

**Reverse-Correlation Analysis for Political Research:
Visualizing the Mental Images of the U.S. Parties**

Kirill Zhirkov¹, Anshita Singh², Jazmin Brown-Ianuzzi², and Jeremy Cone³

¹ Department of Politics, University of Virginia

² Department of Psychology, University of Virginia

³ Department of Psychology, Williams College

[Draft. Please don't cite or circulate]

Abstract

“The pictures in our heads” is a popular metaphor that refers to mental images of the social world and the role they play in political behavior. However, political scientists lack a rigorous method to visualize those images and, instead, almost exclusively measure them with textual stimuli. In this paper, we introduce reverse-correlation analysis to the political science audience and apply it to the case of the mental images of the U.S. parties. Using the reverse-correlation technique, we visualize the mental images of the typical Democrats and Republicans, and then assess these images on perceived racial representativeness, femininity, and valence attributes like attractiveness. We find consensus on the racialized images, as Republicans are consistently imagined as White. Valence and gendered images, in turn, are polarized: in-party members are imagined as both more attractive and more feminine. We conclude by highlighting the promise of reverse-correlation analysis for political research.

Keywords: affective polarization, gender, mental images, race, reverse correlation

Reverse Correlation Analysis for Political Research: Visualizing the Mental Images of the U.S. Parties

For as long as public opinion has been the subject of journalistic and scientific inquiry, it has been known that political attitudes and behaviors are shaped by “the pictures in our heads”—that is, by people’s beliefs about social reality rather than by the reality itself (Lippmann 1922). It is now broadly accepted that voters’ policy preferences depend on beliefs about potential beneficiaries: welfare is one common example (Brown-Iannuzzi et al., 2017; Federico, 2006; Gilens, 1999; Goren, 2003), whereas immigration is another (Blinder, 2015; Sidler et al., 2024; Zhirkov & Van De Hey, 2025). In the political science literature, these beliefs have been called perceptions (Lutz & Bitschnau, 2023), schemas (Conover, 1988), social constructions (Schneider & Ingram, 1993), and stereotypes (Myers et al., 2024). Social and cognitive psychology also uses the terms “mental representations” and “mental images” to refer to internal objects created by the mind to stand for external reality (Eisenstadt et al., 2025; Sherman, 1996). They emphasize the centrality of the visual component in the beliefs in question as well as in how humans acquire, process, store, and recall social information more generally.

Importantly, the role of images and imagination in the formation of political attitudes has been recognized in the discipline (Petersen & Aaroe, 2013). Practically, visual stimuli provoke stronger reactions in politically relevant contexts, such as candidate evaluations (Lopez Ortega & Radojevic, 2025). This is particularly relevant since attitudes toward visible social categories—such as race and gender—are known to translate into political opinions and policy preferences (Winter, 2008). Nevertheless, “the pictures in our heads” in political science remain, for the most part, only a popular metaphor. Mental representations of politically relevant categories, such as “welfare recipients” or “immigrants,” are usually measured with words.

The practice of measuring images with textual stimuli has obvious conceptual and methodological problems. Words can describe certain aspects of the underlying beliefs or stereotypes, but they do not capture mental representations in their totality. It is difficult to visualize the resulting descriptions, even if they are relatively detailed—so that an actual target image is ultimately never obtained. Dimensions of the mental representation asked about in a survey must be defined in advance, and their number needs to be reasonable to prevent respondents' fatigue. Open-ended questions, in turn, are difficult to summarize and analyze; they also rely on respondents' willingness to provide elaborate responses.

These problems can be solved by measuring mental images of politically relevant categories with the technique known as reverse correlation (Brinkman et al., 2017). It is not currently used in political science but has been gaining popularity as a method to measure and visualize mental representations in cognitive and social psychology (Axt et al., 2023; Oliveira et al., 2019; Rougier & De Houwer, 2025). The main benefit of reverse-correlation analysis is the ability to visualize mental representations—researchers end up obtaining actual images (e.g., portraits) of the social category in question. The process is data-driven and does not require an analyst to specify the closed list of aspects or dimensions of the underlying mental representation to ask about. By being simultaneously visual and multidimensional, the reverse-correlation technique is not subject to the same issues as purely textual measurement of mental images.

In this paper, we introduce reverse-correlation analysis to the political science audience and demonstrate its application using mental images of U.S. parties as an example. The phenomenon of affective polarization—or the increasing gap between Americans' favorability toward members of their own party and aversion toward members of the opposite party—is well documented (Iyengar et al., 2012). Some studies suggest that it can be at least partially explained

by misperceptions about the political coalitions that support the Democratic Party and the Republican Party (Ahler & Sood, 2018)—that is, by biased mental representations of party members. We use reverse-correlation analysis to visualize the mental representations of the two major parties and explore the role of gender, race, and valence attributes (e.g., “intelligent”) in the mental images of ordinary Democrats and Republicans.

We find that while gender, race, and valence attributes all prominently feature in the mental images of the U.S. parties, they work somewhat differently. There seems to be relative agreement on racial stereotypicality: independently of respondents’ own partisanship and race, the typical Democrat is seen as less White than the typical Republican. Voters always perceive their own party more positively in terms of valence attributes like “happy” and “hardworking.” The effects for gender are mixed: generally, Americans imagine their own party as more feminine than the opposite party, but this effect is more pronounced among women than among men. In conclusion, we discuss how reverse-correlation tasks can be applied to both visualize and quantify perceptions about politically relevant categories.

Measuring Mental Images

Most political issues and objects are far removed from the daily lives of ordinary citizens, who cannot reasonably obtain enough information on all of them. To form political opinions, voters also usually do not rely on elaborate ideological principles (Converse, 1964; Kinder & Kalmoe, 2017). Instead, political attitudes are often informed by beliefs about—or mental images of—the relevant social categories. For instance, Americans’ policy preferences can depend on whether members of certain groups—such as women or African Americans—are seen by the public as the likely policy beneficiaries (Conover, 1988; Nelson & Kinder, 1996). Similarly, partisan animosity in the United States is sometimes attributed to the process of

sorting: Democrats and Republicans are becoming culturally and socially distinct (Mason, 2018). Many questions in politics, thus, require obtaining “the pictures in our heads”—that is, mental representations of politically relevant social categories like “welfare recipients” or “Democrats.”

Even though scholars in political science have used different methods to measure these images, most of them ultimately rely on textual stimuli rather than imagery *per se*. Mental images of the Democratic Party and the Republican Party make a good example due to the prominence of research on affective polarization in American political behavior. These images have been measured with standard survey questions, in which researchers present respondents with lists of specific attributes and ask to associate these attributes with Democrats or Republicans (Ahler & Sood, 2018; Kane et al., 2021). Scholars have also used open-ended questions, in which survey participants can mention any attributes as being typical to the parties or their supporters (Busby et al., 2024; Rothschild et al., 2019). Associations between parties and specific attributes—such as gender—have been measured with unobtrusive methods like the lexical decision task and the implicit association test (Winter, 2010; Zhirkov & Valentino, 2025). Finally, conjoint analysis has been used to explore how Americans associate the two major parties with social groups, issue positions, and personal traits (Myers, 2023; Reny et al., 2025).

All these measurement strategies have limitations. Standard survey self-reports are subject to multiple known problems that include demand effects (Nichols & Maner, 2008), rationalization (Lodge & Taber, 2013), and social desirability bias (Nederhof, 1985). Open-ended questions are difficult to analyze and rely on respondents’ willingness to provide elaborate and honest answers. Unobtrusive techniques get around social desirability bias and sometimes use visual stimuli (Greenwald et al., 1998), but they allow measuring only one associational dimension at a time—such as between gender and partisanship (Winter, 2010). Conjoint

experiments are multidimensional and have some degree of protection against social desirability (Hainmueller et al., 2014; Horiuchi et al., 2021), but they almost exclusively use textual rather than visual stimuli (but see Lopez Ortega & Radojevic, 2025).

Overall, political scientists continue to measure mental representations using mostly textual stimuli, so that “the pictures in our heads” remain only a popular metaphor. These measurement choices, however, have real consequences. As a result, scholars in the discipline capture specific dimensions of stereotypes rather than holistic mental representations—and remain unable to visualize the images in question.

