Pre-analysis plan and follow-up study on a conjoint experiment about news media trust

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Pre-analysis plan of follow-up study and extension of a conjoint experiment conducted in Norway in the Norwegian Citizen Panel.

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1 Introduction

This experiment is a replication and follow-up study of a conjoint experiment conducted in Norway in the Norwegian Citizen Panel. This follow-up study is conducted in the U.S. on Amazon's Mechanical Turk (Mturk).

In the original experiment we asked a probability based panel of 1955 Norwegian citizens to evaluate the trustworthiness of two hypothetical newspapers based on eight different factors.The respondents were asked to make decisions between pairs of Norwegian online news publications. We showed respondents a screen with profiles of two news publications as displayed in Figure 1, with the following introduction: "We are interested in examining what makes people trust different sources of news. Below, we have created two hypothetical news sources. Please read the descriptions of both sources carefully and answer the question below". We then instructed respondents to indicate "which of these two do you think would be the most reliable source to report the news in a fully, accurate and fair manner?"

Each respondent evaluated one comparison between a pair of news publications. We randomly varied the two publications' profiles on eight attributes: *the current status of the publication, the amount of entertainment news used, the amount of readers, the age of the publication, the presence and use of comment fields, the publication's explicit political affiliation, the number of ethical violations the past year, and the use of advertising.* The specific wording and values of each of these attributes are detailed in Table 1.

Our underlying research questions where: 1) how does each of these factors predict trust and distrust in a news publication, and 2) what is the relative effects of each of these factors? We hypothesized that ethical violations would be a crucial factor with a larger effect size than other factors. The supporting argument was that repeatedly violating journalistic ethics is an explicit sign of breaking the social contract citizens have entrusted journalism with. As such, we could use this factor as a benchmark and compare its effects to other factors that more implicitly is related to trust.

The data for the original study were collected from a probability-based online national survey conducted by the Norwegian Citizen Panel (NCP). The experiment was fielded in March 2017. The data is available free of cost for scholars via the Norwegian Social Science Data Archive.

The main result from the original study is displayed in Figure 2.

Figure 1: Experimental Design. This figure illustrates the experimental design for the conjoint experiment.

Table 1: List of Attributes in the Original Conjoint Experiment

Treatment attribute	Value
The current status	Offline and online newspaper / Online newspaper (without offline newspaper) / Website/blog.
Amount of readers	Many readers / Few readers.
Was established	Around 100 years ago / Around 50 years ago / Around five years ago.
Degree of entertainment news	Does not have entertainment news / a small share of entertainment news / mainly entertainment news.
Amount of violations of press ethics the last year	No violations / Few violations / Many violations
Financed by advertising	No / Yes but do not use advertising that looks like news / Yes and uses advertising that looks like news.
Comment field	Does not have comment field / Yes and the journalists participate in the comment field / Yes but the journalists do not participate in the comment field
Editor in chief/owner openly supports the party	None / The Progress Party / The Labour Party / The Conservative Party / The Liberal Party / The Christian Democratic Party / The Center Party (Agrarian Party) / The Green Party / The Radical Left Party / The Socialist Left Party.

