

EMPIRICAL ARTICLE

In political judgment contrast is stronger than assimilation, especially when polarization is high

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Abstract

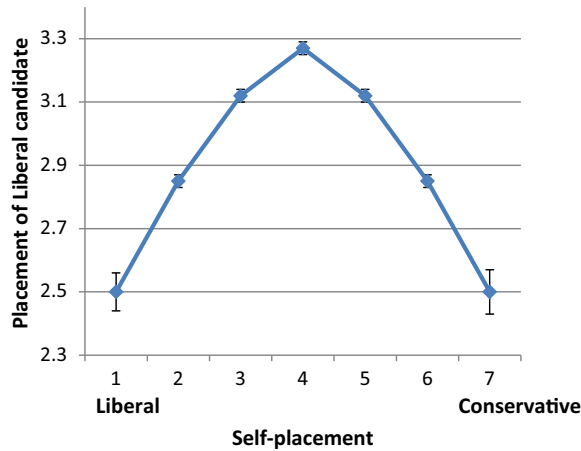
Past research suggested that assimilation (i.e., the tendency to exaggerate the similarity between one's ideological position and the position of a preferred political object) is stronger than contrast (i.e., the tendency to exaggerate the *dissimilarity* between one's ideological position and the position of a non-preferred political object). However, critiques of this research argue that this conclusion is unwarranted because it is biased toward assimilation appearing stronger than contrast. In the current study, we examine the ideological judgments of American presidential candidates between 1972 and 2020 and analyze all available subjects (in contrast to previous studies that relied primarily on data collected in the 1970s and 1980s and analyzed only subjects who actually voted), and show that, in these years, contrast was stronger than assimilation. We also show that during these years, there was very little change in assimilation but a substantial increase in contrast. We attribute this change to increased polarization among the American electorate.

1. Introduction

It is often argued that people tend to exaggerate the political similarity between themselves and political objects that are ideologically close to them, as well as to exaggerate the dissimilarity between themselves and political objects that are ideologically remote. In political psychology, these two effects are called *projection-biases* and are labeled, respectively, assimilation (positive projection) and contrast (negative projection). They represent the notion that people tend to project their inner positions onto their perceptions of the positions of political figures.

The empirical evidence for assimilation and contrast comes primarily from studying the differences between the judgment of the candidate for whom the respondent voted for and the judgment of the candidate for whom the respondent did not vote. In most of these studies, respondents place both themselves and two opposing candidates on the same political dimension, such as a liberal-conservative dimension. A pattern of a positive relationship between self-placement and candidate placement is considered to be indicative of assimilation, and a pattern of a negative relationship between self-placement and candidate placement is considered to be indicative of contrast. Practically all studies of assimilation and contrast show a pattern of assimilation for the preferred candidates and a pattern of contrast for the non-preferred candidates.

1a: The placement of a liberal candidate



1b: The placement of a conservative candidate

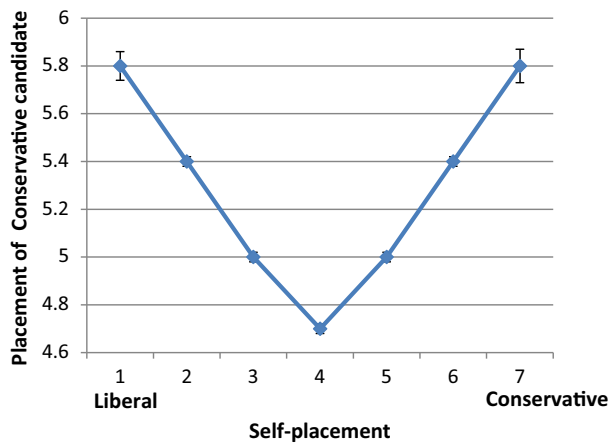


Figure 1. The relationship between self-placement and the placement of liberal (a) and conservative (b) candidates.

In the current paper, we employ an alternative approach that does not require information on voting behavior. We view political judgments within the framework of Social Judgment Theory (Sherif and Hovland, 1961), which, in the context of the current study, suggests that assimilation and contrast depend on the distance between one's own ideological position and the position of the object that is being judged (and see Barker and Imhoff, 2021 for a detailed theoretical model and empirical evidence). In such judgments, assimilation leads judgment to be swayed toward the judge's ideology, whereas contrast leads judgments to be swayed away from the judge's ideology. As a result, when candidates are positioned on the two sides of the ideological spectrum, assimilation and contrast lead either to U-shape or to inverse U-shape relationships between self-placement and candidate placement. On a liberal-conservative scale (i.e., where low/high values represent, respectively, liberal/conservative ideology), an *inverse* U-shaped pattern will be observed when subjects place a liberal candidate. Liberal subjects will assimilate, or shift, the position of the candidate's position toward their own position, whereas conservative subjects will contrast, or shift away the candidate's position from their own position; the more conservative the subject, the stronger the shift (Figure 1a). Likewise, a U-shaped pattern will be observed for the conservative candidate (Figure 1b).

2. The relative strength of assimilation and contrast

Previous studies of assimilation and contrast in the placement of political candidates suggested that assimilation is stronger than contrast (Brent and Granberg, 1982; Granberg et al., 1981; Granberg and Brent, 1974, 1980; Granberg and Seidel, 1976; Kinder, 1978). For a while, this view became almost a truism in the political psychology literature. Thus, for example, Kinder (1978) argued that there is a “regular and powerful assimilation effect. But there is no comparable need to view disliked candidates as uniformly dissimilar” (p. 869).

