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Selective exposure partly relies on faulty affective forecasts

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ABSTRACT

People preferentially consume information that aligns with their prior beliefs, contributing to polarization and undermining democracy. Five studies (collective $N = 2455$) demonstrate that such “selective exposure” partly stems from faulty affective forecasts. Specifically, political partisans systematically overestimate the strength of negative affect that results from exposure to opposing views. In turn, these incorrect forecasts drive information consumption choices. Clinton voters overestimated the negative affect they would experience from watching President Trump’s Inaugural Address (Study 1) and from reading statements written by Trump voters (Study 2). Democrats and Republicans overestimated the negative affect they would experience from listening to speeches by opposing-party senators (Study 3). People’s tendency to underestimate the extent to which they agree with opponents’ views drove the affective forecasting error. Finally, correcting biased affective forecasts reduced selective exposure by 24–34% (Studies 4 and 5).

1. Introduction

A well-functioning democracy requires citizens to consume a diversity of views in the “marketplace of ideas” (Milton, 1644/1890). Yet, extensive research demonstrates that individuals prefer information that confirms, rather than disconfirms, their prior beliefs. This phenomenon – known as “selective exposure” or the “congeniality bias” (Arceneaux, Johnson, & Murphy, 2012; Frey, 1986; Hart et al., 2009; Iyengar & Hahn, 2009) – has grown particularly pernicious as citizens gain tools to easily filter what they see, hear, and read (Sunstein, 2009). Indeed, many scholars have expressed growing concern with political polarization and the effect it has on democratic institutions (Iyengar & Westwood, 2015; Westfall, Van Boven, Chambers, & Judd, 2015).

Across five experiments, we demonstrate that selective exposure is partly driven by faulty affective forecasts. Specifically, political partisans systematically overestimate the extremity of negative affect that will result from exposure to opposing views. We observe such biased forecasts across communication medium (verbal vs. written), communication author (U.S. president vs. U.S. senator vs. voter), and the political spectrum (liberal vs. conservative). Additionally, we test whether underestimation of agreement with the content of opposing partisan communication drives this forecasting error, and whether correcting mistakenly extreme affective forecasts can reduce selective exposure.

1.1. Selective exposure

Although research on selective exposure has a long history, recent polarization of American political discourse and increased control by partisans over the information they consume have reignited interest in this phenomenon. From a strictly normative standpoint, information serves a purpose: awareness of both sides of an issue should be more beneficial to decision-making and social functioning than remaining blissfully ignorant of all facts supporting the opposite view (for discussion, see Golman, Hagmann, & Loewenstein, 2017).

However, despite the benefits of holding accurate beliefs, the phenomenon of selective exposure to agreeing information has been well-documented in social psychology (Frey, 1986), political science (Iyengar & Hahn, 2009; Sears & Freedman, 1967), and communications (Stroud, 2008). For example, one of the earliest studies on selective exposure demonstrated that mothers were more likely to listen to arguments that supported their beliefs regarding hereditary and environmental factors in childrearing than arguments that contradicted their beliefs (Adams, 1961). More recently, in the domain of political communication, conservatives in an experiment preferred to read articles from the conservative site *Fox News*, whereas liberals preferred to read articles from more liberal sources such as *CNN* and *NPR* (Iyengar & Hahn, 2009). These effects persist even with financial incentives on the line (Frimer, Skitka, & Motyl, 2017). Recent research has also examined how presentation order and structure moderate this phenomenon (Fischer et al., 2011; Jonas, Schulz-Hardt, Frey, & Thelen, 2001).

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Prior empirical and theoretical work examining the origins of selective exposure has treated this tendency as an effort to mitigate cognitive dissonance – an unpleasant state of psychological arousal evoked by the presence of contradictory cognitions (Festinger, 1957, 1964). Indeed the earliest demonstrations of selective exposure in social psychology were conducted under the umbrella of the theory of cognitive dissonance, and thus evidence of selective exposure was treated as confirming the theory's predictions (e.g., Adams, 1961). Later meta-analytic evidence supports this interpretation (Hart et al., 2009). Specifically, selective exposure increases when individuals expect to experience greater feelings of threat and conflict, such as in situations when they recently affirmed their views (Jonas et al., 2001) or made an irreversible decision (Frey & Rosch, 1984).

Although the literature on selective exposure has *inferred* that people avoid opposing views because cognitive dissonance causes negative affect (e.g., Laurin, 2018; Wegener & Petty, 1994), this work has not, to our knowledge, directly examined the affective consequences of such exposure. Instead, these studies typically employ a choice paradigm, theorizing that the selected choice (pro-attitudinal information) is more enjoyable than the foregone one (counter-attitudinal information). Thus, research has not addressed whether individuals accurately predict how aversive exposure to opposing views actually is. Is it possible that individuals make daily choices about which news to read, which radio stations to listen to, and even which friends to socialize with based on faulty predictions about the affective consequences of these choices?

In the present research, we build on methodology from the literature on affective forecasting (Wilson & Gilbert, 2003, 2005) to measure the positive and negative affect that political partisans expect to experience when confronted with opposing views. We focus our investigation on the accuracy of those expectations, testing whether exposure to opposing views is as aversive as anticipated, or whether individuals make a systematic error in forecasting their affect. In addition, we test whether mistakenly extreme affective forecasts partially underpin selective exposure – one of the most damaging drivers of contemporary political polarization.

1.2. Affective forecasting

An extensive body of research has demonstrated that individuals overestimate their negative affective reactions to a wide variety of events (for relevant reviews see Wilson & Gilbert, 2003, 2005). Specifically, individuals systematically mis-forecast both the intensity of their affective reactions (i.e., the impact bias; Gilbert, Driver-Linn, & Wilson, 2002; Morewedge & Buechel, 2013; Sieff, Dawes, & Loewenstein, 1999) and the duration of their affective reactions (i.e., the durability bias; Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). Studies examining the cause of these mispredictions have concluded that the error is often driven by focalism: the tendency to overweight the affective impact of the target event while underweighting the affective impact of other, non-target events (Mallett, Wilson, & Gilbert, 2008; Wilson et al., 2000; but see also Levine, Lench, Kaplan, & Safer, 2012).