Reverse-Correlation Analysis

Reverse correlation analysis offers an approach to measuring mental representations that differs from rating predefined attributes of social groups (e.g., lazy vs. hardworking) or describing them in words. Reverse correlation starts from the assumption that people have a range of visual features that vary in how strongly each is associated with the category, and the method infers visual features from respondents’ perceptual judgments by. Respondents are shown sets of visual stimuli and asked to repeatedly choose whichever image in a set looks most like the target category. Each choice reflects which visual pattern the respondent judges more representative of the category. Aggregating many such choices across many trials and many respondents produces a composite image of the visual features most consistently associated with the category. This composite functions as an empirical estimate of the “picture in the participant’s head,” built up from the pattern of visual choices.

Reverse-correlation techniques have first appeared in neurophysiology, and its early applications focused on low-level visual processes, such as edge detection or motion perception (Ringach & Shapley, 2004). Over time, advances in computational power and image processing

enabled researchers to apply the method to more complex stimuli, including faces (Jack & Schyns, 2017; Mangini & Biederman, 2004). This marked a turning point, as researchers have started to use the reverse-correlation technique to study social perception and visualize mental representations of social traits like trustworthiness (Dotsch & Todorov, 2012). But probably the most prominent application of the method in social psychology concerns mental representations of social categories: welfare recipients (Brown-Iannuzzi et al., 2021), ethnic groups (Dotsch et al., 2008), immigrants (Martinez et al., 2024), and so on.

In a typical reverse-correlation task, respondents are presented with sets of images created by overlaying unique patterns of random visual noise onto the same base image. Respondents are repeatedly asked to choose which image in each set best represents a target category. While an image chosen in a single trial is not necessarily meaningful on its own, the pattern of choices across multiple trials contains information about the mental representation of the target category. Researchers obtain and visualize those representations by averaging the noise patterns from the images chosen by respondents and add this composite noise back onto the base image. The resulting image represents the visual features that respondents associate with the target category. Because the noise is random and the base face is held constant, any consistent features of the aggregate image reflect respondents' mental representations of the target category rather than properties of the stimuli.

An important feature of the reverse correlation approach is that the stimuli respondents see on each trial are synthetic and generated by algorithmically layering a randomly generated noise pattern onto a single base image. This is a deliberate design choice as it strips out culturally cues such as hairstyle, makeup, and clothing that respondents might otherwise use as a shortcut for judging social categories. Thus, only variation in the noise pattern distinguishes one stimulus

from another. This forces respondents to rely on their internalized representations of facial structure when choosing which image looks like a “typical Democrat” or “typical Republican”.

Reverse correlation offers several advantages over traditional methods of measuring mental representations. First, it produces holistic visual outputs rather than isolated associations or trait lists. Instead of learning that a group is perceived as “angry” or “masculine,” researchers can directly observe how these qualities are integrated into a single mental image. Second, the method reduces concerns about social desirability and self-presentation. Respondents are never asked to explicitly state their beliefs about a group, nor are they presented with politically sensitive labels or attributes. Choices between noisy images are difficult to monitor or rationalize, making it harder for respondents to consciously censor their responses. Third, reverse correlation allows researchers to study multiple dimensions of representation simultaneously. Facial structure, emotional expression, perceived warmth or dominance, and other features can all emerge organically from the same task, without requiring separate measures for each dimension. Finally, by stripping away overt cultural markers, reverse correlation isolates the cognitive content of stereotypes. The use of noise-based stimuli prevents respondents from relying on learned visual conventions and instead reveals the underlying facial features they associate with social categories. This makes the method especially well-suited for studying political images, which may be both sensitive and difficult to articulate.

Application: Mental Images of U.S. Parties

In this paper, we apply reverse-correlation analysis to study the mental images of the Democratic Party and the Republican Party in the United States. One of the most debated developments in modern American politics concerns the phenomenon of affective polarization: the growing animosity between supporters of the two major parties (Iyengar et al., 2012).

Extensive research in political science has documented the detrimental effects of partisan polarization on interpersonal relationships and the social fabric (Engelhardt & Utych, 2020; Huber & Malhotra, 2017; Nicholson et al., 2016), as well as on support for democratic norms (Graham & Svolik, 2020; Kingzette et al., 2021; but cf. Broockman et al., 2023). Affective polarization can even lead to dehumanization of opposite party members (Cassese, 2021; Martherus et al., 2021), although the social acceptance of extreme partisan prejudice may have limits (Lelkes & Westwood, 2017; Shafranek, 2020).

While affective polarization has been linked to multiple potential causes (Iyengar et al., 2019), one popular explanation concerns the process known as social sorting. Different social groups—such as race, religion, ideology, and social class—are consistently aligned with the two parties, so that the profiles of the “average Democrat” and the “average Republican” become socially and culturally distinct (Mason, 2018). Voters exaggerate these real differences by associating the opposite party with social groups they do not like, and it results in heightened hostility across party lines (Ahler & Sood, 2018; Kane et al., 2021).

Among politically salient social identities, race and gender have a particularly long history of profoundly shaping American partisan politics (Gilens, 2023). Social and ideological sorting based on race and gender—as well as on race and gender attitudes—has contributed to the formation of racialized and gendered perceptions about the two major U.S. parties. The Republican Party is increasingly associated with men and Whites, whereas the Democratic Party is associated with women and Blacks as well as with people of color more generally (Perez et al., 2025; Winter, 2010; Zhirkov & Valentino, 2022).

The exact psychological mechanisms behind the formation of these perceptions, however, are still not fully understood. One is exaggeration of real differences in group compositions. An

important cognitive function of group perceptions, or stereotypes, is social categorization: assignment of likely group memberships to newly encountered individuals. As a result, people are incentivized to focus on differences between groups and thus overestimate the frequency of attributes seen as representative of one group versus the other, even if these attributes are objectively rare (Bordalo et al., 2016). The other mechanism is projection, when individuals ascribe their own attributes to relevant social groups. It is observed on both individual and group level: people project both their personal attributes onto social ingroups and their ingroup attributes onto larger superordinate groups (Robbins & Krueger, 2005; Wenzel et al., 2003).

These two mechanisms have distinct observable implications for the case of party images in the United States. If the mechanism is exaggeration, one should observe consensus regarding the images of the typical partisans: specifically, Republicans should be universally seen as more White and more masculine than Democrats. If the mechanism is projection, one can expect systematic variance in perceptions by respondents' characteristics. For instance, White Republicans should see supporters of the Republican Party as more White than supporters of the Democratic Party, whereas the same should not be true for White Democrats.

We use the reverse-correlation method to visualize the mental images of the typical Democrats and Republicans and test the two mechanisms outlined above. We divide our sample using the intersections of partisanship with race and gender and measure the mental images within these intersections (e.g., the typical Democrat as imagined by White Democrats). Then, we compare the images across these intersections (e.g., White and Black Democrats) to see whether the images are similar (indicating exaggeration) or different (indicating projection).

Method Overview

Following the standard procedure (Brinkman et al., 2017), our reverse-correlation analysis used a three-phase design. In the first phase, image generation, participants were randomly assigned to select images that best represented either the typical Democrat or the typical Republican. In the second phase, image aggregation, we averaged these selected images from the image generation phase to create visual representations. In the third phase, image rating, we recruited another sample of participants who were naive to how the images were generated and asked them to rate the images on the degree to which they were representative of racial and ethnic categories, femininity, and valence attributes. The second (and thus third) phases were implemented twice: the images were aggregated (1) by race and partisanship and (2) by gender and partisanship. The sections below describe the three phases in detail.

Image Generation

Sample

We recruited 800 Democrats and 800 Republicans, who were quota-sampled to be representative of their political party in terms of age and education, with CloudResearch (Chandler et al., 2019). The samples had the equal numbers of Whites and Blacks and of men and women.