However, Judd et al. (1983) and Krosnick (1990, 2002) argued that the method used in these studies biased the results toward assimilation appearing stronger than contrast.¹ Following these publications, only a few political judgment papers compared the strength of assimilation to the strength of contrast on the basis of correlational studies (see Drummond, 2011; Fernández-Vázquez and Dinas, 2012; Merrill et al., 2001), and some attempts were made to compare their strengths in controlled laboratory experiments (Amira, 2018; Castelli et al., 2009; Lodge et al., 1989; Ottati et al., 1988). However, all these studies found either that assimilation is stronger than contrast or that there are no significant differences between the two.

Nevertheless, although Judd et al.’s and Krosnick’s critique suggested that the conclusion that assimilation is stronger than contrast is premature, a pattern in which contrast is stronger than assimilation is immune to this critique, since if anything, this critique suggests the opposite result. However, so far, there is no empirical evidence suggesting that contrast in political judgment is stronger than assimilation. Even Judd et al. (1983) and Krosnick (1990), who attempted to correct the methodological mistakes leading to the conclusion that assimilation is stronger than contrast, did not find that contrast is stronger than assimilation. Their results indicate a lack of significant differences between the two.²

Our working hypothesis is, however, that contrast is stronger than assimilation (H1, the assimilation-contrast asymmetry hypothesis). There are two main theoretical frameworks that lead to this hypothesis. The first has to do with the motivation to reduce dissonance (McGrath, 2017; Shultz and Lepper, 1996), which in our case could be achieved by decreasing/increasing, respectively, the distance between one’s ideology and the ideology of the same-side/other-side candidate; or alternatively, with the motivation to maintain or enhance one’s social-political identity, triggered by the desire to feel close/remote, respectively, to/from the same-side/other-side candidate (e.g., Mason, 2018; see also, Beauregard and Dunning, 1998). But whatever is the exact nature of these motivational processes, they may lead to contrast being stronger than assimilation because in political disputes “hate is stronger than love”. The hostile media effect, which refers to the tendency of partisans to see the same piece of information as biased against their position (Lord et al., 1979), is a salient example of the robustness of our aversions versus the fragility of our affections. (See also [Supplementary material S1](#) for a re-examination of the results of this seminal paper vis-à-vis the hypothesis that contrast is stronger than assimilation.) Also consistent with this hate-love asymmetry is the negative character of political campaigning (Freedman and Goldstein, 1999; Martin, 2004), which also suggests that in the political arena, hostile information is

¹A detailed discussion of Judd et al. (1983) and Krosnick (2002) arguments of the artifactual nature of the results showing that assimilation is stronger than contrast is beyond the scope of the current work and we refer the reader to their papers for a complete picture of these arguments. Here we provide only an example (presented by Judd et al.) to the subject of perspective taking which appear to be most central to their thinking regarding this issue. This example involves two persons who share the same moderate liberal attitudes. Person A have friends who are quite conservative, and Person B may have friends who are liberal. As a result, Person A may rate her position as more liberal than Person B rating of her own position, not because their attitudes differ but because they define the scale’s end points differently. Because of these differences in perspective, Person A would also rate Donald Trump as more liberal than would Person B. As a result, the “liberal” person would also see Trump as relatively liberal; likewise, the “conservative” person would see him as relatively conservative, resulting in an apparent, but not real, assimilation. (see Krosnick, 2002 for a comprehensive treatment).

²Two additional bodies of literature that are relevant to the question of the strength of assimilation versus contrast are the literature about self-evaluation and the literature about in-group love versus out-group hate. The conclusions of these two bodies of literature are contradictory. Whereas the first suggests that contrast is stronger than assimilation (Gerber et al., 2018), the second suggests that in-group love is stronger than out-group hate (Brewer, 1999). Our view is that questions regarding assimilation and contrast are to a large extent context specific, and therefore we limit our discussion below to the context of political judgment.

more effective than favorable information (Meffert et al., 2006; Soroka and McAdams, 2015). Notable examples are Arthur Finkelstein's campaign strategies, which were successful not so much because of voters' support for their favored candidates, but because of the hate spurred against the competing candidates (e.g., Zotajq and Reveli, 2015).³

The second theoretical approach that leads to the hypothesis that contrast is stronger than assimilation is based on the analysis of judgments of ideological positions as comparative judgments (see Unkelbach et al., 2023, for a general framework for social judgments as comparative judgments). First, since generally what people know about the other-side candidate is more negative than what they know about the same-side candidate, and since negative information is more diagnostic than positive information (Fiske, 1980; see Unkelbach et al., 2020, for a recent review), people tend to see themselves as more dissimilar from the former than similar to the latter. Second, viewing the judgments of the ideological position of the same-side/other-side candidate, respectively, as based on the evaluation of the similarity/dissimilarity between the subject's and the same-side/other-side candidate's ideological positions (Mussweiler, 2003), contrast may be stronger than assimilation because (1) the ideological position of the subject is considerably more distanced from the ideological position of the other-side candidate than the same-side candidate⁴, and (2) extreme information may be particularly diagnostic (e.g., Skowronski and Carlston, 1987). We note, however, that extremity is continuous, and whether it leads to a potent contrast is, to a large extent, an empirical question (Barker and Imhoff, 2021). In the next section, we further discuss this issue.

3. Polarization and projection

Political polarization is the divergence of political attitudes to ideological extremes; it is a process by which attitudes toward the same-side candidate become more positive and attitudes toward the other-side candidate become more negative.

When polarization increases, attitudes toward the same-side (other-side) candidate become more positive (negative) and therefore, the subject's ideological distance from the former (later) decreases (increases). Increased polarization leads to increased distance from the opposite side candidate and can lead to decreased distance from the same side candidate. The increased distance would lead to more contrast, and the decreased distance could lead to more assimilation, though this last prediction is somewhat ambiguous (see below). We call this hypothesis the polarization-projection hypothesis (H2).

