timing as a source of quasi-random variation in exposure to the event [Muñoz et al., 2020]. If interview timing is unrelated to respondents' characteristics and prior attitudes, exposure is "as-if random." Differences between pre- and post-event respondents can then be interpreted as causal effects.

2 The method in a nutshell

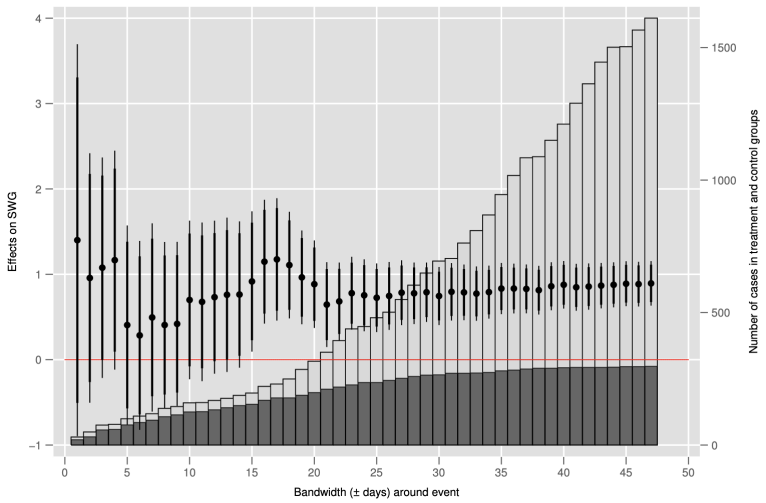
In a UESD design:

1. A survey is in the field.
2. A salient event occurs at time t_e.
3. Respondents interviewed before t_e form the comparison group.
4. Respondents interviewed after t_e form the exposed group.
5. Differences in outcomes are attributed to the event.

The basic UESD estimator is the difference in means. In many applications, researchers restrict estimation to respondents interviewed within a narrow window around the event time t_e, thereby identifying a local average treatment effect (LATE) Angrist and Imbens [1995]. The main advantage of this approach is that it strengthens the plausibility of the as-if random timing assumption by comparing respondents who are more similar in time and thus less likely to differ due to unrelated temporal trends.

An illustration of UESD comes from research on the January 7, 2015 Charlie Hebdo terrorist attacks in Paris. The event occurred during the fieldwork of the European Social Survey (ESS) in France, allowing researchers to compare respondents interviewed before and after the attacks. Using this design, Muñoz et al. [2020] estimate the impact of the attacks on satisfaction with the national government. Figure 1 illustrates the core logic by plotting estimated differences across time windows around the event. Results show a post-attack increase in government satisfaction, consistent with a "rally-round-the-flag" effect, whereby citizens temporarily increase their support for political leaders after major national crises.

Figure 1: Effects of Charlie Hebdo attacks on satisfaction with government (SWG)—originally plotted by Muñoz et al. [2020]



Note: The x-axis indicates the bandwidth (h) used in each specification. For each value of h, the estimate is computed from respondents interviewed within $\pm h$ days of the event date. The histogram indicates the number of observations in the treatment and control groups for each bandwidth.

3 Implementation guidelines: what to watch out for

Two key assumptions need to be met to ensure that the UESD method can yield causal estimates:

- **Excludability** — Interview timing affects outcomes only through exposure to the event.
- **Temporal ignorability** — The timing of interviews is unrelated to respondents' potential outcomes.

Before estimation: (a) assess the possibility of anticipation effects; (b) plot outcomes over time to inspect pre-trends; (c) conduct balance tests on observable characteristics around the threshold (if a local effect is estimated).

During estimation: (a) trial different narrow bandwidths around the event date, to test robustness to alternative bandwidth choices; (b) implement placebo thresholds.

Recommended Practice

1. Political analysts should consider UESD and random pre-post survey assignment to assess the causal effects of an event on public opinion
2. When applying UESD:
    - **Ensure** that survey rollout patterns and response timing are random, and not correlated with the event under study;
    - **Check** that attitudes on the issue are not already trending before the event (if the nature of the event is already expected pre-event respondents may have already adjusted their views) - having a longer pre-event fieldwork can help to test this.
    - **Check** for differential misreporting – i.e. check for differential trends in don't knows and/or test for increased agreeableness or social desirability biases.

References

Joshua Angrist and Guido Imbens. Identification and estimation of local average treatment effects, 1995.

Jordi Muñoz, Albert Falcó-Gimeno, and Enrique Hernández. Unexpected event during survey design: Promise and pitfalls for causal inference. *Political analysis*, 28(2):186–206, 2020.