Stimuli

The stimuli for the image-generation task were created from a single “base face,” which was a morph of 4 Asian men, 4 Asian women, 4 Black men, 4 Black women, 4 Hispanic men, 4 Hispanic women, 4 White men, and 4 White women selected from the Chicago Face Database (Ma et al., 2015). The morph was composed of images matched on perceived age, gender, and

prototypicality of their race. See Figure 1 for the morphed base image. We added random visual noise to the base face to create 720 unique variants used in the image-generation task.

Figure 1

Base Face in the Image-Generation Task

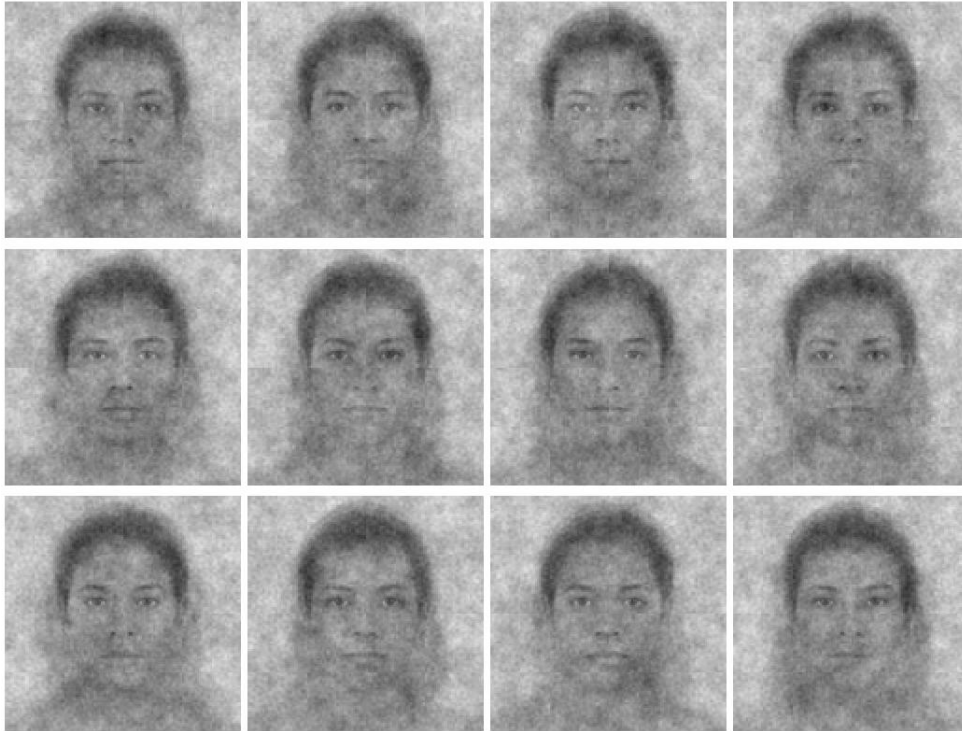


Procedure

Participants completed the reverse correlation image generation task (Schmitz et al., 2024). On each trial, participants were presented with an array of 12 distorted images and asked to select the image they thought were representative of the “typical Democrat” or “typical Republican.” Each respondent completed a total of 60 trials. See Figure 2 for a sample trial as seen by the respondents.

Figure 2

A Sample Trial from the Image-Generation Task, “Typical Democrat” Condition
Which image best represents the typical Democrat?



Analysis by Race and Partisanship

Image Aggregation

Based on participants’ selections, we aggregated the noise masks and placed them back onto the base image to create the average mental representations. We created individual images, which were images for each participant’s mental representation, and then, subsample images, which were the average images for White Democrats, White Republicans, Black Democrats, and Black Republicans. See Figure 3 for the average image for each subsample. Following best practices (Cone et al., 2021), for the rating stage of the analysis we created ten images per subsample by taking random subsets of participants within a subsample and aggregating their individual images together.

Figure 3

Aggregated Party Images by Generators' Race and Partisanship

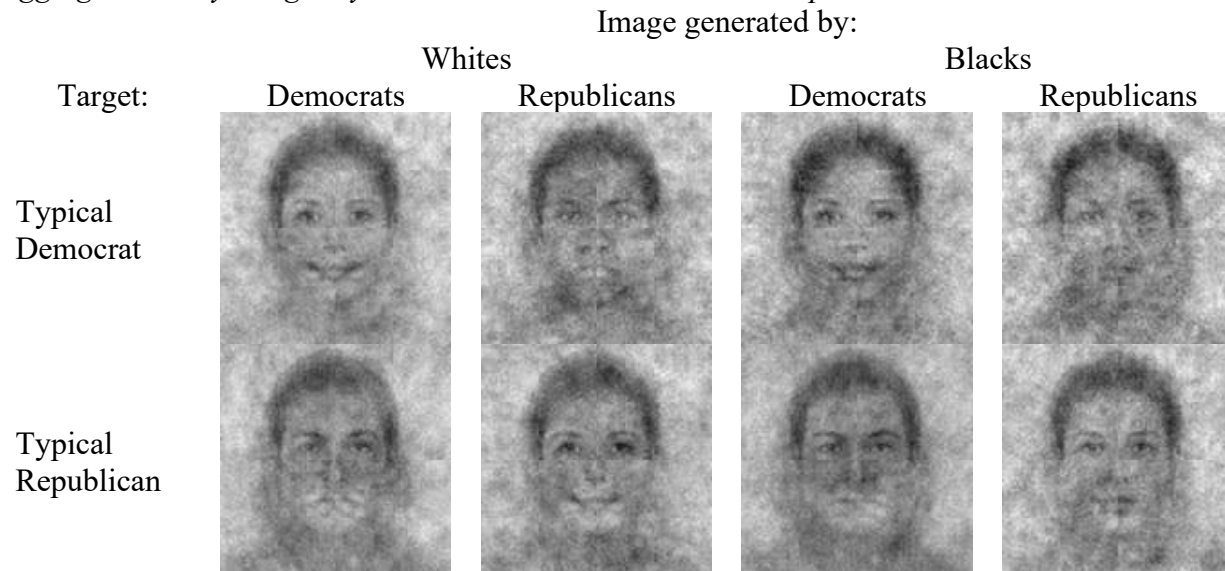


Image Rating

We recruited 500 participants for the image rating phase on Prolific Academic (Peer et al., 2017). To avoid rating fatigue, the sample was randomly split into two groups: one group rated images on the perceived racial representativeness and femininity, and a second group rated images on valence attributes like being attractive. We retained data only from participants who had unique Prolific IDs, passed the CAPTCHA, and consented to participate. The final number of participants who rated perceived race representativeness and femininity was 220 (“race and gender” condition), whereas a total of 247 participants rated the images in terms of valence attributes (“valence attributes” condition).

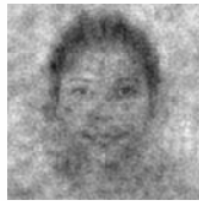
Participants in the race and gender condition were asked to rate the extent to which the person in the image was feminine and representative of four racial/ethnic categories: Asian, Black/African American, Hispanic/Latino, and White/Caucasian. See Figure 4 for a sample image rating screen as seen by the participants. In the valence attributes condition, participants rated the faces in terms of perceived happiness, attractiveness, hardworkingness, intelligence,

and aggressiveness. The answers were on a five-point Likert-type scale from 1 = *Not at all* to 5 = *Definitely*. For the valence attributes measures, rating reliabilities across images were sufficiently high (Cronbach's $\alpha > .80$), so they were combined into a single index (aggressiveness scores were reversed).

Within both samples, participants rated a total of 40 images in a random order: ten images generated for each race-party subsample. Participants were not told how these images were created. Within each subsample and rating condition, responses to the ten images per subsample were averaged to create a single rating on each dimension (racial representativeness, gender, and valence) for each race-party subsample.

Figure 4

A Sample Screenshot from the Image-Rating Task, "Race and Gender" Condition



How much do you see this person as being...