However, although polarization could increase both assimilation and contrast, we predict that it will increase contrast more than assimilation and perhaps will even increase contrast but not assimilation. This prediction is derived from an analysis of the role of the reference point in assimilation and contrast. As an example, consider how a moderate-*liberal-electorate* evaluates Democratic and Republican candidates before and after polarization. Assume that this electorate is made up of three groups whose positions on a 1–7 liberal-conservative scale are 2, 3, and 4 before polarization and 1, 2, and 3 after polarization. Assume also that the positions of the Democratic and Republican candidates before polarization are 3 and 5, respectively (see footnote 4), and after polarization they are 2 and 6 (we assume that both popular and elite polarization occurred). Polarization did not affect the distances from the same side (liberal) candidate. These distances for the three groups were 1, 0, and 1, respectively, both before and after polarization (average = 2/3). On the other hand, polarization increased the distances from the opposite side (Republican) candidate. These distances were 3, 2, and 1, respectively, before polarization (average = 2) but were 5, 4, and 3 after polarization (average = 4). These numbers are consistent with the notion that changes in polarization are more strongly associated with changes in

³ Arthur Finkelstein's campaign strategy in the 1996 Israeli elections, which were won by Netanyahu not because of voters' support, but primarily because of the hate spurred against his competitor (Peres) by the false allegation that he planned to transfer parts of the city of Jerusalem to the Palestinians (Scheidlin and Waismel-Manor, 2010).

⁴ We assume that the candidates' positions are moderately liberal or moderately conservative, since such positions optimize distance from potential voters.

contrast than with changes in assimilation, in fact, with the notion that changes in polarization are associated with changes in contrast but not with changes in assimilation.⁵ We call this hypothesis the polarization-asymmetry hypothesis (H3).

3.1. Time, polarization, and projection

There is wide agreement that political polarization has increased in the last fifty years both among the American electorate (e.g., Abramowitz and Saunders, 2008; Levendusky, 2009; but see Fiorina et al., 2008) and among the political elite (e.g., Druckman et al., 2013). This temporal increase in polarization suggests two predictions regarding assimilation and contrast. First, if polarization is generally related to projection (H2), we predict that both assimilation and contrast will increase with time (P2a). Second, if the assimilation-contrast asymmetry increases with polarization (H3), we predict that the temporal increase in contrast will be stronger than the temporal increase in assimilation, or that the assimilation-contrast asymmetry will also increase with time (P3a).

Finally, note that the prediction that the assimilation-contrast asymmetry increases with time is consistent with evidence in the communication literature suggesting a temporal increase in reliance on negative campaigning (Benoit, 2001; Geer, 2010) and with evidence suggesting that technological changes have increased the ability of people to select partisan sources of information (Stroud, 2008, 2010).

3.2. Voters versus non-voters

Since voting reflects political involvement (i.e., voters are more politically involved than non-voters), and since involvement is associated with polarization (Fiorina and Abrams, 2008), polarization will be stronger among voters than among non-voters. Therefore, based on the polarization-projection hypothesis (H2), we predict that voters will exhibit both stronger assimilation and stronger contrast than non-voters (P2b). Furthermore, based on the polarization-asymmetry hypothesis (H3) we predict that the asymmetry between assimilation and contrast will be stronger among voters than among non-voters (P3b).

4. Summary

Table 1 summarizes our conceptual hypotheses and our predictions. In this table, we use a notation that distinguishes between conceptual hypotheses (Hs) and operational predictions (Ps). Our first hypothesis is that, by and large, contrast is stronger than assimilation (H1). Here, we revisit the idea that there is an asymmetry between assimilation and contrast, which has been associated in earlier research with the notion that assimilation is stronger than contrast, and test the opposite hypothesis that contrast is stronger than assimilation. We also hypothesize that an increase in polarization is associated with an increase in projection, that is, with an increase in both assimilation and contrast (H2), and test this hypothesis by examining the association between time and projection as well as the association between voting and projection (P2a and P2b, respectively). Finally, we hypothesize that there is an asymmetry in the association between polarization and projection, that polarization has a stronger effect on contrast than on assimilation, and test this hypothesis by comparing the association between time voting and contrast to their association with assimilation (P3a and P3b, respectively).

Our study is different from previous studies in two important ways. First, our analysis approach does not require the explicit identification of respondents' political preferences. Since preference is determined by voting in the assimilation-contrast literature, this approach allows us to rely on the entire population of respondents, not just on those who voted. Second, we use all currently available ANES

⁵When the assumption that there are both popular and elite polarization is relaxed, the average distance from the same side candidate may increase, but less than the average distance to the other side candidate.

Table 1. Summary of hypotheses and predictions.

Hypotheses	Propositions	Predictions
H1: The assimilation–contrast asymmetry hypothesis	Contrast is stronger than assimilation	P1: contrast > assimilation
H2: The general polarization–projection hypothesis	Both assimilation and contrast increase with polarization	P2a: Temporal increase in both assimilation and contrast P2b: voters exhibit both stronger assimilation and stronger contrast than non-voters
H3: The polarization asymmetry hypothesis	Polarization has a stronger effect on contrast than assimilation	P3a: A stronger temporal increase in contrast than in assimilation P3b: A stronger asymmetry between assimilation and contrast among voters than non-voters

Note: Projection is an inclusive concept that encompasses both assimilation and contrast.

surveys, including the surveys conducted in the last three decades, decades characterized by increased polarization. These surveys were not included in previous studies of assimilation and contrast.

Finally, Our model treats self-placement as the standard of comparison and the candidates as the targets of the evaluations. Other models are also possible. For example, it is possible to treat the candidates as the standard and the subject as the target. Or perhaps subjects and candidates could serve both as standards and targets. However, with our assumptions about the determinants of the strength of assimilation and contrast, all these models make similar predictions regarding assimilation and contrast, as expressed in the hypotheses that were developed above. In this respect, choosing a model in which subjects are the standards and the candidates are the targets could be viewed as a matter of convenience. In particular, this model is more convenient than the others because it provides a more intuitive way to describe our hypotheses, and because it adheres to the way by which assimilation and contrast are described in the political judgment literature.