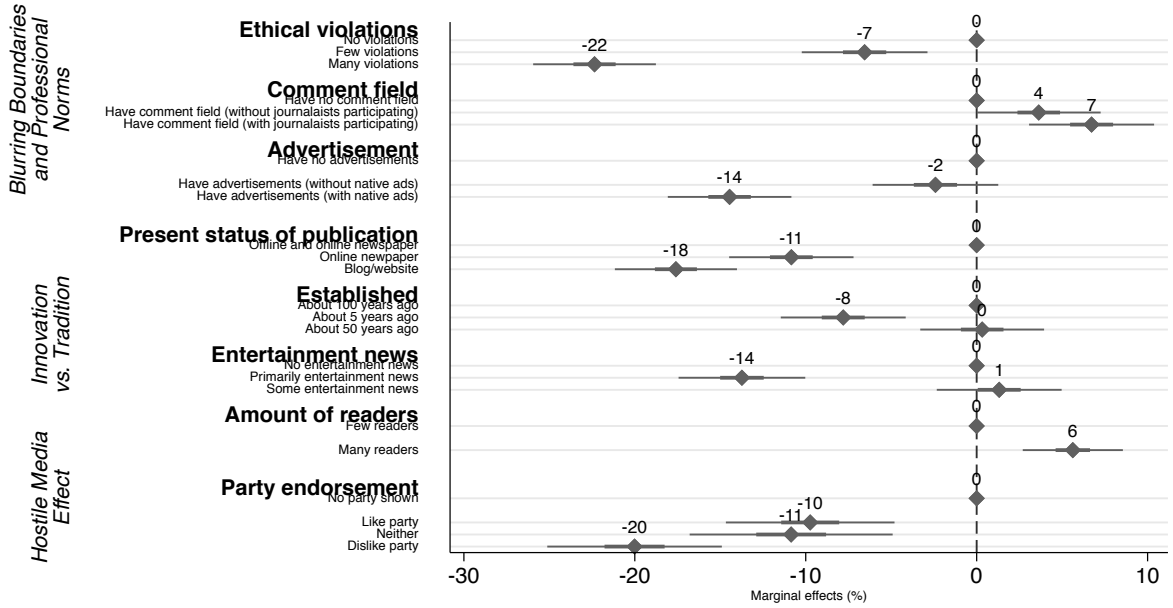

Figure 2: Effects of Publication Attributes on Probability of Being a Trusted Source of News. The dots represent the point estimates of the effects (AMCEs) of different source attributes on the trust. The bars show 50 percent (thick bars) and 95 percent (thin bars) confidence intervals.

2 Description of the follow-up study

In this follow-up study we (1) seek to test whether or not the study replicates in a country with a very different media system and political system, (2) to test whether the effects observed in the original experiment is contingent on the presence of the attribute "ethical violations", and (3) explore the effects of additional attributes, and a different answering scale.

As with the original study, the values of the fixed attributes are independently randomly assigned. The order of the attributes is also randomized by respondent.

We will conduct three different versions of the experiment. The order of the experiments are randomized. First, all respondents face a choice task (three tasks) which is a translated version of the original Norwegian experiment. We expect to replicate the direction of the effects in the original study (see Figure 2 for the main result of the original study). However, the U.S. political and news media context is different from that of Norway. Any differences in effects may speak to differences due the change in context. If such differences are found, we will highlight them in the final analysis and speculate as to why such a difference might be there. However, note again that we do not have any expectations about a specific difference between the two countries in the direction of effects prior to seeing the results; our priors are the effects should

be fairly similar.

That said, the effects of party favorability might differ in that, in the U.S., due to a higher degree of polarization in politics and the news media landscape, the difference between liking and disliking the party endorsement may be significantly larger. Note in relations to that, in the U.S. experiment, we do not have a "neither favorable or unfavorable" category when eliciting the favorability of each party, hence figure 2 will only shown the difference between "like" and "dislike".

Second, a randomly drawn sub-sample (50%) face the very same choice task (three tasks in a row) but without the attribute "Ethical violations" excluded from the list of attributes. We do not expect the results to be contingent on the presence of the attribute "ethical violations".

Third, a randomly drawn sub-sample (50%) face the very same choice task as the original experiment (three tasks in a row) but with a different answering scale and with new attributes. Here we explore the effects of two new attributes, "Use of news about political opinion polls" and "Amount of awards for quality journalism the last year". We also employ an altered version of the attribute "Editor in chief/owner openly supports the party" (now "The publication's ideology") with new attribute levels to explore the robustness of the effects of a publications ideology. Table 2 displays an overview of the new attributes and their levels. We also include the use of a multidimensional scale (Meyer, 1974) (see: Figure 4 for a screenshot of the design and scale).

The survey will be fielded to 1,021 respondents on Amazon's Mechanical Turk (Mturk). Eligibility to take the survey will be restricted to U.S.-based MTurk Workers. Each respondent will evaluate six choice tasks about news media trust.

3 Pre-analysis plan

The analysis will follow the same steps as the original study. We will adopt the statistical approach developed by Hainmueller, Hopkins and Yamamoto (2014), and estimate average marginal component effects (AMCEs). The AMCE will show the average difference in the probability of a publication being more or less trusted than other publications. Each attribute level is compared to a different attribute level within the same attribute. We will explore the relative effects of each attribute, as shown in Figure 2 (displaying the main results from the original experiment).

As with the original study, we will match the party shown in the attribute list with a variable that measure the degree respondents like or dislike that specific political party. More specifically, we ask: "What is your overall opinion about the [Republican/Democratic] party?". We code the matched variable as "Like party", "Dislike the party", or "Party not shown". Thus, we can use the no-partisan condition as reference category, and compare this to the effects of partisan effects among fellow partisans and among respondents holding opposite political views.

We will also explore whether the patterns in the three different follow-up studies differ substantially and significantly among different age-groups, gender, education, ideology (republicans/democrats and strong/weak republicans/democrats) and among those who trust/distrust the news media in general.

Please see this commit https://github.com/mikajoh/srctrust/commit/64cf58615e096a6b2b45c155b8481f793 which includes the code for the analysis of the original experiment. Apart from changes in the data preparation due to a different data structure, this is the code we will run for tha main analyses.

