Choosing to Avoid?
A Conjoint Experimental Study to Understand Selective Avoidance and Exposure on Social Media

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Supplementary Information for this study can be accessed *here*.

Abstract

Social media platforms provide multiple affordances, which convey several cues to guide users in making decisions about which news to consume. Traditional factorial designs have failed to experimentally study the effects of multiple, simultaneous cues operating on social media. As a result, there is little consensus in the literature about their exact effects on news choice. In this study, we use a conjoint experimental design to examine how source outlet cues, message cues, and social endorsement cues shape news selectivity on Facebook. We find that people significantly avoid news items with out-party outlet and message cues. We also find that people select news based only on in-party messages cues, but this effect is smaller than avoidance of out-party cues. Only strong partisans demonstrate a preference for news items with in-party source and message cues. Finally, we find no evidence that social endorsement affects people's news selection behavior.

Keywords— affordance; conjoint analysis; news consumption; selective exposure; social media

1 Introduction

The theory of selective exposure has long provided fodder to social scientists who have tried to understand the manner in which citizens consume information [42, 54]. Yet, it is in recent years that the theory has witnessed renewed interest in scholarly debates, owing to the rise of online platforms, particularly social media, that have increasingly mediated our access to news. A survey by the Pew Research Center for example, finds that more than two-thirds of American adults get news from social media [35]. A consequence of such a heavily mediated media environment has been the potential of publics to be fragmented along ideological lines, inhabiting informational silos that reinforce their ideological biases, cut-off from any information that doesn't [26, 47]. The role played by informational cues is of particular importance in this regard. This is because any act of information consumption on social media is accompanied by the simultaneous operation of these informational cues that not are not only designed to capture individual attention but are often used by users as heuristics for guiding information selection choices. In other words, the selective exposure dynamics on social media can be thought of to be mediated through individual perception of these cues, that work in tandem in shaping news selection patterns at the macro-level. While the extent and nature of selective exposure on social media continues to be hotly contested in the literature [10, 13], the effects of these informational cues on news selection decisions remains understudied. One potential reason behind this is the failure of traditional factorial designs to scale well, when investigating the effects of multiple independent variables. In this paper, we attempt to fill this gap by the novel application of an experimental design that addresses this limitation. We first identify three informational cues that are theoretically interesting: the news outlet (or source), the news headline (or message), and the level of social endorsement, and then run an experiment to study how these cues affect people's news-choice patterns on social media. We focus on these three cues because they exist in almost all social media platforms and can yield potentially generalizable findings.

The experimental approach we use is conjoint analysis. This approach lets us study the effects of multiple independent variables on the dependent variable without requiring a large number of subjects, which a traditional factorial design necessitates. Conjoint designs are widely used in market research [40] and business [6, 51], but are yet to witness widespread adoption in social science. While recent efforts in political science have attempted to embrace this approach (e.g. [23, 24, 29]), it remains far from being mainstream.

In this paper we demonstrate the utility of this design in the context of selective exposure to news on social media. We show how a conjoint experimental design can help in disentangling the various effects of multiple simultaneously operating cues during information

exposure, in driving selective exposure dynamics.

2 Selective Exposure on Social Media

Several decades of research into the psychological mechanism behind selective exposure has shown that it is largely driven by two cognitive motivations [25]. The first is a defense motivation, whereby people are motivated to seek out information that can help them defend their attitudes, beliefs, and behaviors, and avoid information that challenges them or causes cognitive dissonance. This kind of selectivity has also been known as confirmation bias or congeniality bias. The second motivation is an accuracy motivation, which makes people seek out information to uncover the truth, and find information with the highest utility to help them make better decisions. Many of the cues that are conveyed to news seekers during exposure to information on social media relate to these two motivations. This study looks at two types of such cues, partisan cues, and social endorsement cues.