5. Method

5.1. Data

The data were taken from all presidential election surveys of the American National Election Studies (ANES) conducted between 1972 and 2020. These were all the surveys that included the measures necessary to test our models (prior to 1972, self-positioning and candidate positioning on the liberal-conservative scale were not collected). The ANES data are representative samples of the American electorate. Information about the number of participants is presented in [Figure 1](#) and in [Supplementary material S3](#). The data from early surveys of the ANES were the most widely used data in previous studies of assimilation and contrast, but there was very little research that used data that were collected after the 1992 election.

Data collection in most of the years was conducted face to face, but in 2008, some of the interviews were conducted by using audio computer-assisted self-interviewing, and in 2012, 2016, and 2020, some of them were conducted via the Internet. The AAPOR 3 response rate for the ANES surveys ranged between 60 and 71%.

5.2. Measures

Respondents were asked to rate their own positions and the perceived positions of the presidential candidates on a 1–7 liberal-conservative scale, whose anchors were, respectively, extremely liberal,

liberal, slightly liberal, moderate-middle of the road, slightly conservative, conservative, and extremely conservative. Subjects also had the option of indicating that they did not know the answer or did not think about it. Respondents were also asked whether they voted in the elections.

5.3. Transparency and openness

We describe our sampling plan, all data exclusions (if any), and all measures in the study. All data and research materials are available at <https://electionstudies.org>. The program that pulls out the data from the ANES, including the names of the variables used in the analyses, as well as the code for the analyses, is available in the [Supplementary material](#). The data were analyzed using SAS version 9.4 using the following procedures: PROC MIXED, PROC GLM, PROC REG, PROC CORR, and PROC MEANS. The study's design and its analysis were not preregistered.

6. Results

6.1. Exploratory analyses

Figure 2 shows the overall pattern of assimilation and contrast in the years 1972–2020. Figure 2a presents the average placement of the Democratic candidate in each self-placement category, and Figure 2b presents the average placement of the Republican candidate. Each plot could be viewed, however, as divided into two parts. One, to the left of the maximum/minimum, plotting the placement of the candidate by liberals, and the other, to the right, the placement of the same candidate by conservatives. From this perspective, both figures are consistent with the assimilation-contrast asymmetry hypothesis (H1), suggesting that contrast is considerably stronger than assimilation (P1).⁶ The slope relating the placement of the Democratic candidate by conservative respondents (the right side of Figure 2a) is steeper than the slope relating this candidate's self-placement to the self-placement of the liberal subjects (the left side of Figure 2a). Analogously, the slope relating the placement of the Republican candidate to the self-placement of liberal subjects (the left side of Figure 2a) is steeper than the slope relating this candidate's self-placement to the self-placement of the conservative subjects (the right side of Figure 2a).

Supplementary Figures S1–S13 of Supplementary material S2 present plots for all the 13 elections in our data. It is clear from these plots that the basic pattern that was observed for the entire database also appears in the individual elections.

6.2. Assimilation and contrast correlations

To provide quantitative measures of assimilation and contrast, we calculated the correlations between self-placement and candidates' placement for the Democratic and Republican candidates, separately for the liberal and conservative subjects, where moderates (i.e., those who placed themselves at 4, the mid-point on the liberal-conservative scale) were randomly assigned either to the liberals' correlation or to the conservatives' correlation. This resulted in four correlations, two for the Democratic candidate and two for the Republican candidate. That is, for each candidate, we computed two correlations: (1) the correlation between self-placement and the placement of the candidate among liberals; and (2) the correlation between self-placement and the placement of the candidate among conservatives. In each pair, one of these correlations is predicted to be positive, reflecting an assimilation process

⁶We note that the plots in Figure 2a and b are not monotonous with regard to the extreme ideologists (those who placed themselves as 1 or 7 on the ideology scale). We attribute this to the relatively small number of subjects in these groups and to the relatively large percentage of subjects who use the ideology scale in a non-standard way, for example, place the Democratic (Republican) candidate as 7 (1) on the ideology scale. See Kalmoe (2020). Indeed, when these subjects are removed from the analysis, the graphs appear monotonous.

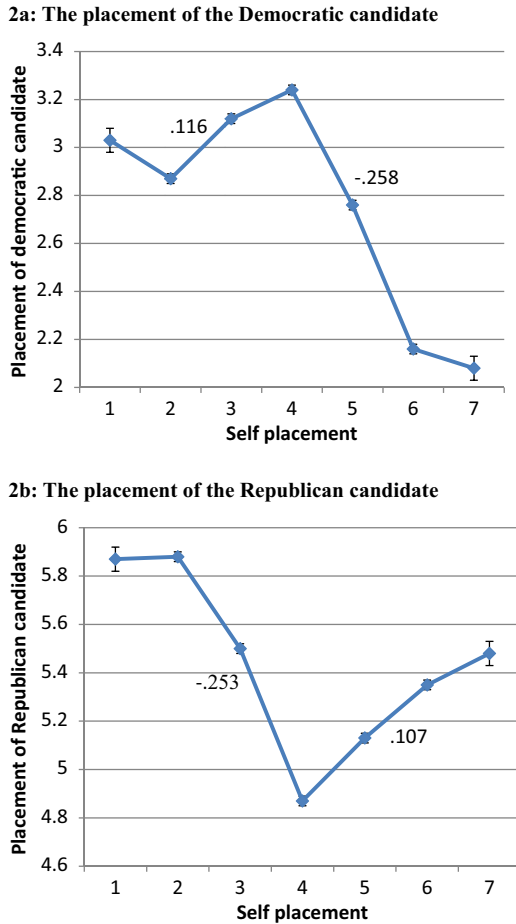


Figure 2. The relationships between self-placement and the average placement of the Democratic (a) and Republican (b) candidates. The numbers above the curves are the corresponding assimilation and contrast correlations. N's are 1229, 4821, 4934, 12,532, 6567, 7523, and 1541 for self-placement 1 to 7, respectively. Confidence intervals are ± 1 standard errors from the mean.