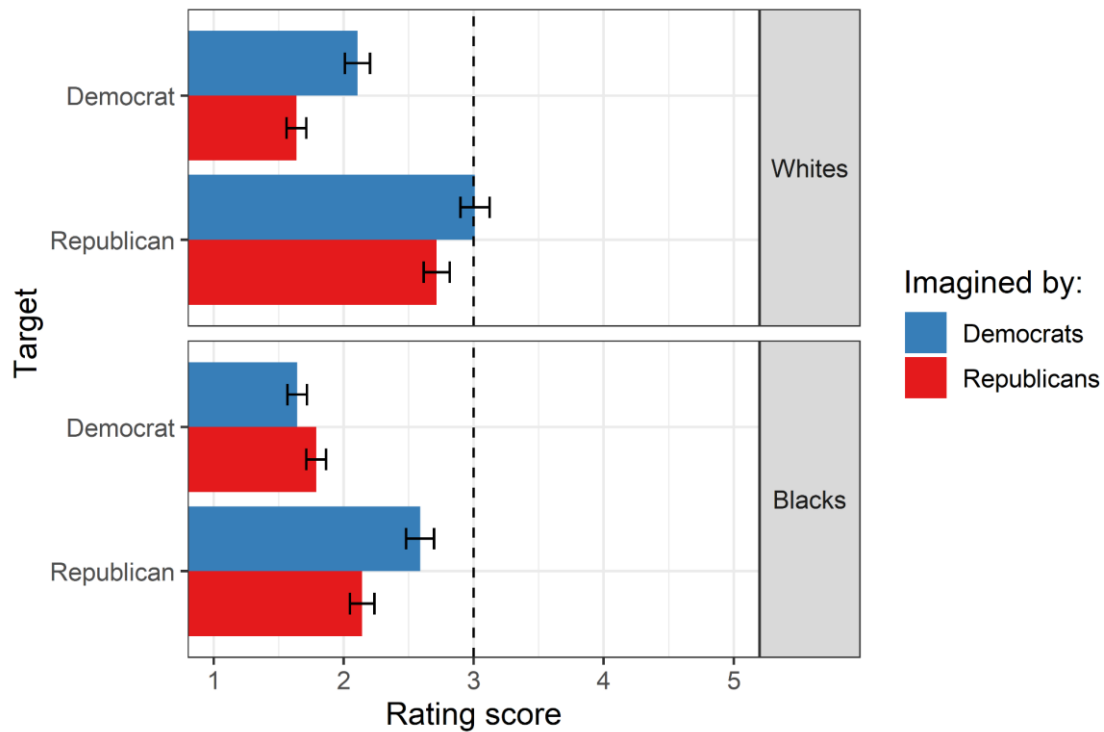
	Not at all	Slightly	Somewhat	Moderately	Definitely
Feminine	☐	☐	☐	☐	☐
White/ Caucasian	☐	☐	☐	☐	☐
Black/ African American	☐	☐	☐	☐	☐
Hispanic/ Latino	☐	☐	☐	☐	☐
Asian	☐	☐	☐	☐	☐

Results

In this section, we document how the generated images of the typical Democrats and Republicans aggregated by race and partisanship are rated in terms of racial and gender representativeness as well as valence attributes. Figure 5 presents the ratings of the images as being representative of Whites. The images of Republicans—independently of the image generators’ identities—are consistently rated as more representative of Whites than the images of Democrats. At the same time, there is some potentially interesting heterogeneity in the images by White representativeness across generators’ race and partisanship. For instance, the image of Democrats generated by White Democrats is rated as more representative of Whites than the image of Democrats generated by White Republicans—while there is no such difference between Black Democrats and Black Republicans. Also, the image of Republicans generated by Blacks are rated lower in White representativeness than the image of Republicans generated by Whites—independently of generators’ partisanship. Still, while these findings indicate some degree of projection, they are clearly dominated by consensus: across all four subsamples of image generators, the images of Republicans are rated higher in White representativeness than the images of Democrats.

Figure 5

White Representativeness Ratings of the Party Images Aggregated by Generators' Race and Partisanship

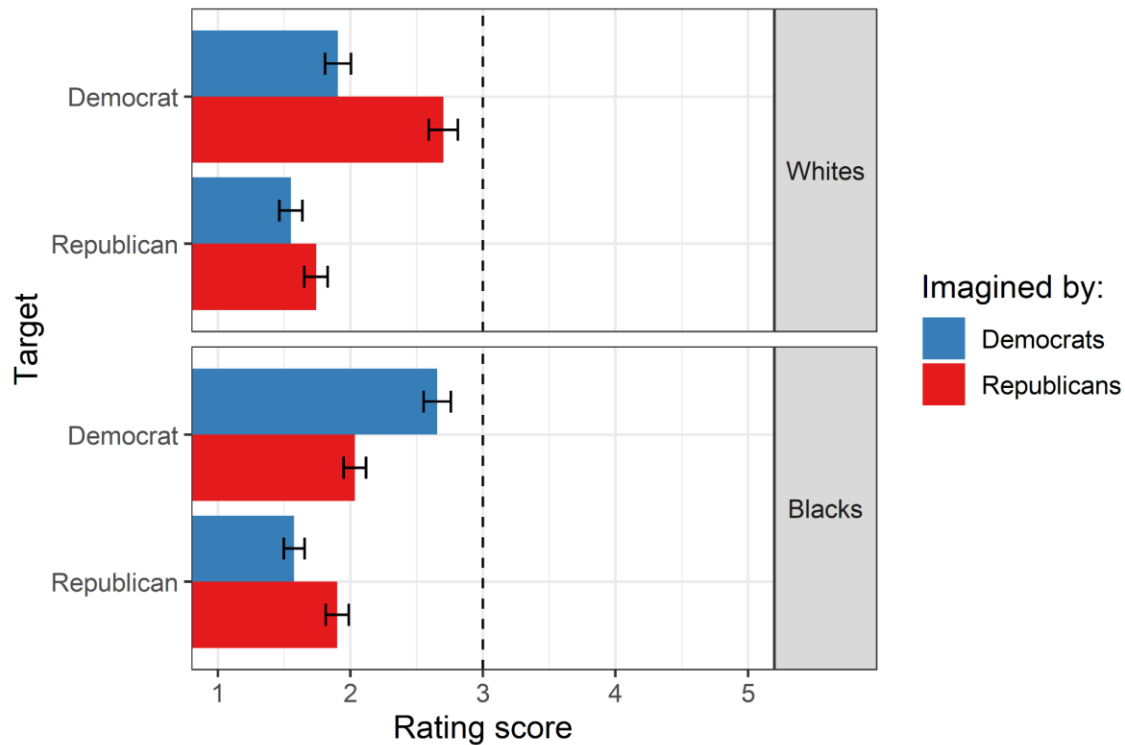


Note. Error bars are 95% confidence intervals. See Table S1 in the SI for numerical results.

For comparison, Figure 6 presents the ratings of the images as being representative of Blacks. Importantly, these results do not mirror the ratings in terms of White representativeness. The image of Democrats generated by White Republicans is rated as substantially higher in Black representativeness than the image of Democrats generated by White Democrats. There is an opposite pattern among Blacks: Black representativeness ratings are higher when the image of Democrats is generated by Democrats than by Republicans. These results suggest some degree of projection, at least regarding the mental images of Democrats. The corresponding differences in the ratings of the images of Republicans, however, are much smaller—and the generated images of Republicans are generally seen as low in Black representativeness across all respondent subsamples, indicating a degree of consensus.

Figure 6

Black Representativeness Ratings of the Party Images Aggregated by Generators' Race and Partisanship



Note. Error bars are 95% confidence intervals. See Table S2 in the SI for numerical results.