Although research on affective forecasting has demonstrated that individuals overestimate their negative reactions to events ranging from divorce, to job rejection, to inter-racial social interaction (Gilbert, Lieberman, Morewedge, & Wilson, 2004; Gilbert et al., 1998; Mallett et al., 2008; Buechel, Zhang, & Morewedge, 2017; but see also Levine et al., 2012), this work has not addressed one of the most common sources of potential negative affect: exposure to the disagreeing views of others. Indeed, in our own pilot data ($N = 208$) examining individuals' enjoyment of a variety of daily activities, we found that people who hold strong opinions on an issue rated policy discussion with holders of opposing views as more aversive than any other activity listed, including household chores, yard work, and a visit to the dentist (details available in the Supplementary Online Material).

In the present research, we test whether such aversion is partly unjustified. We use the methods and framework offered by the literature on affective forecasting to examine whether individuals systematically mis-predict their affective reactions to opposing views.

1.3. Underestimation of agreement

Multiple research programs suggest that individuals may underestimate their level of agreement with a piece of communication from across the political aisle. First, prior research on partisan conflict has documented the phenomenon of “naïve realism” – the tendency to consider one's own views to be essentially accurate and based in reality, and free of the biases that plague the views of disagreeing others (Pronin, Gilovich, & Ross, 2004). To the extent that individuals consider the holders of opposing views to be subject to misinformation, bias or nefarious motives, they see those views as more extreme and more homogenous than they actually are. This tendency toward exaggerating the extremity of views on the other side has been termed “false polarization” (Keltner & Robinson, 1993; Robinson, Keltner, Ward, & Ross, 1995; Sherman, Nelson, & Ross, 2003). Research on false polarization suggests that partisans may expect specific communications from the other side to be more extreme in their partisanship and have less overlap with their own views than is actually the case.

Second, prior research on affective forecasting has documented the phenomenon of “focalism” – the tendency to overweight the affective impact of the target event and underweight the affective impact of all other non-target events (Mallett et al., 2008; Wilson et al., 2000). To the extent that partisans maintain a greater-than-warranted focus on the partisan identity of the speaker they might mis-predict how much the other side will talk about political content (vs. other tangentially related topics). Such a misprediction about the balance of political vs. non-political content in a communication might lead to a misprediction of one's agreement with the communication content overall.

Across our studies, we use a variety of stimuli to test the prediction that individuals underestimate their level of agreement with communications supporting opposing political perspectives. We find evidence for both this underestimation of agreement, and the hypothesis that it leads to an affective forecasting error: individuals expect to experience more negative affect when consuming content from across the aisle because they expect to have fewer beliefs in common with the other side than is actually the case.

2. Research overview

Across five studies, we test three overarching hypotheses. First, in Studies 1–3, we test whether individuals systematically overestimate their negative affective reactions. We do so by comparing forecasted affect to experienced affect. Second, in Study 1 and Study 3, we test whether this affective forecasting error (the difference between forecasted affect and experienced affect) is underpinned by an underestimation of agreement (the difference between forecasted agreement and experienced agreement). Finally, Studies 4–5, we test whether debiasing forecasted affect causally decreases selective exposure. Additionally, in Study 1, we link forecasted agreement, forecasted affect, and selective exposure in a single model showing that forecasted agreement predicts forecasted affect, which in turn predicts selective exposure.

2.1. Open science

For all studies, we decided on sample sizes before collecting any data. We report all data exclusions, all manipulations, and all measures. Data, code, preregistrations, and materials are available on the Open Science Framework [here](#). Studies 2, 3, and 5 were preregistered, as was a large-scale replication of Study 4 (see Supplementary Online Materials for details).

3. Study 1

Study 1 took place minutes after President Trump's inauguration speech on January 20, 2017. We launched the study immediately after the video recording of the speech became publicly available in order to minimize the chance that our participants would have previous exposure to the speech. Participants were Clinton voters who first *imagined* watching President Trump's inauguration speech and forecasted their affective reactions to it, as well as the degree to which they expected to agree with the content of the speech. They then *actually* watched his speech and reported their experienced affect and level of agreement.

3.1. Method

We solicited participation by 247 Amazon Mechanical Turk (Mturk) workers (130 males, 117 females, $M_{\text{age}} = 33$ years, age range = 21–70 years) who voted for Hillary Clinton to participate in a 25-min study of political opinions in exchange for \$3.00. The recruitment materials did not mention that the study would involve interaction with opposing views in order to avoid biasing selection effects.

Our goal was to collect 250 participants, based on the effect sizes observed in our pilot studies. We determined a priori that we would drop participants who failed the attention check or did not meet the recruitment criteria. We report all of our measures, conditions, and exclusions.

Participants first reported their overall political ideology on a 7-point scale anchored at 1: "Very Liberal" and 7: "Very Conservative." Participants then reported the extent to which they agreed with, liked, and approved of President Trump on 7-point scales anchored at 1: "Strongly Oppose" and 7: "Strongly Support."

Participants also indicated their willingness to engage with a variety of individuals and ideologies on both sides of the political divide. Specifically, we asked them how willing they would be to watch online content by representatives of both political parties. We asked about participants' willingness to watch speeches by two presidents (Donald Trump and Barack Obama), senators (Ted Cruz and Bernie Sanders), and typical voters (Republican and Democratic). Participants reported their willingness to consume each piece of content using 7-point scales anchored at 1: "Not at all" and 7: "Extremely." The difference between participants' average willingness to consume content presented by own-party and opposite-party targets served as our measure of selective exposure.

Next, participants answered three questions regarding their familiarity with President Trump's inauguration speech prior to taking part in this study, which we used for later screening. Participants answered whether they had watched the speech (yes/no), and if yes, how much they had watched (0–5 min, 5–10 min, 10–15 min, the entire speech). Participants also reported how familiar they were with the content of the speech on a 5-point scale anchored at 1: "Not at all familiar" and 5: "Very familiar."

We then asked all participants to imagine watching President Trump's 17-minute inauguration speech and to forecast their affect. Participants filled out a set of scales previously used in research on affective forecasting (Mallett et al., 2008) reporting expectations regarding their positive and negative affect. All items used a 9-point scale anchored at 0: "Would not feel the emotion even the slightest bit" and 8: "Would feel the emotion more strongly than ever." The affect scale consisted of ten items: five examining negative affect (annoyed, resentful, nervous, angry, afraid) and five examining positive affect (enthusiastic, relaxed, happy, excited, cheerful), presented in a randomized order. We subtracted the mean of the negative affect items from the mean of the positive affect items, obtaining a single score for each participant where positive numbers represented greater levels of positive than negative affect.