(the assimilation correlation) and the other is predicted to be negative, reflecting a contrast process (the contrast correlation).

The assimilation and contrast correlations are shown above the graphs of Figure 2a and b. We first note that, as expected, the pattern of these correlations is consistent with the many findings in the literature regarding assimilation and contrast; that is, the assimilation correlations are positive and the contrast correlations are negative. A more important point concerning the current work is that, unlike previous findings, we find strong evidence that contrast is stronger than assimilation. For the Democratic candidate, the contrast correlation, $-.258$, is stronger than the assimilation correlation, $+.116$ ($Z = 12.08, p < .0001$ for testing the null hypothesis that the absolute values of the correlations are equal). Similarly, the contrast correlation of the Republican candidate, $-.253$, is stronger than the assimilation correlation, $+.107$ ($Z = 12.39, p < .0001$). These results are consistent with H1.

This pattern is also evident for each of the 13 elections in our database. Figure 3 plots the average of the absolute value of the two assimilation correlations (those of the Democratic and Republican candidates) and the average of the two contrast correlations in each of the 13 election years. It is clear from this figure that in each of the 13 years, the average contrast correlation was stronger than the

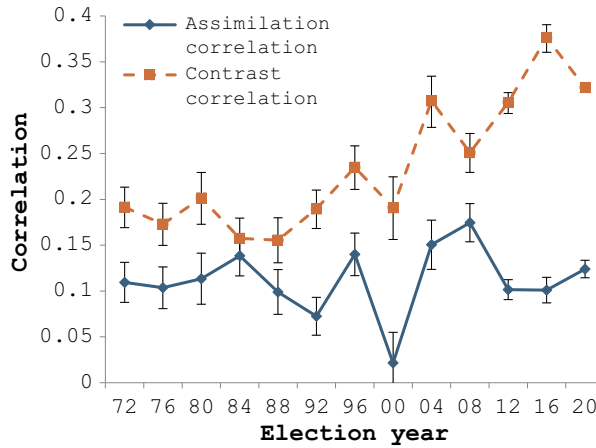


Figure 3. Average assimilation and contrast correlations for individual elections (confidence intervals are ± 1 standard errors from the mean).

Note: The Republican/Democratic candidates by election year: 72-Nixon/McGovern, 76-Ford/Carter, 80-Reagan/Carter, 84-Reagan/Mondale, 88-Bush/Dukakis, 92-Bush/Clinton, 96-Dole/Clinton, 00-Bush/Gore, 04-Bush/Kerry, 08-McCain/Obama, 12-Romney/Obama, 16-Trump/Clinton, 20-Trump/Biden.

average assimilation correlation. In [Supplementary material S3](#), we present comparisons between the assimilation and contrast correlations in each of the individual elections.

6.3. Polarization and projection

6.3.1. Time, polarization, and assimilation and contrast

In addition to showing that contrast is stronger than assimilation, [Figure 3](#) also reveals a clear temporal increase in the contrast correlations, but not a clear trend regarding the assimilation correlations. This pattern does not support the hypothesis that there is a general increase in projection when polarization increases (H2), but it supports the notion that contrast increases with polarization and is consistent with the polarization-asymmetry hypothesis (H3).

To conduct a statistical test of the trends in assimilation and contrast, we calculate the *assimilation-trend correlation*, defined as the correlation between a continuous time variable (the election year) and the average of the two assimilation correlations, as well as the *contrast-trend correlation*, defined as the correlation between this continuous time and the average of the two contrast correlations. The value of the assimilation-trend correlation was $r(13) = .11, p = .72$, and the value of the contrast-trend correlation was $r(13) = .84, p = .0003$, indicating a clear temporal increase in contrast, but not in assimilation. In addition, consistent with P3a, the temporal increase in contrast is stronger than the temporal increase in assimilation: the difference between the two trend correlations was significant $Z = 2.7, p = .004$.⁷ Thus, these data are consistent with a polarization-projection asymmetry (H3), but not with a general polarization-projections (H2).

An alternative to this correlational analysis is a regression analysis in which subjects are the unit of analysis. In this analysis, the placement of the Democratic and Republican candidates is regressed on self-placement, a continuous time variable (the election year), the interaction between these two

⁷The correlation between the average assimilation and contrast correlations was .24, so this result is based on a test of dependent correlations. When the assumption of dependence is removed, the result is similar, $Z = 2.4, p = .009$. We also note that the pattern of the average correlations occurs for each of the two individual assimilation and contrast correlations. The correlations between time and the two assimilation correlations were .01 and .15 for the Democratic and Republican candidate, respectively, and the correlation between time and the two contrast correlations were .58 and .79, respectively.

Table 2. Regression of the placement of the candidates on self-placement, continuous time, and their interactions, controlling for specific elections.

	Democratic candidates		Republican candidates	
	Liberals (assimilation)	Conservatives (contrast)	Conservatives (assimilation)	Liberals (contrast)
Self-placement	+0.1521*** (0.0129)	-0.3998*** (0.0121)	+0.1839*** (0.0127)	-0.3726*** (0.0151)
Time	0.0577 (.0375)	0.1859*** (0.0039)	0.6952*** (0.0401)	0.5001*** (0.0445)
Self-placement × time	-0.0083* (0.0028)	-0.0300*** (0.0030)	+0.0093* (0.0029)	-0.1736*** (0.0033)

Note: The regressions were performed separately for liberals and conservatives. Time and self-placement were centered around its mean (1994). The effects of the regression dummies are not presented.