2.1 Partisan Cues

Partisanship is an important heuristic in news consumption because it can trigger people's defense motivations. Theoretically this implies that people often choose to select news that is more aligned with their own political identities and beliefs. We chose to focus on two partisan cues, each of which has been well studied in the past: the outlet cue, and the message or the news headline cue. While generally, scholars tend to find that citizens consume more news from outlets that favor their own parties than from those that do not [26, 46], more recent studies have failed to find such patterns of selectivity online (e.g. [38, 48, 49]). Similarly, with the case of the headline (or the message that they see within a social media post) [1], there is ample evidence showing that people prefer attitude-consistent news messages to attitude-inconsistent ones [30, 31, 49, 50]

There are however, two distinct dynamics that these patterns conflate: the first is a preference for in-party information, and the second is an avoidance of out-party information [15, 14, 16]. While many studies fail to address this nuance by simply focusing on the selection aspect, ones that do try to disentangle these two dynamics find mixed results: Garrett, for instance, finds that people primarily only seek opinion-reinforcing information while not avoid opinion-challenging information (true for both news outlet [14] and news message [15]). Garrett and Stroud [16], on the other hand, find that news selectivity is

[1] Henceforth, we refer to news headlines as 'messages'. 'Outlet' and 'source' are used interchangeably.

contingent on partisanship: Republicans engage in selective avoidance while others pursue more selective exposure on in-party information. Two recent studies, in contrast, conclude that it is the avoidance of out-party information, rather than the preference for in-party information, that dominates news selection behavior: Mummolo [37] finds that people tend to select fewer news articles from unfriendly outlets than neutral and friendly sources. However, because the difference between the latter two is not significantly distinguishable, he concludes that the avoidance of attitude-inconsistent information is more prominent than the selection of attitude-consistent information. Winter and colleagues [50] arrive at a similar conclusion with messages – people select fewer attitude-inconsistent articles than attitude-consistent and balanced articles.

Since the debate over news selection and news avoidance in so far as outlets and messages go, is still unresolved, we propose four hypotheses accordingly. If the thesis of attitude-consistent news selection is true, we should expect people to be more likely in selecting news from in-party outlets and with in-party messages than from those from neutral outlets and with neutral messages. This brings us to our first set of hypotheses:

H1a. People are more likely to select news from in-party outlets than from neutral outlets.

H1b. People are more likely to select news with in-party messages than with neutral messages.

On the other hand, if the thesis of attitude-inconsistent news avoidance is true, we should expect people to be less likely to select news from out-party outlets and with out-party messages as compared to those from neutral outlets and with neutral messages. This leads to our second set of hypotheses:

H2a. People are less likely to select news from out-party outlets than from neutral outlets.

H2b. People are less likely to select news with out-party messages than with neutral messages.

Next, given the mixed findings regarding the relative importance of news selection and news avoidance in driving selective exposure dynamics, we are interested in understanding which of the two mechanisms is more salient. Therefore, we propose the following two research questions to compare them:

RQ1a. Is the magnitude of the effect size of in-party outlet cues larger than the magnitude of the effect size of out-party outlet cues?

RQ1b. Is the magnitude of the effect size of in-party message cues larger than the magnitude of effect size of out-party message cues?

In addition, we also want to examine the difference in effect sizes between outlet cues

and message cues on news selection. This comparison helps to further disentangle the effects of the two partisan cues in driving news selection. To that end, we propose the next research question:

RQ2. What is the difference between the magnitudes of the effect sizes of news outlet cues (suggested by H1a and H2a) and news lead cues (suggested by H1b and H2b) in driving news selection?

2.2 Social Endorsement Cues

Partisan cues are not the only informational cues that social media platforms convey during the process of news consumption. They also provide the technical affordance to facilitate the quantification of social interactions [43] (pp. 29-30). Thus, as a space for news consumption, social media functions very differently from traditional news formats [50]. Messing and Westwood [36] argue that social endorsements, such as the number of recommendations, functions as a heuristic to signal information utility, which in turn relates to the accuracy motivations of information seeking citizens. In their study, Messing and Westwood found that these social endorsement cues have the potential to nullify the effects of partisan source cues, thereby painting an optimistic picture of how social media can possibly bridge partisan divides. In general however, scholars who have investigated the effects of social endorsement cues on news selection dynamics have not reached consensus: while certain studies have found evidence that social endorsement cues do positively affect news selectivity [50, 53], others have provided evidence to the contrary [9, 11]. This leads us to formalize our next research question:

RQ3. Are people significantly more likely to select news that have higher social endorsements?

2.3 Cues and Partisan Strength

Finally, we believe that the effects of these informational cues may not be homogenous across the whole population. Specifically, we intuit that these effect sizes could be different for different levels of partisan strength. While a few studies have examined this interaction in the past, they have revealed inconsistent findings: Garrett [14] for instance, finds that strong partisans are more likely to visit in-party news sites, but not less likely to visit out-party sites compared to weak partisans. In contrast, Knobloch-Westerwick and Meng [31] find that a stronger party affiliation predicts a greater selectivity of out-party information. These mixed findings lead us to us formulate our final research question:

RQ4. Are the effect sizes suggested in H1, H2, and RQ3, significantly different for strong partisans than it is for others?