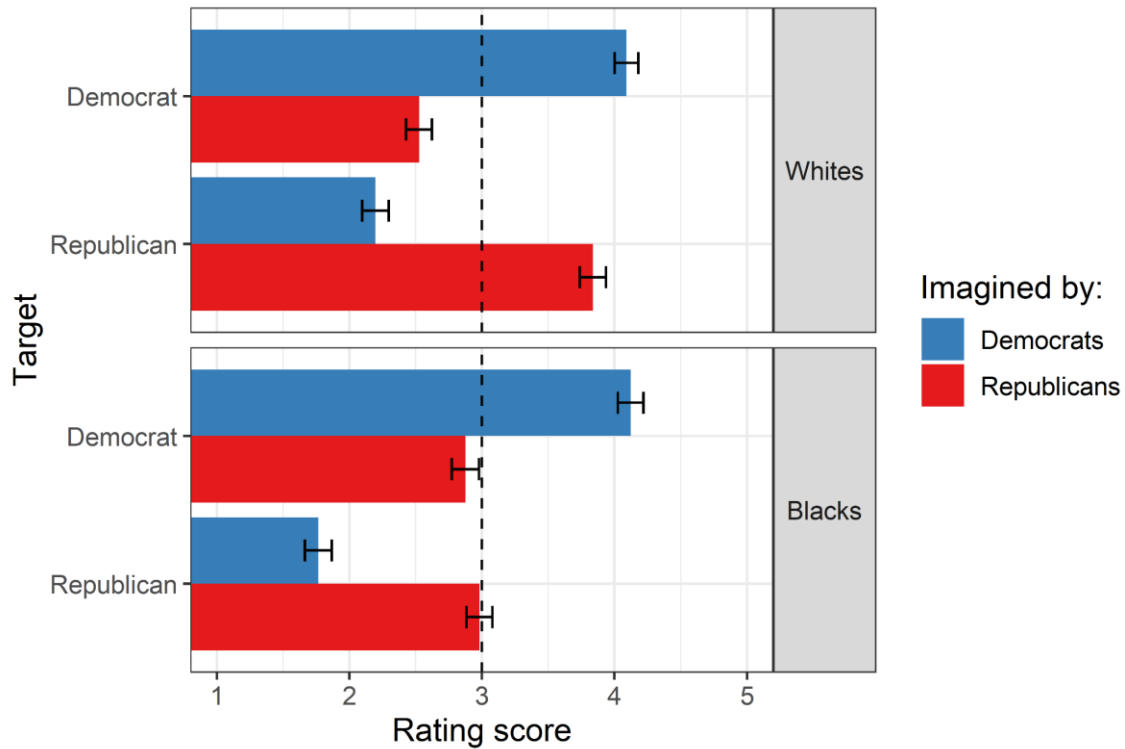
The results for Hispanic and Asian representativeness show relatively small variation across subsamples, so they are presented in Figures S1 and S2 of the supporting information (SI). We are agnostic to whether this reflects genuinely lower associations of the two major parties with Hispanics and Asians—or simply lower propensity of respondents to identify Hispanic and Asian representativeness in the noisy visual stimuli.

Figure 7 presents the ratings of the images in terms of femininity. The results are highly significant, stronger in magnitude than those for race, and very consistent. Independently of race and partisanship of image generators, the images of the in-party are always rated as much more feminine than the images of the out-party. This result is clearly at odds with the exaggeration mechanism: the images of Democrats are not uniformly rated as more feminine than the images

of Republicans. At the same time, there are interesting differences in the image ratings by race. The images of Democrats and Republicans generated by Black Republicans are rated as equally feminine. As a result, the images of Republicans generated by Blacks are, on average, rated as less feminine than the ones generated by Whites.

Figure 7

Femininity Ratings of the Party Images Aggregated by Generators' Race and Partisanship

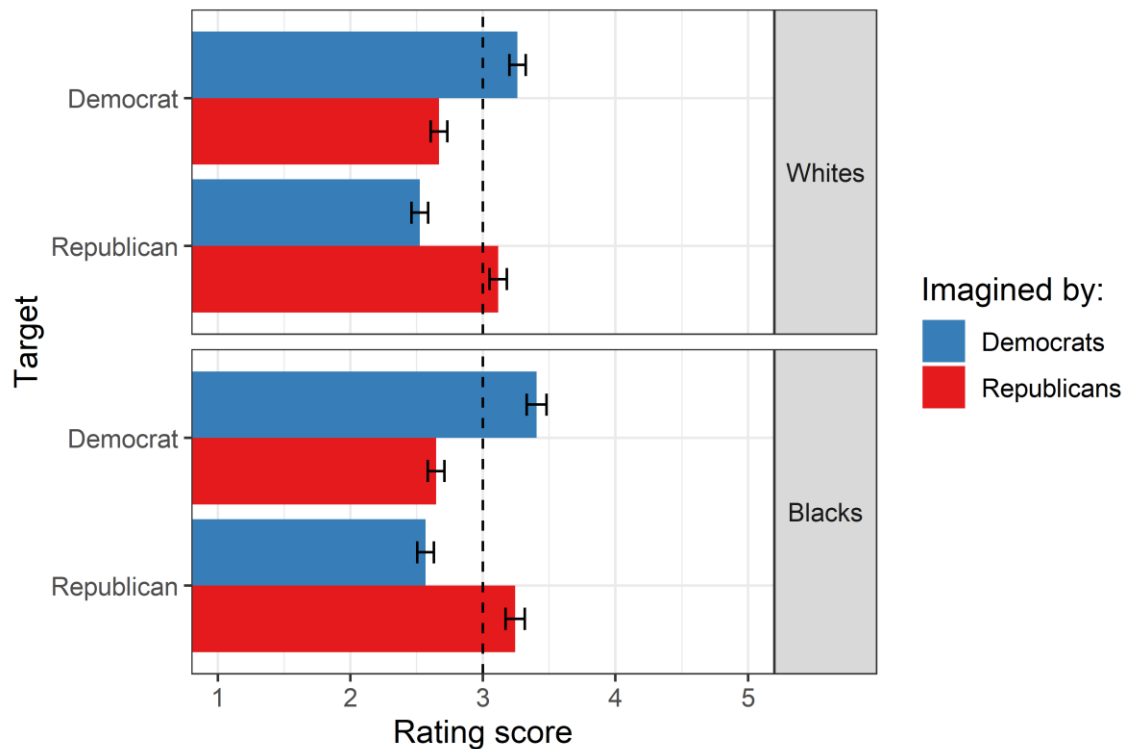


Note. Error bars are 95% confidence intervals. See Table S3 in the SI for numerical results.

Finally, Figure 8 presents the ratings of the images in terms of valence attributes (average scores of perceived happiness, attractiveness, hardworkingness, intelligence, and reverse aggressiveness). The images of the in-party are always rated as higher in valence than the images of the out-party independently of race and partisanship of image generators. The images of Republicans generated by Black Republicans get lower valence scores than those generated by White Republicans. Overall, the results for valence are similar to the results for femininity.

Figure 8

Valence Ratings of the Party Images Aggregated by Generators' Race and Partisanship



Note. Error bars are 95% confidence intervals. See Table S4 in the SI for numerical results.

Discussion

The ratings of the images of the typical Democrats and Republicans aggregated by generators' race and partisanship suggest that polarization, exaggeration, and projection coexist in Americans' mental representations of the two major parties. Polarization is manifested in valence ratings, which are consistently higher for the images of in-party members generated by both White and Black partisans. Unsurprisingly, respondents imagine in-party members as having more appealing and desirable attributes than out-party members. The results for racialized images of the two parties are less consistent. Some of them are in line with the exaggeration mechanism: the images of Republicans are rated as higher in White representativeness independently of the generators' identities. It means that all respondents tend to see supporters of

the Republican Party as more White than supporters of the Democratic Party. Other results hint at projection, since the images of Democrats generated by Black Democrats are rated higher in Black representativeness. In other words, Black Democrats see their own party as more Black than White Democrats do.

A particularly interesting result concerns perceived femininity of the two parties. We find that the images generated by in-party members are rated as consistently more feminine. It means that both Democrats and Republicans see their own party as more feminine than the opposing party. There is still a possibility, however, that some degree of projection is in place. So far, we have analyzed images of the typical Democrats and Republicans aggregated by race and partisanship. To address the possibility of projection, an aggregation by gender and partisanship is necessary. That would allow testing the hypothesis that only women see their parties as more feminine, whereas the opposite is true for men. We implement such an aggregation and compare the rating of the resulting images in the analyses to follow.

Analysis by Gender and Partisanship

Image Aggregation

We used the same individual-level images as in the analyses described above but this time aggregated them by gender and partisanship. As a result, we obtained average images for Democratic men, Democratic women, Republican men, and Republican women (see Figure 9). Again, we created ten random images per subsample for the rating stage.