*** $p < .0001$;

** $p < .01$.

variables, and, to control for specific elections, 12 election dummies. For each candidate, we performed two regressions, one on the liberals-moderate sample (those less than 4 on the liberal-conservative scale + a randomly sampled half of the 4s) and the other on the moderate-conservative sample (those higher than 4 and the other half of the 4s). In these regressions, a positive/negative main effect of self-placement is indicative, respectively, of assimilation/contrast, and importantly, a similarity/dissimilarity between the sign of the self-placement main effect and the sign of the self-placement × time interaction is indicative, respectively, of a temporal increase/decrease in the assimilation and contrast effect.

The results of the regressions are presented in Table 2. They clearly indicate that contrast increases with time. On the other hand, for assimilation, the effect of time is weak and inconsistent (i.e., a small temporal increase for Republicans and a small temporal decrease for Democrats). Thus, like the correlational analysis, the results of this analysis are also consistent with polarization-projection asymmetry, but not with general polarization-projection.

6.3.2. Differences in polarization between voters and non-voters

Figure 4a and b plots the average placement of the Democratic and Republican candidates, respectively, as a function of self-placement, separately for those who voted and those who did not. The pattern of assimilation and contrast in these figures is very similar for these two groups. Both reflect the same pattern that was observed in the entire population (as in Figure 2a and b), namely that contrast is stronger than assimilation. But importantly, consistent with H2b, these figures also reveal that both the assimilation slopes and the contrast slopes are steeper for voters than for non-voters.

The assimilation and contrast correlations appear above the graphs of Figure 4a and b. They allow us to statistically test our hypotheses about the relationship between polarization and projection using voting as a proxy for polarization. Consistent with the general polarization-projection hypothesis (H2), our data indicate that projection is stronger among voters than non-voters (P2b). Both the positive (assimilation) slope and the negative (contrast) slopes in Figure 4a and b are steeper for voters than for non-voters. Z tests comparing the assimilation correlations of voters to the assimilation correlations of non-voters were $Z = 5.7$, $p < .001$ and $Z = 2.5$, $p = .006$ for the Republican and Democratic candidates, respectively, and Z tests comparing the contrast correlations reveal $Z = 3.3$, $p < .001$ and $Z = 8.3$, $p < .0001$, respectively.

In addition, Figure 4 suggests that polarization is associated with assimilation-contrast asymmetry (H3), since the difference between the contrast and assimilation correlations is larger among voters than among non-voters (P3b). For voters, the differences in the absolute values of these correlations are .220 (.323-.103) and .126 (.276-.150) for the placement of the Democratic and Republican candidates,

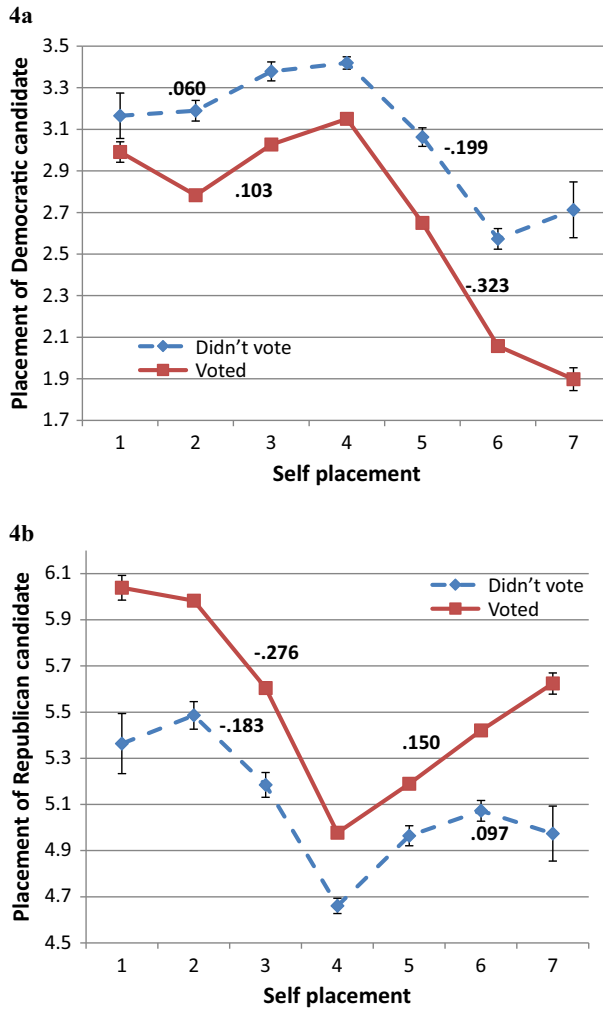


Figure 4. The effect of voting on the relationships between self-placement and the average placement of the Democratic (a) and Republican (b) candidates. The numbers above the curves are the corresponding assimilation and contrast correlations. Confidence intervals are ± 1 standard errors from the mean.

respectively. For non-voters, these differences are smaller: .133 (.199–.060) and .085 (.183–.098), respectively.

We turn now to regression analyses in which subjects are the unit of analysis. In these analyses, the placement of the Democratic and Republican candidates is regressed on self-placement, voting (whether the subject voted or not), the interaction between these two variables, and, to control for specific elections, 12 election dummies. For each candidate, we performed two regressions, one on the liberal-moderate sample and the other on the moderate-conservative sample (see above for a description of the division of the two samples). A positive/negative main effect of self-placement is indicative, respectively, of assimilation/contrast. A similarity/dissimilarity between the sign of the self-placement main effect and the sign of the self-placement \times voting interaction is indicative, respectively, of voters/non-voters exhibiting more projection.

The results of the regressions are presented in Table 3. For contrast, the effect of voting is clear – contrast is clearly stronger among voters. For assimilation, the effect of voting is weak and non-

Table 3. Regression of the placement of the candidates on self-placement, voting (0, did not vote; 1, voted), and their interaction, controlling for specific elections.