We further measured participants' agreement with the content of

the speech. Specifically, participants reported the percentage of the video content with which they expected to strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, and strongly agree. We required participants to allocate their percentages such that the total of the five categories equaled 100%. We created an agreement index by multiplying the percentages in each of the five categories by -2 : "strongly disagree," -1 : "somewhat disagree," 0 : "neither agree nor disagree," $+1$: "somewhat agree," and $+2$: "strongly agree." Thus, the index ranged from -2 : "strongly disagree with 100% of the content" to $+2$: "strongly agree with 100% of the content," where a score of 0 indicated equally strong levels of agreement and disagreement.

Participants then watched President Trump's actual inauguration speech (that he had just delivered live minutes prior) and responded to the same affect and agreement items, this time with respect to their actual experience. To address potential concerns that people misinterpret the experience questions as reporting their feelings in general instead of in reference to the video clip (Levine et al., 2012; but see also Buechel et al., 2017), we asked participants to report how they felt "when you were actually watching the video."¹

All participants then completed a video attention check (asking about the color of President Trump's tie, the weather in Washington D.C., and the theme of his speech) and demographic measures, including indicating who they had voted for in the 2016 Presidential election.

3.2. Results

We eliminated from analysis six participants who answered more than one attention check question incorrectly. Consistent with our Mturk solicitation, we also eliminated from analysis 19 participants who reported not voting for Hillary Clinton, leaving a total of 222 participants.²

3.2.1. Affect

Both the forecast ($\alpha = 0.89$) and experience ($\alpha = 0.93$) affect scales achieved high levels of reliability.³ Overall, participants anticipated experiencing high levels of negative affect while watching the inauguration speech ($M = -4.08$, $SD = 2.94$). However, their experiences of the speech proved to be substantially less negative than they anticipated ($M = -3.07$, $SD = 3.86$). A paired samples *t*-test showed that this difference was statistically significant, $t(221) = -6.75$, $p < .001$, mean difference = -1.01 , Cohen's $d = 0.29$. Thus, participants clearly over-estimated their negative reactions to the speech, despite the fact that due to the extensive media coverage of the Presidential election most were likely to be quite familiar with Donald Trump, his positions, and his speaking style.

Our data also enabled us to compare the forecasted and experienced reactions of those participants who had not watched the speech at all, with those who had just watched the speech live. The first group of participants ($n = 104$), whom we called "naïve" participants, forecasted their affect with no prior experience of the speech, and thus experienced the speech for the first time in the course of our study. This group showed a large affective forecasting error ($M = -4.91$ vs. $M = -3.96$), $t(103) = -4.13$, $p < .001$, mean difference = -0.95 , Cohen's $d = 0.29$. Intriguingly, participants who had seen the speech live and now watched it for the *second* time during the study, whom we called "exposed" participants ($n = 118$), also showed a forecasting

¹ We added this specific text – in reference to the focal event rather than to feelings in general – in all studies.

² When we repeat our analyses based on all participants who did not vote for Donald Trump (i.e., keeping participants who voted for third-party candidates or did not vote), our results remain consistent with those reported. We did not analyze data from any participants who failed the attention checks.

³ The alphas on the affect scales ranged from 0.82 to 0.93 across all studies.

error, and one of a similar magnitude ($M = -3.34$ vs. $M = -2.28$), $t(117) = -5.43$, $p < .001$, mean difference = -1.05 , Cohen's $d = 0.31$. Given that we find no significant interaction between affective forecasting errors and prior exposure to the speech, we collapse across this variable in ensuing analyses.

3.2.2. Agreement

We then examined the accuracy of participants' expectations of agreement by collapsing the percentage of the speech assigned to each category of agreement (as described in the Method section above). Participants anticipated experiencing high levels of disagreement with the inauguration speech ($M = -1.12$, $SD = 0.82$). However, when they experienced the speech, they found the content to be substantially more in line with their own beliefs ($M = -0.74$, $SD = 1.12$). A paired samples t -test showed that this difference was statistically significant, $t(221) = -7.25$, $p < .001$, mean difference = -0.37 , Cohen's $d = 0.38$.

3.2.3. Mediation analysis

An important question is whether underestimation of agreement mediated the affective forecasting error. A key innovation in within-subjects mediation analysis has been the development of a path-analytic approach (Montoya & Hayes, 2017; c.f. Judd, Kenny, & McClelland, 2001). Compared to the classic causal-steps approach, this method has the advantages of estimating the indirect path (a test of joint significance), and providing an interval estimate for the indirect path (see, for example, Brown-Iannuzzi, Dotsch, Cooley, & Payne, 2017; Cooney, Gilbert, & Wilson, 2017).

Thus, to test whether the agreement error mediated the affective forecasting error, we conducted within-subjects mediation analysis with the MEMORE macro in SPSS with 10,000 bootstrapped samples (Montoya & Hayes, 2017). Consistent with predictions, the affective forecasting error was significantly mediated by the agreement error, as indicated by the fact that the 95% Confidence Interval (CI) for the indirect path did not include zero, $b = -0.57$, 95% CI [-0.78 , -0.38].

3.2.4. Selective exposure

When we examined participants' reported willingness to engage with opposing views, we found the now well-documented pattern of selective exposure to belief-confirming information. The Clinton voters in our study were more willing to watch video speeches by President Barack Obama ($M = 5.10$), Senator Bernie Sanders ($M = 5.05$), and a generic Democratic voter ($M = 4.50$), than by President Donald Trump ($M = 2.65$), Senator Ted Cruz ($M = 1.91$), and a generic Republican voter ($M = 3.24$; all $t_s > 8$, all $p_s < .001$).

We next calculated an index of each participants' level of selective exposure by averaging their willingness to watch the Democratic president, senator, and typical voter and subtracting their average willingness to watch the Republican president, senator, and typical voter. Because all of our participants had voted for the Democratic presidential candidate, a positive score indicated greater willingness to consume belief-consistent information.