3 Conjoint Analysis

First introduced in the 1970s [19], conjoint analysis has a long history in the area of market research, where it is widely used to measure customer preferences in various domains [18, 20]. Specifically, it is used to understand the perceived salience of various attributes of a product to the consumer [17, 40]. In other words, given a set of attributes, it helps us experimentally determine which attribute drives individual choice and to what degree. It is particularly useful for quantifying consumer trade-offs, for e.g., when "option X is better than option Y on attribute A while Y is better than X on attribute B" [18]. Outside of market research, conjoint analysis has seen some applications in healthcare [41], education research [44], agricultural economics [7], and economic psychology [39].

A typical conjoint analysis design consists of presenting a fixed number of hypothetical profiles to the subjects of the experiment. These profiles are artificially constructed and consist of multiple attributes that can vary independent of each other. In a perfectly random conjoint design, each profile is a random permutation of the various levels of all the attributes. The subject is then asked to score the various profiles that are presented to them on a fixed scale. Alternatively, they are asked to choose which profile they most prefer. The attributes serve as the independent variables, while the subject scores and choices serve as the dependent variable(s). Several variations of this design exist (e.g., [8, 18, 17, 45]).

As mentioned previously, conjoint analysis has been slow to catch up in the field of political science, and has thus, only witnessed application in a select few areas. These primarily include studies that focus on investigating individual attitudes – for instance, towards immigrants, or candidates, or policies. In one study for example, researchers find that Americans tend to view immigrants who are educated, and in high-status jobs more favorably, while they view immigrants from Iraq, and who do not speak English unfavorably [23] (for another example, see [52]). Kirkland and Coppock [29] use a conjoint design to test the relative effects that party labels have vis-à-vis non-partisan labels on candidate choice in elections. They find than in the absence of party labels, Republicans tend to prefer candidates with longer job experiences, whereas Democrats tend to prefer candidates with longer political experiences (for other examples of how conjoint designs have been used in candidate choice studies, see [4, 5]).

In the more specific area of news consumption, we found only two studies that used the conjoint design. The first [37] applied this technique to examine how source partisanship

and topic relevance influence people's news selection. The author finds that even though people tend to avoid out-party news outlets, this avoidance is weakened when the topic is relevant to them. The second study [32], finds that attitude consistency of the message does not exert a significant impact on news selection choices: instead people select more news items which mention parties they favor. However, neither of these studies deal with the issue of selective exposure on social media, nor do they isolate the effects of informational cues in driving selective exposure.

4 Methods

There is some prior evidence to suggest that paired conjoint designs fare better than other conjoint or vignette designs in mimicking real world behavior in so far as effect sizes are concerned [22]. We therefore choose to employ a randomized paired conjoint design to investigate the effects of multiple simultaneous informational cues on news selection patterns. In the subsequent subsections we describe the stimuli we used in the experiment, the experimental process, and finally the analysis strategy.

4.1 Stimuli

For our study, we first fabricated a large number of artificial Facebook posts that looked realistic in appearance. These posts varied along three independent dimensions and served as the profiles of the conjoint design that were presented to the subjects of our study. The three independent dimensions were the *source*, or the Facebook page of the media outlet that the post was attributed to; the *message*, or the headline that appeared in the post; and the *endorsement*, or the number of social endorsements (signals) that post had. To give an impression of realism, the post also had an *image* thumbnail that was pertinent to the issue the headline dealt with. Each of these posts was a permutation of these four attributes, and these attributes were sampled either randomly, or subject to constraints in line with our design, from a set of levels for each attribute. The levels for each attribute were the cues that we used as treatment. The source and the message could independently be left-leaning, neutral, or right-leaning. The endorsement could be either high or low. The study was approved by the Institutional Review Board at the university of authors.

In order to ensure the generalizability of our conclusions and get robust effect sizes, we ran our experiment over multiple topical partisan issues in the United States. These issues were *immigration, abortion, minimum wage, gun control* and *US foreign policy in the middle east*. For each issue, we generated a unique set of (fabricated) headlines and

identified a set of images to use in our posts. Thus, while the messages and images of the posts were specific to the issue, the source and endorsement levels were universal and applicable to all the issues.