	Democratic candidates		Republican candidates	
	Liberals (assimilation)	Conservatives (contrast)	Conservatives (assimilation)	Liberals (contrast)
Self-placement	0.1021*** (0.0210)	-0.3575*** (0.0211)	0.1577*** (0.0216)	-0.3361*** (0.0248)
Voting	-0.2642*** (0.0295)	-0.2493*** (0.0316)	0.2781*** (0.0325)	0.3265*** (0.0346)
Self-placement × voting	0.0289 (0.0245)	-0.1296*** (0.0250)	0.0436 (0.0252)	-0.0834** (0.0290)

Note: The regressions were performed separately for liberals and conservatives. Self-placement is centered around its mean. Voting is coded as 1, voted and 0, did not vote.

*** $p < .0001$;

** $p < .01$.

significant. Thus, similar to the correlational analysis, the results of this analysis are also consistent with polarization-projection asymmetry, but not with general polarization-projection.

Finally, we directly tested the polarization-projection asymmetry hypothesis (H3) by a piecewise regressions (Suits et al., 1978) in which the change in slope at self-placement = 4 for voters was compared to the change in slope for non-voters. Consistent with our prediction that there is a stronger asymmetry between assimilation and contrast among voters than among non-voters (P3b), the results of these regressions showed that the change in slope is more pronounced among voters both with regard to the Democratic and Republican candidates, $t(1,27192) = 10.1$, $p < .0001$ and $t(1,27197) = 6.3$, $p < .0001$, respectively.⁸

In sum, in agreement with P3b but not with P2b, both the analyses based on years as units of analysis and the analyses based on subjects as units of analysis suggest that voters exhibit more contrast but not more assimilation when compared to non-voters. These results are consistent with polarization-projections asymmetry, but not with general polarization-projection.

6.4. Individual elections

By and large, our data regarding individual elections (see [Supplementary Figures S1–S13](#) in [Supplementary material S2](#)) are consistent with the general pattern that emerges from aggregating the data over all 13, allowing for quite a few observations regarding specific elections that are of interest. To illustrate, we focus on examples from the last three presidential elections, not only because they are the most recent, but also because these years' data had the largest sample sizes, allowing for the most reliable conclusions. One example is the low assimilation correlation of Hillary Clinton in the 2016 election ($r = .036$), the lowest such correlation, except for that of George Bush in 2000. This low assimilation stands in contrast to the high assimilation correlation of Trump's conservative supporters ($r = .166$, $Z = 4.03$, $p < .0001$ for the difference), the highest except for that of Obama in 2008 and Reagan in 1984. Another example is the change in assimilation and contrast for Obama from the 2008 election to the 2012 election. In 2008, assimilation for Obama was relatively high ($r = .277$), and contrast was relatively low ($r = -.202$). In 2012, assimilation dropped considerably ($r = .128$), and contrast

⁸Figure 4 also suggests that voters are more extreme than non-voters in their placement of the candidate. That is, for each ideological level, voters place the Democratic (Republican) candidate as more liberal (conservative) than non-voters. One explanation for these results is that voters' sentiments toward the candidates are stronger than those of non-voters. Another explanation is that voters are better informed and are more accurate in the placement of the candidates, which results in less noise in the placement of the candidates.

increased considerably ($r = -.318$). Both changes are significant ($Z = 4.20, p < .0001$ and $Z = 3.60, p < .001$, respectively).

7. Discussion

Early studies suggested that assimilation is stronger than contrast. This result has been criticized by a number of scholars who argued that it is a methodological artifact. The current paper differs from these early studies by relying on a method that does not require information about one's actual political behavior (i.e., does not require information about for whom did the subject vote); by extending the time frame in which the assimilation-contrast differences are examined, and by studying the effect of polarization on projection, particularly the effect of polarization and the assimilation-contrast asymmetry. Our main results suggest that, by and large, contrast is stronger than assimilation (H1), and that this asymmetry increases with polarization (H3). The evidence for H1 come both from an aggregate analysis of the 12 recent American elections and from analyses of the individual elections. The evidence for H3 come from the observation that there is a temporal increase in contrast, but not in assimilation, a trend which is associated with the temporal increase in polarization, and from the observation that the assimilation-contrast asymmetry is more pronounced among voters, who are likely to be more politically polarized than non-voters.

Support for H2, the hypothesis that polarization is positively associated with projection, is not as unequivocal as support for H1 and H3. One operationalization of polarization – voting – clearly supports this hypothesis as both the assimilation and contrast correlations of voters are greater than those of non-voters. However, the other operationalization of polarization – time – only partially supports this hypothesis as only the contrast correlations, but not the assimilation correlations, increase with time.⁹ This asymmetry is, however, consistent with the polarization asymmetry hypothesis (H3).

7.1. Theoretical considerations

7.1.1. Motivational versus non-motivational processes of the basic assimilation-contrast asymmetry

Traditionally, projection biases were explained in political psychology by balance theory, and were viewed as a result of motivational processes (i.e., the motivation to reduce dissonance between one's ideology and the ideology of the preferred candidate). We also suggest that Social Judgment Theory and subsequent approaches that emphasize the comparative aspects of social judgment (Unkelbach et al., 2023) can also explain the contrast stronger than the assimilation effect. Nevertheless, the current data do not allow for shedding much light on the psychological processes underlying contrast and assimilation in political judgments. For example, swaying away an ideologically distanced candidate because he is perceived to be in the region of rejection cannot be easily distinguished from swaying him away because of the motivation to increase the difference between oneself and a disliked object. So, while the current study did document differences between assimilation and contrast in survey data, experimental methods are needed for understanding the processes underlying these differences are needed.