To examine whether participants' faulty affective forecasts predicted their unwillingness to consume content by holders of opposing views, we regressed participants' selective exposure score on the level of affect that they had forecasted in reaction to watching the inauguration speech. Participants' forecasted affect significantly predicted levels of selective exposure, $b = -0.28$, $SE = 0.034$, $t(220) = -8.29$, $p < .001$, such that the more negative affect participants anticipated experiencing during the speech, the less willing they reported being to watch speeches by opposing party members. This relationship remained strong even after controlling for experienced affect, $b = -0.23$, $SE = 0.060$, $t(219) = -3.78$, $p < .001$, suggesting that the selective exposure choice is driven not only by the objective characteristics of the stimulus, but also by participants' anticipated reactions to it.

3.2.5. Initial test of overarching model

We hypothesized forecasted agreement with the target stimulus drives the affect participants expect that stimulus to elicit, and that these affective forecasts drive selective exposure. To test this overarching model, we fit a structural equation model using the Lavaan package in R (Rosseel, 2012) with selective exposure as the outcome variable, forecasted affect as a mediating variable, and forecasted agreement as an independent variable. We find strong evidence of relationships between forecasted agreement and forecasted affect ($b = 0.72$, $z = 15.58$, $p < .001$) and forecasted affect and selective exposure ($b = -0.34$, $z = -4.01$, $p < .001$), providing initial evidence for the full structure of the theoretical model. Importantly, our data also show that individuals are erroneous in both their agreement and their affective forecasts, lending evidence to our overall theorizing regarding the role of faulty affective forecasts in selective exposure.

3.3. Discussion

Study 1 provided initial evidence in support of the hypothesis that individuals overestimate the negative affect they will experience from consuming opposing views. The amount of media attention devoted to the presidential campaign might suggest that voters would have accurate forecasts of their reactions to the new president. However, in reality, Democratic voters dramatically overestimated their negative affective reactions.

Participants further overestimated how much of the speech they were likely to disagree with and this difference in anticipated versus actual disagreement mediated the affective forecasting error. Importantly, we find these results despite the fact that a desire for consistency among participants should dampen the reported difference between forecasts and experiences. Forecasted affect was a strong predictor of selective exposure, above and beyond actual experienced affect. Finally, we provided initial evidence for an overarching model in which forecasted agreement drives forecasted affect, which in turn drives selective exposure.

4. Study 2

Study 2 extends our investigation by testing participant reactions to content produced by voters instead of a professionally authored speech. It also used written, rather than spoken, content. Finally, Study 2 used a between-subjects design.

4.1. Method

Four hundred and two participants (184 female, 218 male, $M_{age} = 36$ years, age range = 18–74) completed the study for \$0.50 on Amazon's Mturk. We pre-registered to stop data collection after 400 participants, but two extra participants completed the study before the survey was closed. We used an identical recruitment process to Study 1, recruiting Hillary Clinton voters, and not including any information that the study would include exposure to opposing views. After an attention check, all participants received the following directions:

“One year after the 2016 presidential election, the New York Times invited Trump voters who continue to support Donald Trump and his policies to share why they stand by their vote. The New York Times collected readers' responses written in their own words.”

We then randomly assigned participants to one of two experimental conditions. In the “Forecast” condition, we asked participants to imagine what it would be like to read three of the responses we had just described. In the “Experience” condition, participants actually viewed three of the responses. We used all fifteen responses published in the *New York Times* article, and each study participant saw a randomly selected set of three. The entire set of fifteen responses can be found in the Supplementary Online Materials.

Table 1

Means and standard deviations of affect ratings (Studies 1 & 2). Superscript a denotes a significant difference in Study 1. Superscript b denotes a significant difference in Study 2. Study 1 used within-subject comparisons, whereas Study 2 used between-subject comparisons.

Affect Items	Study 1 Forecast	Study 1 Experience	Study 2 Forecast	Study 2 Experience
Annoyed ^{a, b}	5.88 (2.29)	5.25 (2.80)	5.84 (2.13)	5.24 (2.53)
Resentful ^{a, b}	5.18 (2.56)	4.79 (2.91)	4.71 (2.46)	4.05 (2.57)
Nervous ^a	4.67 (2.53)	3.84 (2.81)	3.02 (2.35)	2.71 (2.60)
Angry ^{a, b}	5.00 (2.65)	4.50 (2.93)	4.92 (2.32)	4.25 (2.58)
Afraid ^a	4.37 (2.44)	3.71 (2.80)	3.17 (2.67)	2.70 (2.56)
Enthusiastic ^a	0.80 (1.53)	1.28 (2.06)	1.42 (1.93)	1.50 (1.98)
Relaxed ^a	1.59 (2.03)	1.97 (2.28)	2.39 (2.17)	2.80 (2.34)
Happy ^a	0.75 (1.35)	1.23 (2.04)	1.40 (1.91)	1.51 (1.97)
Excited ^a	0.82 (1.43)	1.16 (1.94)	1.44 (1.93)	1.39 (1.86)
Cheerful ^a	0.76 (1.47)	1.12 (1.93)	1.27 (1.76)	1.45 (1.93)

We measured forecasted and experienced affect in the same way as in Study 1. Participants filled out the same set of affect scales, including five negative and five positive items. As in Study 1, we subtracted the mean of the negative affect items from the mean of the positive affect items, obtaining a single score for each participant where higher numbers represented more positive affect. At the end of the study, all participants reported their political ideology, for whom they voted in the 2016 presidential election, and demographics.

4.2. Results

In accordance with our pre-registered analysis plan, we eliminated 37 participants who failed the attention check or who reported either not voting or voting for someone other than Hillary Clinton, leaving a total of 365 participants.

Both the forecast ($\alpha = 0.83$) and experience ($\alpha = 0.82$) affect scales again achieved high level of reliability. As predicted, participants in the Forecast condition expected reading opposing views to be more negative than individuals in the Experience condition reported it to be ($M = -2.75$ vs. $M = -2.06$), $t(360) = -2.37$, $p = .018$, mean difference = 0.69, Cohen's $d = 0.25$.

Table 1 presents the descriptive statistics for the individual affect items in Studies 1 and 2. As can be seen from an examination of the table, the effect is not driven by a subset of our items. Instead, it appears that the largest part of the error comes from individuals exaggerating the amount of negative affect that they are likely to experience. However, participants also under-estimated the extent to which they would experience positive affect.⁴

4.3. Discussion

Study 2 builds upon Study 1 by examining written content produced by voters rather than audio content produced by a professional politician. It also used a between-subjects design rather than a within-subjects design.