We conducted two pilot studies to ensure that the messages we generated and the outlets we chose had partisan slants that we expected. We also ensured that the images did not have any implicit confounding variables by pretesting their levels of valence, arousal [2], and partisanship using yet another pilot study. Our final outlet pool consisted of the following five: Fox News (which was perceived to be right leaning to the subjects in our pilot), USA and Associated Press (both of which were perceived to be neutral), and CNN and the New York Times (both of which were perceived to be left-leaning). Since we had only one right-leaning outlet that was both recognizable to as well as correctly perceived to be right leaning by our pilot subjects – viz. Fox News, we had to take special care during the randomization process. Details regarding the pilot studies and the stimuli generation process can be found in Appendix A.

4.2 Experimental Flow

For our main study 1,622 subjects were recruited on Mechanical Turk from 9 May to 19 May, 2019. Their informed consent to participate in the study were first elicited: those who did not consent to participate were not allowed to proceed further. Moreover, subjects who had consented to participate also had the option to exit the study at any time. Subjects were then asked to declare their partisan identity. We used a standard survey instrument to record their partisan identity on a 7-point scale. Subjects who reported to being neither a Democrat nor a Republican were excluded from the study. Those who identified as a 1 or a 7 on the partisan identity scale were classified as strong partisans. In total, there were 964 Democrats and 658 Republicans. 433 of the Democrats and 247 of the Republicans identified themselves as 1 and 7 respectively and were classified for our analysis as strong partisans.

Those who qualified for the study (i.e. either self-reported Democrats or Republicans) were then informed that they would be shown a set of real Facebook posts that had actually been shared by media outlets online. Next, they were shown five randomly chosen pairs from the pool of posts that we had artificially fabricated. Each pair corresponded to one of the five partisan issues, and the order in which the pairs were presented was randomized for each subject.

To enhance the robustness of our conclusions, we operationalized news choice using

[2]We used valence and arousal to measure affect (or emotion) of images

two distinct measures: *forced choice* (henceforth called "choice") and *selection probability* (henceforth called "rating"). For each pair that was presented to them (one post randomly below the other post), the subjects were asked three questions. First, if they were to see that same pair of posts on Facebook in their usual social media browsing capacity, which of the two would they rather click on. Second, on a 7-point scale how likely would they be to click on the upper post. Third, on a 7-point scale how likely would they be to click on the lower post (the exact wordings for each question are included in Appendix B). The first question captured their choice, while the second and third questions together captured their rating. Once they answered the three questions for one pair, the next pair was presented to them, and this continued till they had answered all questions for each of the five pairs. After this exercise, in which their responses were recorded, it was revealed to the subjects as per IRB requirements, that the posts had not been real, and had been artificially constructed for the purposes of this study. In total, we gathered data corresponding to 7,978 pairs of posts, which constituted 15,956 data points for our subsequent analysis.

4.3 Analysis Strategy

In the data that were recorded, we had ten data points per subject, each corresponding to one of the ten posts (in the five pairs) they had seen. The independent variables, capturing the attributes of the posts were coded using dummy binary variables. For instance, Source (which was one of the media outlets from our pool), was split into *source-pro, source-neutral*, or *source-counter*. If the subject's partisan identity matched the slant of the source (for example, if the subject was a Democrat, and the source was the New York Times), source-pro would be coded as 1 and source-neutral, and source-counter as 0. Conversely, if the subject's partisan identity did not match the slant of the source (for example, if the subject was a Republican and the source was CNN), source-counter would be coded as 1, while the rest two would be coded as 0. For neutral sources, source-neutral was coded as 1, and both source-pro as well as source-counter were coded as 0, irrespective of the partisan identity of the subject. A similar recoding was done to split Message into three binary dummy variables, *message-pro, message-neutral*, and *message-counter*. Endorsement was also split into two dummy variables, endorsement-high and endorsement-low, with the former being 1 and the latter being 0 if the endorsement level of the post was high, and vice versa.

For our final analysis we had eight independent variables (three binary dummy variables, encoding *Source* cues, three binary dummy variables encoding *Message* cues, and two binary dummy variables encoding *Endorsement* cues), and two dependent variables. The first dependent variable (choice) captured whether the subject reported they would click on the

post (1) or not (0), whereas the second dependent variable (rating) captured their reported likelihood of clicking on each of the two posts on a scale from 1 to 7. For every pair of posts that the subject was presented (corresponding to one political issue), the choice variable was 1 for exactly one of them and 0 for the other. This is because the subject *had* to choose one of every pair as part of the choice-based conjoint design. Rating could take on any value between 1 and 7 for either post in every pair.