Figure 9

Aggregated Party Images by Generators' Gender and Partisanship

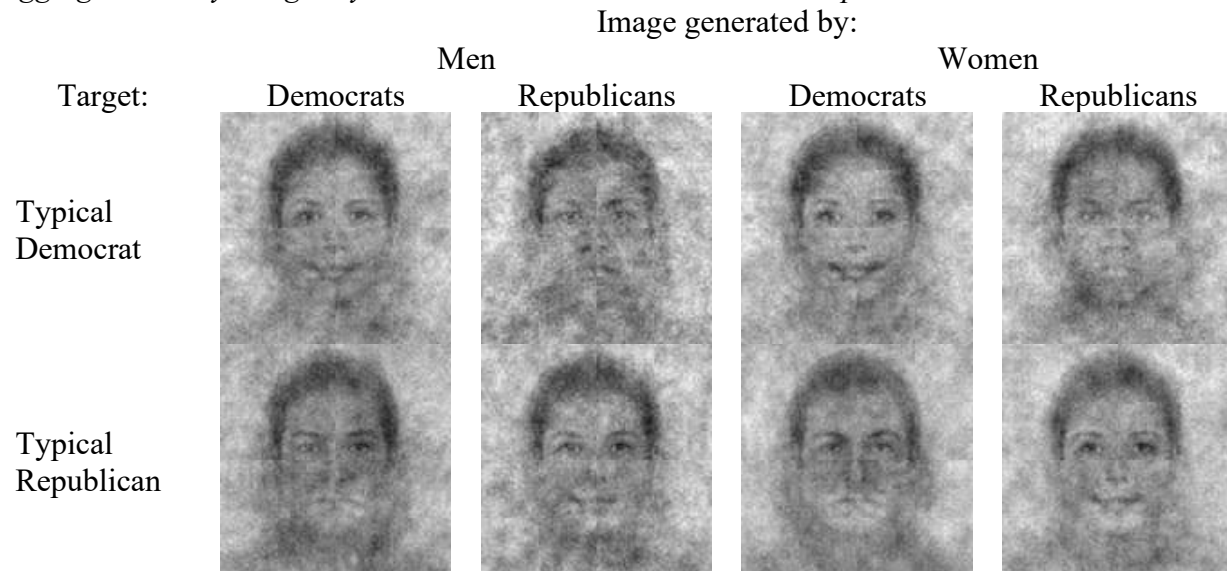


Image Rating

Two image rating samples were once again recruited on Prolific Academic. The images were rated on the same set of dimensions: perceived race/ethnicity and femininity (first sample) and attractiveness, happiness, hardworkingness, intelligence, and aggression (second sample). Participants, again, rated ten images per gender-party subsample, and the ratings were then aggregated to obtain subsample-level rating scores.

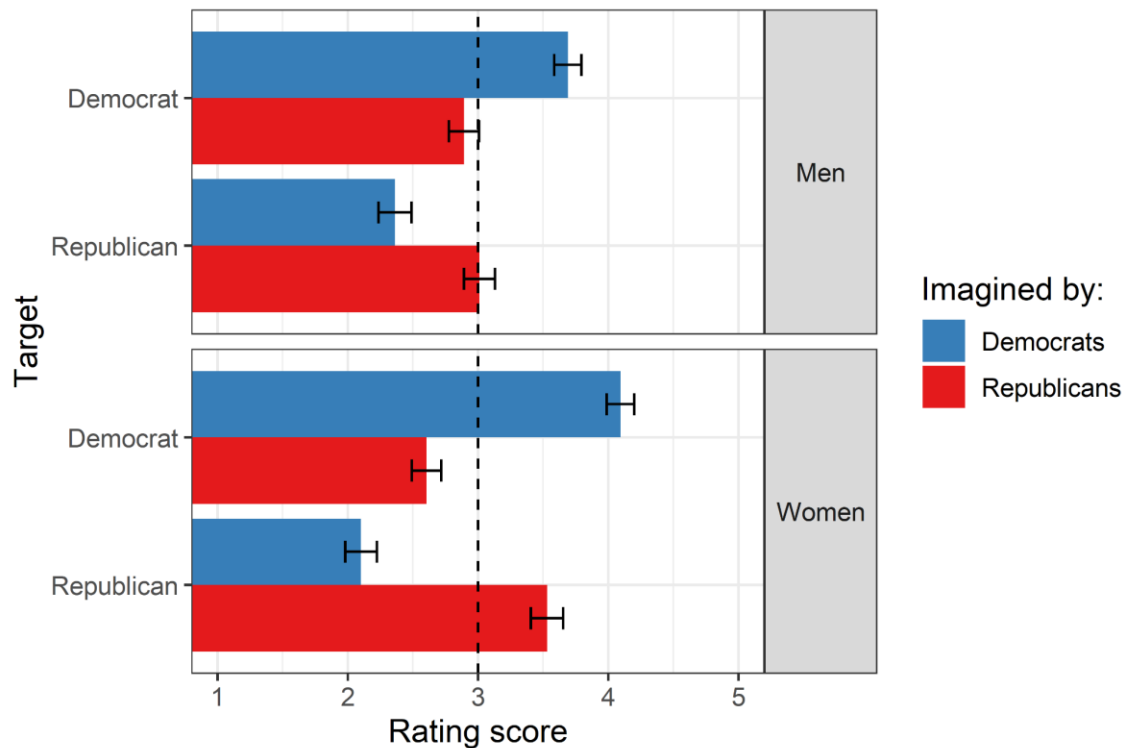
Results

In the analyses reported so far, we have found that the images of the typical Democrats and Republicans generated by in-party members are consistently rated as more feminine than the images generated by out-party members. In this section, our goal is to understand the extent to which these images are subject to projection: whether the tendency to imagine the in-party as more feminine is stronger among women than among men. Figure 10 presents how the generated images of the typical Democrats and Republicans aggregated by gender and partisanship are rated in terms of femininity. The results show that the images generated by in-party members are

rated as more feminine even when they are generated by men, and this is true for both Democrats and Republicans. However, the corresponding differences in femininity ratings between the in-party and the out-party are much stronger when the images are generated by women.

Figure 10

Femininity Ratings of the Party Images Aggregated by Generators' Gender and Partisanship



Note. Error bars are 95% confidence intervals. See Table S5 in the SI for numerical results.

Discussion

Results presented in this section replicate the findings from the analysis by race and partisanship: The images of the in-party are always rated as much more feminine than the images of the out-party. It holds even for results generated by male respondents, even though the differences in femininity ratings are greater for the images of the typical Democrats and Republicans generated by female respondents. While the latter results indicate the presence of projection of one's own gender identity onto the in-party, the tendency to imagine the in-party as

more feminine than the out-party seems to be universal across the analyzed racial and gender groups. It is possible that femininity is associated with positive traits—such as warmth—that respondents tend to attribute to members of their own party. Still, more research is needed to understand the psychological mechanisms behind this finding.

Conclusion

In this paper, we have visualized the typical Democrats and typical Republicans as imagined by Americans and assessed the resulting images in terms of racial representativeness, femininity, and valence attributes. To do so, we have employed reverse-correlation analysis (Brinkman et al., 2017), a method that has gained popularity in cognitive and social psychology but remains unknown in political science. To investigate the role of projection in the formation of the images of Democrats and Republicans, we have split our sample by race and gender in addition to partisanship. Our results demonstrate how the mental representations of the two major U.S. parties are subject to different political and psychological forces. First, we find considerable polarization in perceptions about partisans' valence attributes: in-party members are consistently imagined as happier, more attractive, more intelligent, more hardworking, and less aggressive than members of the out-party. Second, there is a substantial degree of consensus in the content of the parties' racialized images: independently of respondents' own racial and partisan identities, Republicans are perceived as more White than Democrats. Finally, the gendered images of the parties do not follow either of the two hypothesized patterns: similar to what is found for valence attributes, in-party is always imagined as more feminine than the out-party. While this pattern is stronger for women (thus indicating a degree of own identity projection onto the in-party), it is present among men as well.