5. Study 3

Study 3 builds upon Studies 1 and 2 in several ways. First, we examined affective forecasts from both sides of the political aisle. Second, we again change stimuli in order to test the generalizability of our phenomenon. Participants in Study 3 viewed videos by current United States senators. Third, we again tested the extent to which participants

⁴ While the forecasting error with respect to positive affect is not significantly different from zero in this study, it is significantly different from zero in all other studies.

underestimate their agreement with the content of a communication from the opposing side, now in a between-subjects design.

5.1. Method

We recruited 400 Amazon Mechanical Turk workers for a short study of political opinions (202 female, 196 male, 2 non-binary/other, $M_{\text{age}} = 37$, age range = 19–75) who completed the study for \$0.50. As in Studies 1 and 2, no information was given in the recruitment that the study would involve interaction with opposing views.

After an attention check, all participants indicated their political ideology on a 7-point scale from 1: “very liberal” to 7: “very conservative.” We then randomly assigned participants to one of two experimental conditions. In the “Forecast” condition, we asked participants to imagine what it would be like to watch a short video clip of Senator Ted Cruz (or Bernie Sanders) talk about tax reform (or gun control). Participants always imagined viewing a video by an opposing-party senator. In the “Experience” condition, participants actually watched this short video clip by an opposing-party senator. We selected speeches in this study by selecting the most recent political speech uploaded to the Youtube channel of each respective senator.

We measured forecasted and experienced affect in the same way as in Studies 1 and 2. In addition, as in Study 1, participants reported the percentage of the video content with which they expected to strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, and strongly agree. As in Study 1, we took a weighted average of these five categories to create a single index ranging from -2 : “strongly disagree with 100% of the content” to $+2$: “strongly agree with 100% of the content,” where a score of 0 indicated equally strong levels of agreement and disagreement. All participants then completed demographic measures.

5.2. Results

In accordance with our pre-registration, we eliminated from analysis 64 participants who failed the attention check or who reported being “middle of the road” in their political ideology, leaving a total of 336 participants.

As predicted, participants in the Forecast condition expected watching the video clips to be more negative than individuals in the Experience condition reported it to be ($M = -2.03$ vs. $M = -0.96$), $t(318) = -3.31$, $p = .001$, mean difference = 1.07, Cohen's $d = 0.36$.⁵ Additionally, participants in the forecast condition expected to disagree with more of the content in the video clip than participants in the experience condition reported disagreeing with ($M = -1.13$ vs. $M = -0.61$), $t(272) = -4.42$, $p < .001$, mean difference = 0.52, Cohen's $d = 0.49$, again making an incorrect inference about the content of the speech based on the source.

Finally, we conducted a between-subjects mediation analysis with the Lavaan package in R (Rosseel, 2012). As in Study 1, the agreement error mediated the forecasting error, $b = -0.15$, $z = -4.32$, $p < .001$. Thus, it seems that participants expect opposing views to be more aversive than they turn out to be because they exaggerate the level of disagreement between their own views and those held by political opponents.

⁵ It could be the case that individuals also misjudge their affect when consuming agreeing political views. We conducted an additional follow-up study to test this hypothesis using the same stimuli and found no significant difference between forecasts vs. experiences of affect for agreeing-party senators ($M_{\text{forecast}} = 2.66$ vs. $M_{\text{experience}} = 2.42$, $t(302) = 0.76$, $p > .40$, mean difference = -0.24 , Cohen's $d = 0.09$).

5.3. Discussion

Study 3 builds on Studies 1 and 2 by showing the affective forecasting error in a between-subjects design. Furthermore, we document that the error can be committed with respect to both liberal and conservative targets by both liberal and conservative participants. We further replicate the results of our mediation analysis in Study 1, using a between-subjects design.

Our findings in Study 3 suggest that individuals expect holders of opposing views to disagree with them more dramatically than turns out to be the case. Specifically, the misprediction of agreement in Study 1 could be attributed to the fact that President Trump's inauguration speech focused less on policy content than participants anticipated, and they found themselves unexpectedly agreeing with generic patriotic statements such as "America is great!" In Study 3, however, participants both expected and viewed a short policy speech on a familiar topic. The fact that they again mispredicted their level of agreement with the speech suggests that what they are mispredicting may in fact be the extremity of policy views on the other side. This evidence is in line with prior research on "false polarization" (Keltner & Robinson, 1993; Robinson et al., 1995; Sherman et al., 2003), and demonstrates an important and previously undocumented potential consequence of that phenomenon.

6. Study 4

In Study 1, we documented that the faulty affective forecasts predicted participants' reported level of selective exposure. However, that evidence suffers from the shortcomings of a correlational design and the fact that the measure of selective exposure was hypothetical. In Study 4, we directly test this causal mechanism by manipulating people's affective forecasts and observing how this changes real information consumption choices. We further test whether the change in selective exposure is mediated by a change in affective forecasts.

6.1. Method

We recruited 1002 Amazon Mechanical Turk workers for a short study of political opinions.⁶ Participants first reported their political ideology on the same scale as previous studies and read instructions summarizing the study as having to do with thinking about, reading about, and watching politicians from across the political spectrum.

Next, we randomly assigned participants to one of two experimental conditions. Participants in the "Treatment" condition were given the de-biasing message reproduced below. Participants in the "Control" condition read no such de-biasing message.

*"Think about listening to a politician who holds opposing views to your own. Most people expect that experience to be very unpleasant. Surprisingly, it turns out that listening to or reading opposing perspectives can be pretty interesting. Most people are glad to better understand why the other side supports different policies. In our previous studies we've found that **participants don't end up disliking listening to the other side as much as they expect.** In one study we asked Clinton voters to watch the Trump inauguration speech. Although they anticipated it to be very unpleasant, it turned out to be more pleasant than expected. Interestingly, many of the Clinton voters agreed with some of the points President Trump made. Conservative voters listening to Liberal politicians have told us the same thing. [Emphasis present in original.]"*

⁶ We initially collected 500 participants and obtained directionally predicted but marginally significant results ($p = .06$, Cohen's $d = 0.19$ for main effect on forecasted affect). In line with recommendations of Lakens (2014) and Simonsohn (personal communication), we doubled our sample, and report results from both combined waves of data collection. To allay concerns about reproducibility, we conducted a large-scale, pre-registered replication of Study 4 ($N = 1205$). The Supplementary Online Materials provides full details.