According to [24] (p. 16), under the condition of completely independent randomization, an ordinary least squares (OLS) linear regression yields accurate estimates for average marginal component effects (AMCEs) in a conjoint analysis. An AMCE denotes the marginal effect of one attribute averaged over the joint distribution of other attributes. This analysis strategy is applicable in our case since we did not impose any restriction while randomly permutating the variables of interests while assigning the attributes for each post. However, the standard errors needed to corrected to control for within-respondent clustering [24].

5 Results

5.1 Effects of social media cues on news selection[3]

Figure 1 shows the general results for all respondents. Results in the left panel are based on using choice (forced response) as the dependent variable, while those on the right panel are based on using rating (rated response) as the dependent variable. The error bars on the left panel show the individual effect that each attribute level has, on the probability of selecting a Facebook post (1 or 0), relative to the reference level for that attribute. The error bars on the right panel show the individual effect that each attribute level has, on the self-reported likelihood of choosing Facebook posts (measured by the 7-point scale), relative to the reference level for that attribute. For example, Facebook posts with in-party message cues were 3% more likely to be chosen than a posts with neutral message cues. Moreover, having an in-party message cue made respondents increase their self-reported likelihood of choosing a post by 0.2, when compared to a post with a neutral message cue, on a 7-point Likert scale.

We found qualitatively different effects for in-party cues and out-party cues on both, forced response as well as rated response. While in-party outlet cues did not significantly affect choice or rating compared to neutral outlet cues (forced response: $b = .007$, $se = .010$, $p = .453$; rated response: $b = 0.001$, $se = 0.038$, $p = .988$, in-party message cues

[3]Analysis in this section was preregistered

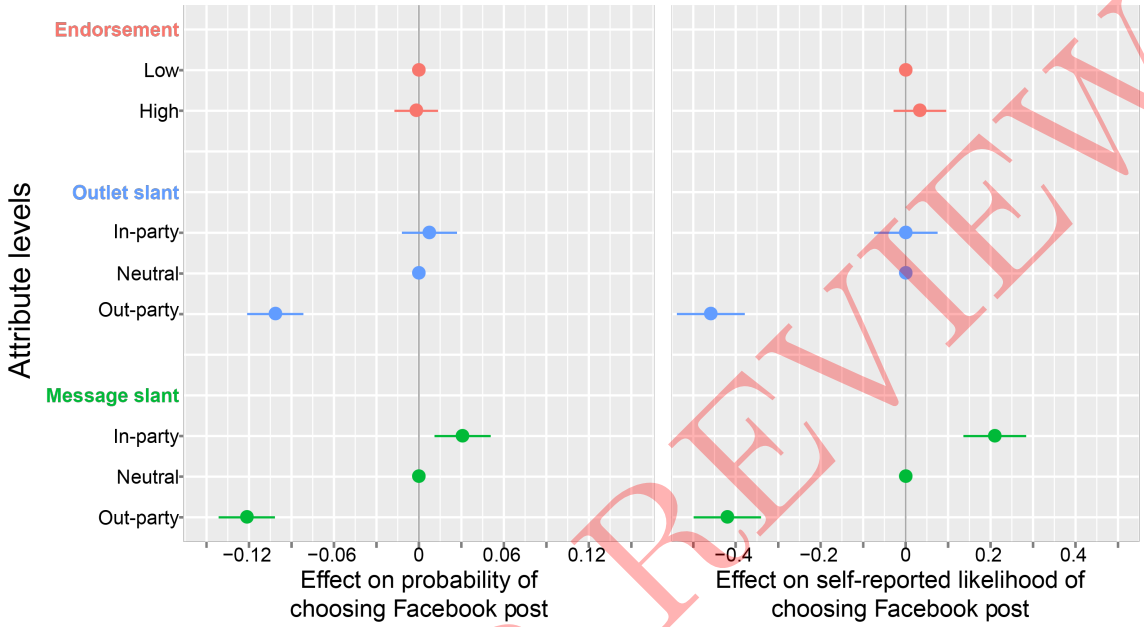

Figure 1: Effects of Social Media Cues on News Selection

Note: The figure illustrates estimates of the effects of social media cues on news selection. Estimates are based on the OLS model with clustered standard errors. The bars denote 95% confidence intervals and the points without bars represent the attribute level that is the reference for each attribute.

were significantly and positively associated with both dependent variables (forced response: $b = .031$, $se = .010$, $p = .002$; rated response: $b = 0.210$, $se = 0.038$, $p < .001$). This leads us to reject H1a and support H1b.