These findings have important implications for the literature on polarization and partisan stereotypes in modern American politics. It is well established that partisanship has become an important social identity (Huddy et al., 2015; Green et al., 2002; West & Iyengar, 2022), partisans are affectively polarized (Iyengar & Westwood, 2015), and there is social discrimination across party lines (Engelhardt & Utych, 2020; Shafranek, 2021). Using the novel reverse-correlation method, we replicate and extend some of these results. We visualize the mental representations of the typical Democrats and the typical Republicans and confirm that co-partisans are consistently imagined as having more attractive and desirable attributes than members of the opposing party. These results likely reflect a similar combination of partisan ingroup favoritism and outgroup prejudice that is captured by other measures like feeling thermometers (Tyler & Iyengar, 2024), social distance questions (Iyengar et al., 2012), and more elaborate multi-item batteries (Campos & Federico, 2025).

Our findings from reverse-correlation analysis also build upon earlier studies that have explored gendered and racialized images of the two parties with other methods. We confirm that the two major parties are indeed racialized with Republicans being consistently seen as more White than Democrats (Zhirkov & Valentino, 2022). At the same time, there is also projection: the degree to which Democrats are seen as Black depends on respondents' own racial identities. When it comes to gendered images, our results are in contrast with existing studies which find the Democratic Party to be perceived as feminine and the Republican Party as masculine (Winter, 2010). Instead, our findings indicate that both Democrats and Republicans see the in-party as more feminine—thus indicating that femininity is viewed by the U.S. partisans as an attractive and desirable attribute.

The result regarding gendered images of the parties is particularly interesting and has implications for some important debates on both party stereotypes and politics of gender. According to the stereotype content model (Fiske et al., 2002), women—unless explicitly described as non-conforming to the traditional femininity stereotypes—tend to be rated higher in warmth (the perceptual dimension reflecting traits like friendliness and trustworthiness) than in competence (reflects perceptions about group’s skills and abilities). This is in line with findings in political science that highlight warmth-coded stereotypes about female candidates, such as lower aggressiveness and higher compassion (Huddy & Terkildsen, 1993), although they do not necessarily help women politicians at the ballot box (Bauer, 2017; Dolan, 2014; Sanbonmatsu, 2002), or in getting nominations (Fox & Oxley, 2003). Seen from this perspective, our results regarding feminine mental images of in-party members may indicate that warmth (rather than competence) dominates the content of partisan stereotypes.

Addressing this possibility is the most obvious potential extension of our work that can be implemented in future studies. Researchers can separately assess perceptions of femininity, warmth, and competence of in-party and out-party supporters—as well as the degree to which these dimensions of partisan stereotypes overlap. Ideally, these mental images are measured and rated for each individual respondent, so that they can be used to predict the attitudinal outcomes of interest, such as affective polarization. However, such a data collection effort can be very costly, especially if researchers aim to recruit nationally representative samples.

Several features of the U.S. political and social context should be considered when interpreting our findings. For instance, images of the typical Democrat and Republican voters may be impacted by imbalances between racial and gender profiles of politicians representing the two parties. Since elected Democrats are more likely to be women and people of color,

respondents may project those attributes onto the party's supporters. However, while this phenomenon may inflate differences in racialized images of the parties, it cannot explain the tendency to imagine the in-party as more feminine, which is not limited to Democrats. It is also known that observers tend to categorize racially ambiguous targets as belonging to lower-status groups—the propensity referred to as hypodescent (Ho et al., 2011; Young et al., 2020). While we have attempted to address this issue on the image generation stage, it is still possible that our rating scores underestimate White representativeness as a result.

Overall, we have successfully used reverse-correlation analysis to successfully replicate the earlier findings on affective polarization and partisan stereotypes in the United States. Some of our results are also novel: for instance, the one regarding greater perceived femininity of the in-party independently of respondents' own partisanship (rather than Democrats being universally seen as more feminine than Republicans). The reverse-correlation technique relies on common software and survey tools, which are accessible to scholars in the discipline. We believe that it holds a major promise for empirical research on political attitudes, beliefs, and behaviors. Reverse correlation allows visualizing the images of politically relevant social categories and rating those images across the stereotype dimensions of interest. In other words, it turns “the pictures in our heads” from just a popular metaphor into an actual measurement instrument.

References

- Ahler, D. J., & Sood, G. (2018). The parties in our heads: Misperceptions about party composition and their consequences. *Journal of Politics*, 80(3), 964–981.
<https://doi.org/10.1086/697253>
- Axt, J., Siemers, N., Discepola, M.-N., Martinez, P., Xiao, Z., & Wehrli, E. (2023). The mind’s “aye”? Investigating overlap in findings produced by reverse correlation versus self-report. *Journal of Experimental Social Psychology*, 107, Article 104473.
<https://doi.org/10.1016/j.jesp.2023.104473>
- Bauer, N. M. (2017). The effects of counterstereotypic gender strategies on candidate evaluations. *Political Psychology*, 38(2), 279–295. <https://doi.org/10.1111/pops.12351>
- Blinder, S. (2015). Imagined immigration: The impact of different meanings of “immigrants” in public opinion and policy debates in Britain. *Political Studies*, 63(1), 80–100.
<https://doi.org/10.1111/1467-9248.12053>
- Bordalo, P., Coffman, K., Gennaioli, N., & Shleifer, A. (2016). Stereotypes. *Quarterly Journal of Economics*, 131(4), 1753–1794. <https://doi.org/10.1093/qje/qjw029>
- Brinkman, L., Todorov, A., & Dotsch, R. (2017). Visualising mental representations: A primer on noise-based reverse correlation in social psychology. *European Review of Social Psychology*, 28(1), 333–361. <https://doi.org/10.1080/10463283.2017.1381469>
- Broockman, D. E., Kalla, J. L., & Westwood, S. J. (2023). Does affective polarization undermine democratic norms or accountability? Maybe not. *American Journal of Political Science*, 67(3), 808–828. <https://doi.org/10.1111/ajps.12719>

- Brown-Iannuzzi, J. L., Cooley, E., Marshburn, C. K., McKee, S. E., & Lei, R. F. (2021). Investigating the interplay between race, work ethic stereotypes, and attitudes toward welfare recipients and policies. *Social Psychological and Personality Science*, 12(7), 1155–1164. <https://doi.org/10.1177/1948550620983051>
- Brown-Iannuzzi, J. L., Dotsch, R., Cooley, E., & Payne, B. K. (2017). The relationship between mental representations of welfare recipients and attitudes toward welfare. *Psychological Science*, 28(1), 92–103. <https://doi.org/10.1177/0956797616674999>
- Busby, E. C., Howat, A. J., & Myers, C. D. (2024). Changing stereotypes of partisans in the Trump Era. *Political Science Research and Methods*, 12(3), 606–613. <https://doi.org/10.1017/psrm.2023.30>
- Campos, N., & Federico, C. (2025). A new measure of affective polarization. *American Political Science Review*. Advance online publication. <https://doi.org/10.1017/S0003055425000255>
- Cassese, E. C. (2021). Partisan dehumanization in American politics. *Political Behavior*, 43, 29–50. <https://doi.org/10.1007/s11109-019-09545-w>
- Chandler, J., Rosenzweig, C., Moss, A. J., Robinson, J., & Litman, L. (2019). Online panels in social science research: Expanding sampling methods beyond Mechanical Turk. *Behavior Research Methods*, 51(5), 2022–2038. <https://doi.org/10.3758/s13428-019-01273-7>
- Cone, J., Brown-Iannuzzi, J. L., Lei, R., & Dotsch, R. (2021). Type I error is inflated in the two-phase reverse correlation procedure. *Social Psychological and Personality Science*, 12(5), 760–768. <https://doi.org/10.1177/1948550620938616>
- Conover, P. J. (1988). The role of social groups in political thinking. *British Journal of Political Science*, 18(1), 51–76. <https://doi.org/10.1017/S0007123400004956>