We then instructed all participants to forecast their affective reaction to watching a speech by a senator from the opposing side of the political aisle: either Bernie Sanders (for conservatives) or Ted Cruz (for liberals). Participants used the same affect items as in prior studies. In the next part of the study, we presented all participants with the following instructions:

"Later in the study, you will have the opportunity to read the press pages of several current members of the United States Senate. Below is a list of senators along with their party affiliation and their state. For each senator, there is also a score of how liberal or conservative their voting record is. The scores range from -1 (extremely liberal) to $+1$ (extremely conservative). The senators are presented in order of their voting records."

We instructed participants to select at least five of the senators from the list. The list included ten Democratic senators (e.g., Elizabeth Warren, Al Franken, Chuck Schumer) and ten Republican senators (e.g., Marco Rubio, Mitch McConnell, John McCain) with the most google hits associated with their names at the time of the study. The name of each senator was presented along with their state, party, and DW-Nominate score. DW-Nominate scores are a widely-used metric of legislative roll-call behavior derived by applying multidimensional scaling to provide a single quantitative estimate of political ideology (Poole & Rosenthal, 1985, 2000). Order was counterbalanced so that half of the participants saw senators ordered from most conservative to most liberal, whereas the other half saw the reverse order.

We considered two measures of selective exposure: (1) The average DW nominate scores of the senators each participant chose; and (2) the number of senators chosen from the opposing political party of the participant.

After a brief filler task involving reading an unrelated marine biology article, participants then actually watched and reported their affective reaction to a short video speech (by either Ted Cruz or Bernie Sanders) for which they had forecasted their affect earlier in the study.

Finally, all participants then completed an attention check (asking about the purpose of the study) and demographic measures. At the end of the study, the survey routed participants to the press pages of the senators they had selected earlier.

6.2. Results

Using an identical process to Study 3, we eliminated from analysis 218 participants who failed an attention check or who identified as "Middle of the Road" politically, leaving a total of 784 partisans.

6.2.1. Affect

In line with the results from our previous studies, we found that, overall, participants expected listening to opposing speeches to be more negative than what they reported after having watched the speech ($M = -1.98$ vs. $M = -0.93$), $t(783) = 12.60$, $p < .001$, mean difference = -1.04 , Cohen's $d = 0.36$). Importantly though, participants in the treatment condition reported less negative forecasts than participants in the control condition ($M = -1.77$ vs. $M = -2.20$), $t(780) = 2.20$, $p = .028$, mean difference = -0.43 , Cohen's $d = 0.16$. Thus, simply informing participants regarding the results of our prior research, in a few short sentences, led them to amend their expectations. Interestingly, participants in the treatment condition also reported less negative experiences than those in the control condition ($M = -0.59$ vs. $M = -1.29$), $t(781) = 3.17$, $p = .002$, mean difference = -0.70 , Cohen's $d = 0.23$. As suggested by the fact that we find significant effects of condition on both forecasts and experiences separately, we find no significant interaction between condition (treatment, control) and reporting type (forecast, experience) in a 2×2 mixed ANOVA, $F = 2.42$, $p = .12$. Most importantly, however, our treatment significantly reduced negativity of affective forecasts.

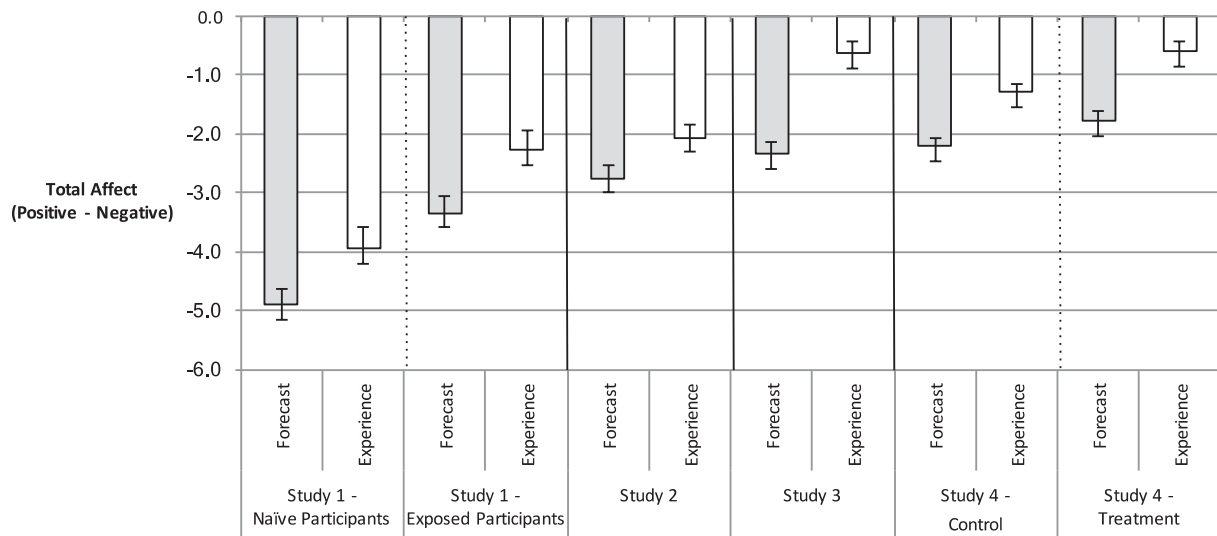


Fig. 1. Forecasted and experienced total affect (Studies 1–4). Note: Dotted black lines separate conditions within studies and solid black lines separate studies (Studies 1–4).

6.2.2. Selective exposure

We instructed participants to select at least five of the senators whose webpages they wished to view during a later part of the study from the list of 20 that we presented to them. Most participants selected exactly five, although 43 participants selected more than five.

To create a mean DW-Nominate score for the choices made by each participant, we simply averaged the DW-Nominate scores of the senators that each participant selected. These scores are bounded between -1 and $+1$, where positive scores indicated more conservative choices and negative scores indicated more liberal choices. Then, to create an index of selective exposure, we re-coded the DW-Nominate scores so that scores closer to 1 indicated high levels of selective exposure (i.e., choosing senators from one's own party rather than the opposing party), and scores below zero indicated "reverse" selective exposure (i.e., choosing senators from the opposing party rather than one's own party).