As for out-party cues, both out-party outlets (forced response: $b = -.101$, $se = .010$, $p < .001$; rated response: $b = -0.459$, $se = 0.041$, $p < .001$) as well as out-party messages (forced response: $b = -.122$, $se = .010$, $p < .001$; rated response: $b = -0.420$, $se = 0.040$, $p < .001$), showed significantly negative effects on choice as well as on the self-reported likelihood of choosing, which leads us to support both H2a and H2b.

RQ1a and RQ1b sought to compare the magnitudes of the effect sizes of in-party cues and out-party cues for outlets and messages respectively. We found that for both outlet cues (forced response: $p < .001$; rated response: $p < .001$) as well as for message cues (forced response: $p < .001$; rated response: $p < .001$), the absolute effect sizes of out-party cues were significantly larger than those of the in-party cues, but in the other direction[4]. This suggests that the avoidance of news posts with out-party cues was more prominent than the selection news posts with in-party news in our subjects' news choice behavior.

To answer RQ2 we had to compare effect sizes of message cues and outlet cues on both selection as well as avoidance of news. For the former, we found no significant difference between the negative effects of out-party message cues and out-party outlet cues on news selection (forced response: $p = .159$; rated response: $p = .500$). For the latter, however, we found evidence that in-party message cues were significantly more effective than in-party outlet cues in driving news selection (forced response: $p = .099$; rated response: $p < .001$). This difference seems to suggest that in-party message cues are more effective in driving news selection patterns than in-party outlet cues, while both out-party message cues and out-party outlet cues are equally effective in making people avoid news.

Finally, to answer RQ3, we found that high social endorsement levels did not significantly affect news choice or self-reported likelihood of choosing, when compared to low social endorsement levels (forced response: $b = -.002$, $se = 0.007$, $p = .810$; rated response $b = 0.034$, $se = 0.032$, $p = .288$).

[4]We compared these effects (also for RQ2) by generating 100,000 simulated coefficients according to their estimates and corrected standard errors. All p-values were two-sided. We also conducted robustness checks on the differences between coefficients (see Table A.7).

5.2 Interaction effects between strong partisanship and social media cues on news selection

Figure 2 shows the interaction effects between the partisan and social endorsement cues and strong partisanship. We first observe that social endorsement continues to not be effective in driving news choice, even for strong partisans: there is no significant interaction effect between high social endorsement and strong partisanship (forced response: $b = .001$, $se = .016$, $p = .965$; rated response: $b = -0.023$, $se = 0.064$, $p = .722$).

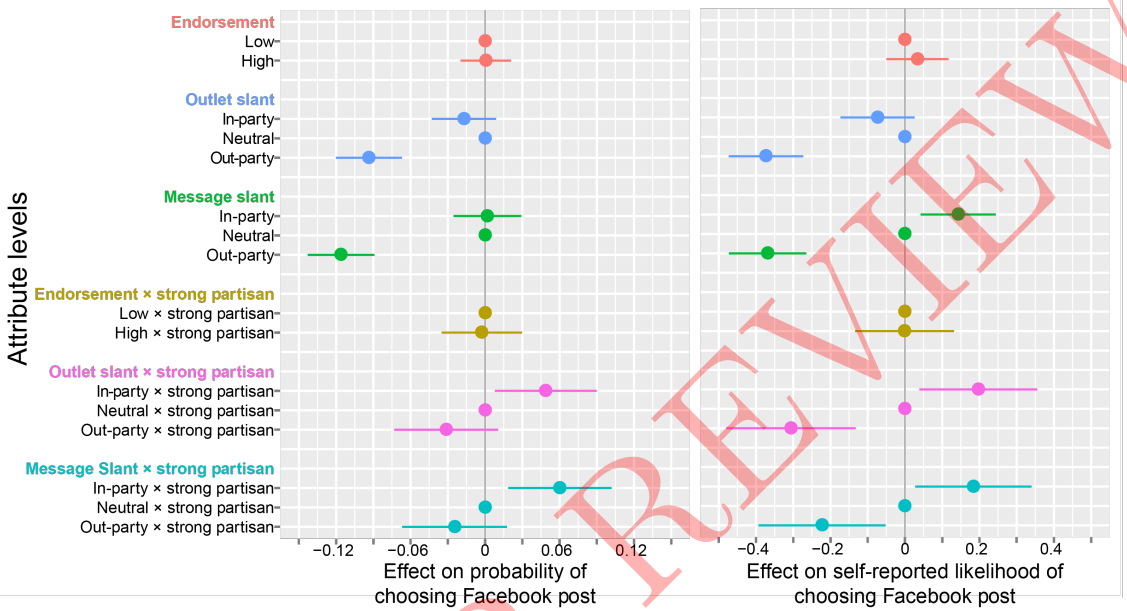

Figure 2: Interaction Effects of Social Media Cues with Partisan Strength on News Selection