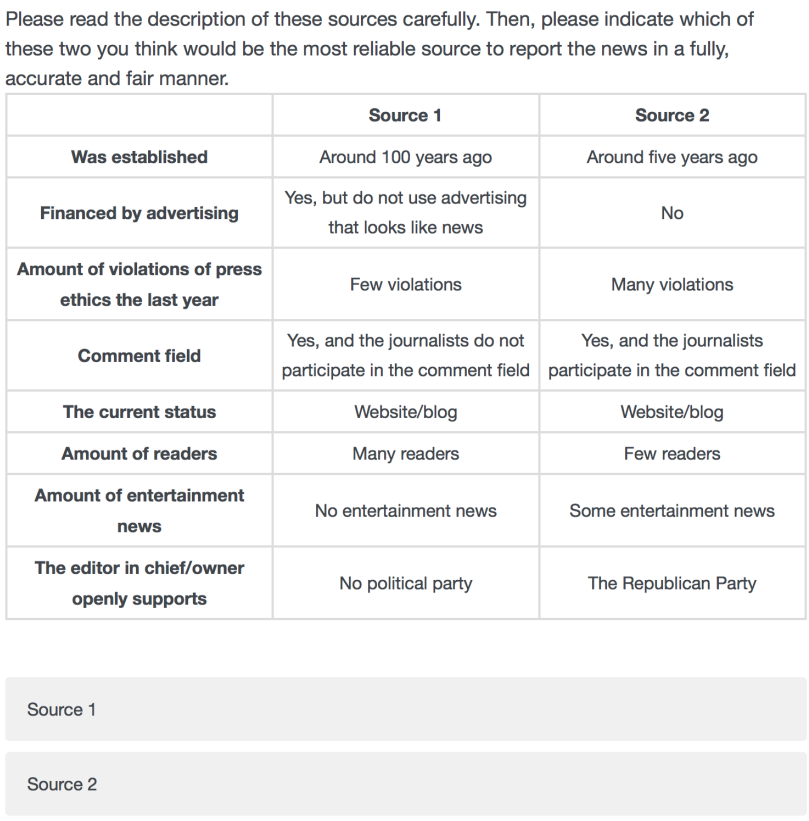

Figure 3: Experimental Design. This figure illustrates the experimental design for the follow-up conjoint experiment (Experiment 1).

Please read the description of these two sources carefully. Then please answer the questions below.

	Source 1	Source 2
The publication's ideology	Has never supported any party or candidate	Is reputed to promote the Democratic party
Amount of readers	Many readers	Many readers
Was established	Around 100 years ago	Around five years ago
Amount of entertainment news	No entertainment news	Mostly entertainment news
Amount of violations of press ethics the last year	Many violations	No violations
The current status	Offline and online newspaper	Website/blog
Amount of awards for quality journalism the last year	Few awards	Many awards
Financed by advertising	No	No
Use of news about political opinion polls	Yes, and often in a positive tone	Yes, and often in a positive tone
Comment field	Does not have comment field	Yes, and the journalists do not participate in the comment field

Please indicate which of these two you believe is:

	Source 1	Source 2
most likely to tell the whole story	○	○
most fair	○	○
most trustworthy	○	○
least biased	○	○
most accurate	○	○

Next

Figure 4: Experimental Design. This figure illustrates the experimental design for the follow-up conjoint experiment (Experiment 3).

Table 2: Attributes in Conjoint Experiment 2 on Mturk

Treatment attribute	Value
The current status	Offline and online newspaper / Online newspaper (without offline newspaper) / Website/blog.
Amount of readers	Many readers / Few readers.
Was established	Around 100 years ago / Around 50 years ago / Around five years ago.
Degree of entertainment news	Does not have entertainment news / a small share of entertainment news / mainly entertainment news.
Amount of violations of press ethics the last year	No violations / Few violations / Many violations
Financed by advertising	No / Yes but do not use advertising that looks like news / Yes and uses advertising that looks like news.
Comment field	Does not have comment field / Yes and the journalists participate in the comment field / Yes but the journalists do not participate in the comment field
The publication's ideology	Has never supported any party or candidate / Editor in chief openly supports the Democratic party/ Editor in chief openly supports the Republican party/ Is reputed to promote the Republican party/ Is reputed to promote the Democratic party
Use of news about political opinion polls	None / Yes, and often in a negative tone/ Yes, and often in a positive tone
Amount of awards for quality journalism the last year	None/ few awards / many awards

References

Hainmueller, Jens, Daniel J Hopkins and Teppei Yamamoto. 2014. "Causal inference in conjoint analysis: Understanding multidimensional choices via stated preference experiments." *Political Analysis* 22(01):1–30.

Meyer, Timothy J. 1974. "Media credibility: The state of the research." *Public Telecommunications Review* 2(4):48–52.