As with the self-report measures in Studies 1 and 2, we found clear evidence of selective exposure using this behavioral measure. Overall, individuals were more likely to visit press pages of senators from their own, rather than the opposing, political party ($M = 0.19$, $SD = 0.30$), with a mean significantly different from a score of "0" which would have represented choosing content in an even-handed manner, $t > 17$, $p < .001$ (see Fig. 1).

However, our primary interest is whether participants assigned to the treatment condition would demonstrate lower levels of selective exposure. Participants in the control condition showed high levels of selective exposure ($M = 0.21$, $SD = 0.29$). In line with our predictions, as seen in Fig. 2 (Panel A), participants in the treatment condition showed significantly less selective exposure ($M = 0.16$, $SD = 0.31$). A t -test showed that this difference was statistically significant ($M = 0.21$ vs. $M = 0.16$), $t(780) = 2.36$, $p = .019$, mean difference = 0.05, Cohen's $d = 0.17$. If one considers a score of "0" as no selective exposure, then the difference between conditions constituted a 24% reduction in the bias.

One explanation for the pattern of data we described above is that individuals in the treatment condition were simply choosing less extreme senators from their own party, rather than actually "crossing the aisle." To examine this possibility, we calculated the average number of Senate press pages from the opposing party that each participant selected. Participants in the control condition selected an average of 1.51 press pages from the other side ($SD = 1.16$). By contrast, participants in the treatment condition selected 1.81 opposing press pages ($SD = 1.30$), a 20% increase. As depicted in Fig. 2 (Panel B), this increase in willingness to consume opposing views in the treatment condition was statistically significant, $t(782) = 3.38$, $p < .001$, mean difference = 0.30, Cohen's $d = 0.24$.

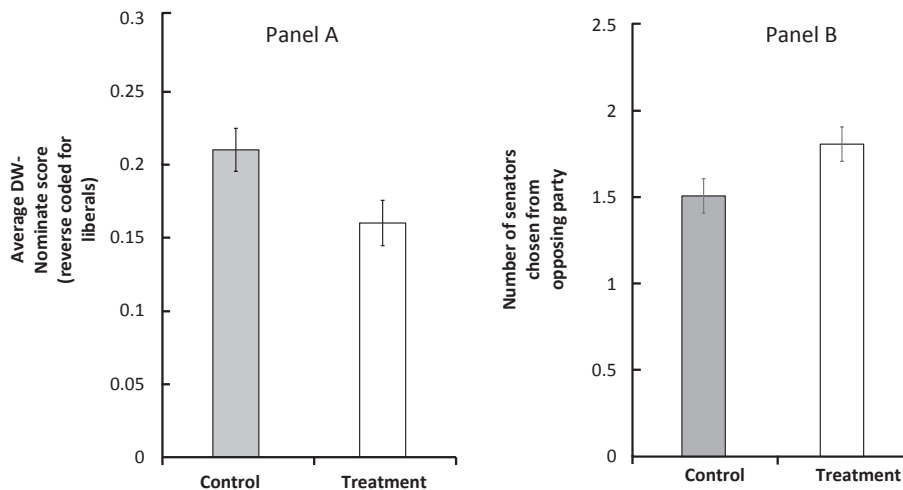


Fig. 2. Levels of selective exposure by condition (Study 4).

6.2.3. Mediation analysis

A key question was whether the change in affective forecasts mediated the change in participants' level of selective exposure. To address this question, we conducted a between-subjects mediation analysis with the PROCESS macro in SPSS with 10,000 bootstrapped samples (Preacher & Hayes, 2004). Consistent with predictions, changes in affective forecasts mediated changes in selective exposure, $b = -0.0063$, 95% CI $[-0.0146, -0.0011]$ (Fig. 3).

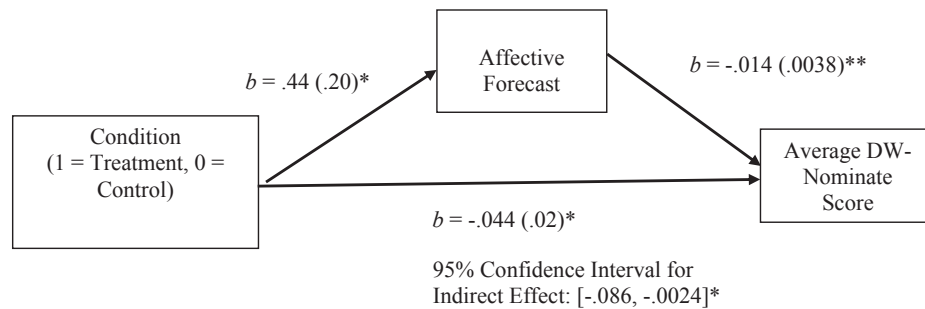


Fig. 3. The effects of treatment condition on average DW-Nominate Score as mediated by affective forecasts (Study 4). Note: * $p < .05$, ** $p < .01$.

6.3. Discussion

Study 4 provides a causal link between individuals' affective forecasts and their willingness to consume opposing views. A short and truthful report of our research findings led participants to moderate their affective forecasts and reduce selective exposure by 24%. These findings provide an avenue for the development of a simple informational manipulation that could be used to decrease the extent and prevalence of selective exposure.

Extensive research has documented the value of simple informational de-biasing techniques (Allcott & Rogers, 2014; Morewedge et al., 2015; Rogers & Feller, 2018). However, because participants in our study knew that they were part of a research experiment, we must consider the possibility that rather than genuinely taking our de-biasing message to heart they simply acquiesced to experimental demand and behaved in a manner that they believed to be consistent with our hypotheses. On the one hand, given the fact that participants demonstrated significant differences in experienced affect as well as forecasted affect, it could be the case that experimental demand is partly responsible for the pattern of results documented above. On the other hand, it could be that participants in our treatment condition truly believed our research findings, and truly changed their expectations regarding their experience of the speech. Given the inability to parse these two competing explanations with the empirical results from Study 4, we designed Study 5 (and the replication study in the appendix) to address experimental demand in a more rigorous way.

7. Study 5

We designed Study 5 to provide a conceptual replication of Study 4 while alleviating concerns of experimental demand. Specifically, participants chose whether to watch a video by an agreeing vs. disagreeing senator. We predicted that participants would be more willing to watch a video by a disagreeing senator when they saw that other participants had rated the video as not as aversive as anticipated.