Note: The figure illustrates estimates of the effects of social media cues on news selection. Estimates are based on the OLS model with clustered standard errors. The bars denote 95% confidence intervals and the points without bars represent the attribute level that is the reference for each attribute.

However, when it comes to in-party cues, we found that strong partisans were significantly more likely compared to weak partisans, to select news. This finding was consistent for both in-party outlet cues (forced response: $b = .050$, $se = .021$, $p = .013$; rated response: $b = 0.158$, $se = 0.077$, $p = .041$) as well as in-party message cues (forced response: $b = .064$, $se = .020$, $p = .001$; rated response: $b = 0.163$, $se = 0.076$, $p = .003$).

For out-party cues, however, we find some inconsistent patterns between forced response and rated response: results on the forced response measure suggests that there is a non-

significant negative interaction effect between out-party cues and strong partisanship (outlet cues: $b = -.027$, $se = .021$, $p = .186$; message cues: $b = -.016$, $se = .020$, $p = .433$). In contrast, for the rated response measure, these effects were significant (outlet cues: $b = -0.287$, $se = 0.064$, $p < .001$; message cues: $b = -0.193$, $se = 0.083$, $p = .019$).

Overall, however, the interaction analysis suggests an interesting nuance: that while avoidance is a general feature that characterizes news choice among our subjects, selectivity is only observed among the strong partisans [5].

6 Discussion

In this study, we demonstrate the utility of the conjoint design in experimentally helping disentangle the effects of different cues that is conveyed by social media on news selection behaviors of users. A similar study using a traditional factorial design would have required the creation of 18 (3 *source levels* × 3 *message levels* × 2 *endorsement levels*) treatment groups, and the recruitment of enough subjects per group so as to have sufficient power. This is perhaps why no previous study, barring one that we know of [32] have attempted the same.

Our first surprising finding is that increasing the level of social endorsement does not exert any significant influence in making people decide which news post to click on. This is in stark contrast to the finding by Messing and Westwood [36] where they found that endorsement was not only a significant determinant of news choice, but it was also offsetting the effects of partisan cues. We propose two plausible explanations for this: first, Messing and Westwood's experimental stimuli were substantively different from ours. We use real Facebook posts as our template to base our fabricated posts on. A slight change in the technical affordances of the design has the potential to greatly alter user behaviors, and this might explain why the findings differ. For example, our (fake) posts, based on the real Facebook template, have large image thumbnails, to accurately mimic Facebook posts in real life. While we do pretest the images that we use in our posts (to ensure that the image cues did not confound our findings) it is possible that the social endorsements, conveyed by the number of reactions, shares, and comments appearing at the bottom of the post are not very prominent to the subjects, owing to the presence of the images. If this is indeed the case, then it is possible that when people do encounter Facebook posts in real life, they engage with them in a manner similar to how our subjects engaged with our fake

[5] Leeper et al. [33] raise a valid concern about comparing AMCEs between subject subgroups in a conjoint design. In Appendix C, we demonstrate that our subgroup differences are robust to their recommendations as well.

posts. Our decision to design the stimuli to closely mimic real Facebook posts, therefore, has possibly yielded more externally valid insights. This explanation suggests the need for careful stimuli design while running similar experiments.

Alternatively, it is also possible that the increase in the level of polarization [1, 27, 28] accounts for the discrepancy between our findings and those of Messing and Westwood [36]. An increased level of polarization in the current political climate might trigger stronger defense motivations to an extent that it can eclipse people's accuracy motivations, thereby making them avoid any information with out-party cues. Avoidance of out-partisan information can be deleterious for the democratic process, since it has the potential to fragment the national agenda [47] and weaken the foundations of a public sphere, which relies on the existence of shared information and common goals [46].