7.1.2. Polarization

Relevant to the distinction between perceptual and motivational explanations for the assimilation-contrast asymmetry is the differentiation between issue polarization and affective polarization. In particular, Iyengar et al. (2012) examined changes in in- and out-group affect in the years 1972–2008, roughly the same years that we analyzed in the current paper. When in- and out-groups were defined by party affiliation, they found a temporal increase in affective polarization (i.e., the difference between in-

⁹One explanation for the difference between the effects of time and involvement (voting) is that the effect of time is consistent with occurrence of both popular and elite polarization (see the polarization example in the text), whereas the effect of involvement is consistent with popular, but no elite, polarization.

and out-group affect) associated with increased negative affect toward the out-group but little change in the affect toward the in-group (see Iyengar et al., 2012, Figure 1, p. 414 and [Supplementary material A1](#) of their paper). These findings are consistent with our findings of a temporal increase in contrast and little change in assimilation. Note also that, although at first glance, Iyengar et al.'s (2012) results may appear to support a motivational explanation of the assimilation-contrast asymmetry in temporal polarization, it need not necessarily be the case. Since the causal relationship between affective polarization and issue polarization can go both ways, it is quite possible that Iyengar et al.'s (2012) pattern of changes in in- versus out-group affect is the result of the temporal pattern of changes in assimilation and contrast, we observed in our data. Note also that Iyengar et al. (2012) found that affective polarization was greater among activists than non-activists, which in our study may be conceptualized as voters and non-voters, respectively. As in our study, voters exhibit more contrast and less assimilation than non-voters, and their findings may be the results of this assimilation-contrast asymmetry.

Another interesting finding reported by Iyengar et al. (2012) is that when the in- and out-groups are ideology based – liberals versus conservatives – both in- and out-group affects are stable (Figure 2, p. 415 and [Supplementary material A2](#) of their paper). The finding regarding the out-group's stability is particularly interesting, since it is less consistent with the notion that the temporal increase in contrast observed in our data is due to an increase in negative affect toward the opposing ideology and more consistent with an increase in the extremity of the perception of the opposing candidate's ideology.

7.1.3. The causal relationship between projection and polarization

As the current study is a correlational study, it is possible only to speculate about the causal relationship between polarization and assimilation/contrast. However, both causal directions make psychological sense. On the one hand, when polarization increases, both the positive affect toward the in-group and the negative affect toward the out-group increase, leading, respectively, to a stronger assimilation, and especially to a stronger contrast. However, stronger assimilation and contrast lead to stronger ideological differences, which in turn lead to increases in both in-group love and particularly, out-group hate. Thus, projection and polarization may create a vicious circle that brings about both increase in negative feelings toward political opponents and increased misperceptions of their ideological positions.

7.1.4. In-group versus out-group processes and polarization

Research on in-group/out-group polarization examined primarily assimilation toward in-groups' attitudes (e.g., Davis and Rusbult, 2001; Kawakami et al., 2003), and in particular, motivation-driven assimilation (Sinclair et al., 2005). Ledgerwood and Chaiken (2007) is an exception in considering contrast away from the out-group's attitudes as a source of polarization, and in focusing on cognitive explanations. But even, this research did not compare the magnitude of the effects of in-group (assimilation) versus out-group (contrast) processes. Thus, for example, although Ledgerwood and Chaiken (2007) showed that not only the priming of in-group, but also the priming of out-group, leads to attitude polarization, they did not compare the magnitude of each of the effects (their sample sizes do not seem to allow for such a comparison). Our results provide such comparisons, strongly suggesting that in political judgment, out-group/contrast processes are stronger than in-group/assimilation processes.

7.2. Limitations and future research

Although the results of the current study allow for testing the hypothesis that contrast is stronger than assimilation and to examine the effect of polarization on this asymmetry, the models on which we base these effects are biased. Judd et al. (1983) suggested a structural equation approach, which under simplified assumptions allows to overcome this problem. But this approach requires using multiple indicators – attitudes regarding specific issues – both for the respondent's and the candidate's ideology. However, although this can be achieved in the cross-sectional analysis of the individual elections, it

is not clear how it could be achieved in the temporal analysis, since the ideology indicators change between surveys and the only indicator that appears consistently in the ANES surveys is the measure of liberalism-conservatism.

Another limitation of the current study is its focus on the American political system and on American society. Its generalizability should be examined in other political systems (e.g., multi-party systems) and other societies. On the one hand, this is a drawback not only of the current study, but also of most studies about political judgments. On the other hand, so far, most of the discourse about political judgment has been focused on American data, and in this respect, the fact that we analyze the same data that were analyzed by previous researchers helps to focus the discussion on substantive rather than technical issues. Furthermore, there is also evidence that the same processes that occur in American society and the American political system are shared by other democracies (e.g., Gethin et al., 2022), which suggests that the current analysis is reasonably general across societies and political systems. Finally, it is clear that projection is a complex phenomenon that involves affective and cognitive factors and is influenced by political communication. The relationships between these factors and projection are likely to involve reverse causation, mediation, and moderation. In particular, projection is likely to influence and be influenced by perceptions, feelings, and communications, and it is likely to influence affect toward and perceptions of in- and out-groups, which in turn may have a reverse causation on the strength of the projection processes. Aware of the role of affective and cognitive factors in projection, campaigners rely on communications that enhance these processes in their favor. The current paper sheds some light on one aspect of projection processes – the asymmetry between assimilation and contrast – and suggests that of the two types of projection processes, contrast is the more important.

However, although our analysis highlights the central role of contrast, it does not explore a causal model of the relationships between perceptions, affect, communication, and projection. Future research could approach these questions by using methods such as structural equation modeling, by relying on longitudinal analyses and by enhancing survey data with additional independent data about the messages to which people were exposed, and perhaps by conducting equivalent experimental studies.

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Data availability statement. The data are available at <https://electionstudies.org/>. The study was not pre-registered.

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