7.1. Method

We recruited 404 Amazon Mechanical Turk workers (179 female, 225 male, $M_{\text{age}} = 36$, age range = 18–71) for a short study of political opinions. We pre-registered to stop data collection after 400 participants, but four extra participants completed the study before the survey was closed. Participants first reported their political ideology and

demographic information on the same scales as previous studies.

Participants began the study by first forecasting their affective reaction to an unrelated video on woodworking using the same scales as in all prior studies. They then actually watched the video and reported their experienced affective reactions to the video. We designed this procedure to maximize participant familiarity with the affect ratings they would see later in the study while providing an emotionally-neutral experience.

Participants were then told they would have the opportunity to make a choice regarding which video to watch for the second part of the study. We told them that the videos we had prepared featured sitting United States Senators. They were told that in addition to the name of the senator, they would see the average emotion ratings that previous mturkers with their political orientation gave to the video using the same scales that they themselves had just used to rate the woodworking video.

Next, as in Study 4, we randomly assigned participants to one of two experimental conditions. Participants in the “Control” condition were shown the name of the senators (Sanders, Cruz), their official Senate picture, and the forecasted affect for the video from participants with their political ideology. Participants in the “Treatment” condition saw the identical stimuli with one exception: in addition to seeing the forecasted affect for each video, participants also saw the experienced affect for each video.

Thus, as in Study 4, we offered participants truthful information about the results of our research, this time in the form of emotion ratings made by prior participants on the same scale as the current participants had just used to rate the woodworking video. Given that our effect sizes are typically around 1 scale point, it is possible that participants would simply be insensitive to the difference between forecasts and experiences of the prior sample, and continue to overwhelmingly choose the same party senator. However, we predicted that participants would be more likely to watch the disagreeing senator when they saw information that the experienced affect was not as negative as the forecasted affect. After choosing which video to watch, participants then actually watched the video they selected.

7.2. Results

In accordance with our pre-registered analysis plan, we eliminated from analysis 92 participants who failed an attention check or who identified as “Middle of the Road” politically, leaving a total of 312 partisans.

7.2.1. Selective exposure

As in Study 4, we find clear evidence of selective exposure using this new behavioral measure. Overall, individuals were more likely to choose videos of the senator from their own, rather than the opposing, political party ($M = 73\%$), with a mean significantly different from “50” which would have represented choosing content in an even-handed manner, $t > 11$, $p < .001$. A logistic regression showed that

participants in the treatment condition were significantly more likely to choose to watch a video of the senator from the opposing party than were participants in the control condition ($M = 71.17\%$ vs. $M = 81.88\%$, $z = 2.12$, $p = .034$, mean difference = 10.16%, Cohen's $d = 0.24$). If one considers even-handed selection of senators (i.e., 50%) as the absence of selective exposure, this reduction from 81.88% of participants in the control condition selecting an own-party senator to 71.77% of participants in the treatment condition selecting an own-party senator constituted a 34% amelioration of the bias.

7.3. Discussion

Study 5 achieved two goals. First, it provided a conceptual replication of Study 4. Second, it alleviated concerns of experimental demand. Taken together Studies 4–5 (in addition to the replication of Study 4 provided in the [Supplementary Materials](#)) provide converging evidence that selective exposure can be reduced by reducing faulty affective forecasts.

8. General discussion

Across five experiments we demonstrate a robust error in individuals' affective forecasts when faced with the prospect of consuming opposing political views. Specifically, participants find exposure to opposing views to be substantially less aversive than expected. We document this phenomenon across a variety of stimuli, communication modalities, and across the political spectrum. We also document this pattern with both within- and between-subjects experimental designs.

We find both correlational and causal evidence that mistakenly extreme affective forecasts exacerbate selective exposure. While there are multiple factors that might lead to selective exposure, it seems that political partisans' choices of which information to consume are at least partly based on erroneous predictions of their own affect. We also found that a short de-biasing message can increase partisans' engagement with information from the other side of the aisle. Specifically, a brief and truthful report of our research findings led to reductions in selective exposure by 24–34%. To our knowledge, this is one of the first papers to document downstream behavioral consequences of faulty affective forecasts (Morewedge & Buechel, 2013; Wilson, Wheatley, Kurtz, Dunn, & Gilbert, 2004). Examining the extent to which individuals can learn from other's forecasts and thus change future behavior presents an interesting avenue for future research (see also Gilbert, Killingsworth, Eyre, & Wilson, 2009).

Why do people mis-predict their feelings during disagreement? Our studies demonstrate that people expect opposing views to be less agreeable than they turn out to be. This finding is in line with prior research on false polarization, demonstrating that partisans in conflict systematically exaggerate the extremity of the views on the other side (Keltner & Robinson, 1993; Robinson et al., 1995; Sherman et al., 2003). It is also in line with prior work on focalism, the tendency to overweight the affective impact of the target event and underweight the affective impact of all other non-target events (Mallett et al., 2008; Wilson et al., 2000).

It may be the case that mis-predicting how much one will agree with others of the opposing political party stems from people engaging in biased sampling from memory. In other words, when asked to imagine their feelings regarding material they typically avoid, most people readily recall extreme instances (Morewedge, Gilbert, & Wilson, 2005; see also Gennaioli & Shleifer, 2010), that in turn bias predictions of the future. Alternatively, individuals' recall of extreme political positions may be accurate considering such extreme positions receive the most media exposure (Mullainathan & Shleifer, 2005). Future research should explore these hypotheses.

While in some cases it may be that exposure to counter-attitudinal information leads to more extreme positions (e.g., Bail et al., 2018),

exposure remains a necessary but not sufficient requirement of effective political discourse. The studies reported in this manuscript, particularly Studies 4 and 5, suggest that selective exposure could be mitigated if people learned that opposing views are not as aversive as they anticipate. This is exactly the interventional approach examined in Studies 4 and 5, which results in increased diversity of perspectives in participants' media diets for both written and video content. Future interventions could target mis-perceptions of affect, mis-perceptions of agreement, or both. One could imagine this citizen education being undertaken in civics classes, by public leaders, and by others concerned about the quality and survival of our democratic deliberation and self-governance.

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Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.cognition.2019.02.010>.

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