In line with previous studies (by Garrett et al. [15, 14, 16]), we find that the dynamics of information selection are distinct from the dynamics of information avoidance. However, in contrast to these previous studies, we find the effects of out-party cues to be greater in magnitude than the effects of the in-party cues. This is true for both the message cue and the source cue. This is an interesting finding, which we believe could suggest a major change in news selection patterns in recent years. This is because in their first two studies (conducted in 2004 and 2005), Garrett finds consistent patterns showing avoidance of counter-attitudinal information to be a weaker dynamic than the selection of pro-attitudinal information [15, 14]. However, their more recent study in 2009 [16], finds inconsistent patterns about the same. Moreover, a few other recent studies have afforded evidence congruent with our conclusions as well [37, 50]. Given this pattern of findings in the literature, we have reason to believe that avoidance of out-party information has increased in prominence in the past decade, when compared to selection of in-party information.

Next, we also find qualitative differences in the effects of the two partisan cues: the message cue was found to be a stronger determinant of news choice than the source cue, particularly in driving in-party information selection dynamics. We believe that this finding reflects the nature and extent of expressive politics in the current political environment. People tend to select messages aligned with their own ideologies, irrespective of whether the source of the information favors their own party or not. This suggests that ideology might be a more important driving force which shapes political information consumption compared to identity. Political information exposure is therefore not as purely expressive or just based on partisan identification, as one would expect, as people do not merely rely on identity cues to decide what news to consume. This however needs to be qualified: in implying the above, we are perhaps making too simplistic an assumption that identity and ideology can be easily operationalized using source and message cues respectively. This is probably not the case

as message cues can also weakly function as identity cues. However, because identity cues and ideology cues heavily intertwine in the real world, any operationalization of these as distinct variables would likely be flawed. Hence, we still believe that this study provides crucial insights on this important issue despite the methodological challenge. To that end, this study sheds light on the current debate in the literature that seeks to understand the individual effects of party vis-à-vis ideology on opinion formation and political behavior (see also [3, 34]).

Lastly, we find that news selection patterns are not homogenous across the whole population. In particular, strong partisans tend to pursue more in-party information selection strategies than others. This pattern could be interpreted to reflect an extreme level of polarization, albeit among strong partisans. If people just avoided out-party news sources, neutral sources like the Associated Press could still constitute a common ground for everyone to consume news irrespective of their partisan identity. However, the fact that extreme partisans seemed to favor in-party news sources and attitude-reinforcing information, potentially suggests that there is very little political information exposure that is being shared by people at both ends of the ideological spectrum. This fragmentation in news exposure between extreme partisans raises concerns about the health of the democratic process (see [47]). Just focusing on the overall population would not have revealed this pattern: it is imperative to pay attention to extreme partisans, as the behavior of such ideologically extreme minorities can have disproportionate effects on the political process in the country. For example, strong partisans, despite being a minority, have been found to share the majority of fake news on Twitter [21].

From a general methodological perspective, this study demonstrated the use of a conjoint experimental design in understanding the individual effects of multiple technical affordances of digital platforms. Since a conjoint design addresses the problem of high dimensionality that traditional experimental methods suffer from, we believe that it is especially useful for investigating the effects of such affordances simultaneously. For all its popularity in marketing research, conjoint designs have witnessed limited applications in social science disciplines thus far. This study shows how this can be made to change.

As with any research however, our study has some limitations, which we believe could help direct future inquiry. First, we focus only on three cues that we deem to have an effect on news selection behavior: the source, the message, and the level of social endorsement. But there is evidence in the literature to suggest that other cues, like visual cues, also operate. [2] also found that social cues from friends and family members could trump partisan selectivity. Our decision to use anonymous social cues (number of reactions, shares, and comments) did not allow us to investigate this.

A few other relevant variables that can be experimentally manipulated have to do with the technical affordances of the platform the researcher chooses to mimic. Future studies can explore whether similar results hold when the design of the stimulus is changed. For instance, manipulating the number of posts subjects are asked to choose from could affect their selection patterns as well [12].

Several findings in this paper are at odds with previous research. We invite future researchers to investigate these differences and provide explanations for the same. For instance, we can only speculate right now about why selective avoidance seems to have become a dominant force in determining news consumption. This opens the doors for researchers to potentially conduct longitudinal analyses and examine whether the change from selective consumption of in-party information to selective avoidance of out-party information coincides with changes in other political indicators, such as the level of affective polarization. Research along these lines could provide insights into the factors that drive the observed change in news consumption patterns.

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