- Converse, P. E. (1964). The nature of belief systems in mass publics. In D. Apter (Ed.), *Ideology and discontent* (pp. 206–261). Free Press of Glencoe.
- Dias, N. C., Lelkes, Y., & Pearl, J. (2025). American partisans vastly under-estimate the diversity of other partisans' policy attitudes. *Political Science Research and Methods*, 13(3), 725–735. <https://doi.org/10.1017/psrm.2024.36>
- Dolan, K. (2014). Gender stereotypes, candidate evaluations, and voting for women candidates: What really matters? *Political Research Quarterly*, 67(1), 96–107.
<https://doi.org/10.1177/1065912913487949>
- Dotsch, R., & Todorov, A. (2012). Reverse correlating social face perception. *Social Psychological and Personality Science*, 3(5), 562–571.
<https://doi.org/10.1177/1948550611430272>
- Dotsch, R., Wigboldus, D. H. J., Langner, O., & Van Knippenberg, A. (2008). Ethnic out-group faces are biased in the prejudiced mind. *Psychological Science*, 19(10), 978–980.
<https://doi.org/10.1111/j.1467-9280.2008.02186.x>
- Eisenstadt, B. E., Spagna, A., & Stroessner, S. J. (2025). In the mind's eye: Exploring the relationship between visual mental imagery and stereotyping. *Personality and Social Psychology Review*, 29(3), 250–272. <https://doi.org/10.1177/10888683241273350>
- Engelhardt, A. M., & Utych, S. M. (2020). Grand old (tailgate) party? Partisan discrimination in apolitical settings. *Political Behavior* 42(3), 769–789. <https://doi.org/10.1007/s11109-018-09519-4>
- Federico, C. (2006). Race, education, and individualism revisited. *Journal of Politics*, 68(3), 600–610. <https://doi.org/10.1111/j.1468-2508.2006.00448.x>

- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82(6), 878–902.
<https://doi.org/10.1037/0022-3514.82.6.878>
- Fox, R. L., & Oxley, Z. M. (2003). Gender stereotyping in state executive elections: Candidate selection and success. *Journal of Politics*, 65(3), 833–850. <https://doi.org/10.1111/1468-2508.00214>
- Gilens, M. (1999). *Why Americans hate welfare: Race, media, and the politics of antipoverty policy*. University of Chicago Press.
- Gilens, M. (2023). Race, gender, and partisan politics in the United States. *Proceedings of the National Academy of Sciences*, 120(25), Article e2307714120.
<https://doi.org/10.1073/pnas.2307714120>
- Goren, P. (2003). Race, sophistication, and White opinion on government spending. *Political Behavior*, 25(3), 201–220. <https://doi.org/10.1023/A:1025121406460>
- Graham, M. H., & Svolik, M. W. (2020). Democracy in America? Partisanship, polarization, and the robustness of support for democracy in the United States. *American Political Science Review*, 114(2), 392–409. <https://doi.org/10.1017/S0003055420000052>
- Green, D. P., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. Yale University Press.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74(6), 1464–1480. <https://doi.org/10.1037/0022-3514.74.6.1464>

- Hainmueller, J., Hopkins, D. J., & Yamamoto, T. (2014). Causal inference in conjoint analysis: Understanding multidimensional choices via stated preference experiments. *Political Analysis*, 22(1), 1–30. <https://doi.org/10.1093/pan/mpt024>
- Ho, A. K., Sidanius, J., Levin, D. T., & Banaji, M. R. (2011). Evidence for hypodescent and racial hierarchy in the categorization and perception of biracial individuals. *Journal of Personality and Social Psychology*, 100(3), 492–506. <https://doi.org/10.1037/a0021562>
- Horiuchi, Y., Markovich, Z., & Yamamoto, T. (2021). Does conjoint analysis mitigate social desirability bias? *Political Analysis*, 30(4), 535–549. <https://doi.org/10.1017/pan.2021.30>
- Huber, G. A. & Malhotra, N. (2017). Political homophily in social relationships: Evidence from online dating behavior. *Journal of Politics*, 79(1), 269–283. <https://doi.org/10.1086/687533>
- Huddy, L., Mason, L., & Aaroe, L. (2015). Expressive partisanship: Campaign involvement, political emotion, and partisan identity. *American Political Science Review*, 109(1), 1–17. <https://doi.org/10.1017/S0003055414000604>
- Huddy, L., & Terkildsen, N. (1993). Gender stereotypes and the perception of male and female candidates. *American Journal of Political Science*, 37(1), 119–147. <https://doi.org/10.2307/2111526>
- Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., & Westwood, S. J. (2019). The origins and consequences of affective polarization in the United States. *Annual Review of Political Science*, 22, 129–146. <https://doi.org/10.1146/annurev-polisci-051117-073034>
- Iyengar, S., Sood, G., & Lelkes, Y. (2012). Affect, not ideology: A social identity perspective on polarization. *Public Opinion Quarterly*, 76(3), 405–431. <https://doi.org/10.1093/poq/nfs038>

- Iyengar, S., & Westwood, S. J. (2015). Fear and loathing across party lines: New evidence on group polarization. *American Journal of Political Science*, 59(3), 690–707.
<https://doi.org/10.1111/ajps.12152>
- Kane, J. V., Mason, L., & Wronski, J. (2021). Who's at the party? Group sentiments, knowledge, and partisan identity. *Journal of Politics*, 83(4), 1783–1799.
<https://doi.org/10.1086/715072>
- Kinder, D. R., & Kalmoe, N. P. (2017). *Neither liberal nor conservative: Ideological innocence in the American public*. University of Chicago Press.
- Kingzette, J., Druckman, J. N., Klar, S., Krupnikov, Y., Levendusky, M., & Ryan, J. B. (2021). How affective polarization undermines support for democratic norms. *Public Opinion Quarterly*, 85(2), 663–677. <https://doi.org/10.1093/poq/nfab029>
- Lelkes, Y., & Westwood, S. J. (2017). The limits of partisan prejudice. *Journal of Politics*, 79(2), 485–501. <https://doi.org/10.1086/688223>
- Lippmann, W. (1922). *Public opinion*. Harcourt, Brace.
- Lodge, M., & Taber, C. S. (2013). *The rationalizing voter*. Cambridge University Press.
<https://doi.org/10.1017/CBO9781139032490>
- Lopez Ortega, A., & Radojevic, M. (2025). Visual conjoint vs. text conjoint and the differential discriminatory effect of (visible) social categories. *Political Behavior*, 47, 335–353.
<https://doi.org/10.1007/s11109-024-09953-7>
- Lutz, P., & Bitschnau, M. (2023). Misperceptions about immigration: Reviewing their nature, motivations and determinants. *British Journal of Political Science*, 53(2), 674–689.
<https://doi.org/10.1017/S0007123422000084>

- Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavior Research Methods*, 47, 1122–1135.
<https://doi.org/10.3758/s13428-014-0532-5>
- Martherus, J. L., Martinez, A. G., Piff, P. K., & Theodoridis, A. G. (2021). Party animals? Extreme partisan polarization and dehumanization. *Political Behavior*, 43, 517–540.
<https://doi.org/10.1007/s11109-019-09559-4>
- Martinez, J. E., Oh, D., & Todorov, A. (2024). Immigration documentation statuses evoke racialized faceism in mental representations. *Scientific Reports*, 14, Article 10673.
<https://doi.org/10.1038/s41598-024-61203-2>
- Mason, L. (2018). *Uncivil agreement: How politics became our identity*. University of Chicago Press.
- Myers, C. D. (2023). Issues, groups, or idiots? Comparing theories of partisan stereotypes. *Public Opinion Quarterly*, 87(3), 635–661. <https://doi.org/10.1093/poq/nfad038>
- Myers, C. D., Zhirkov, K., & Lunz Trujillo, K. (2024). Who is “on welfare”? Validating the use of conjoint experiments to measure stereotype content. *Political Behavior*, 46, 89–110
<https://doi.org/10.1007/s11109-022-09815-0>
- Nederhof, A. J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology*, 15(3), 263–280. <https://doi.org/10.1002/ejsp.2420150303>
- Nelson, T. E., & Kinder, D. R. (1996). Issue frames and group-centrism in American public opinion. *Journal of Politics*, 58(4), 1055–1078. <https://doi.org/10.2307/2960149>
- Nichols, A. L., & Maner, J. K. (2008). The good-subject effect: Investigating participant demand characteristics. *Journal of General Psychology*, 135(2), 151–166.
<https://doi.org/10.3200/GENP.135.2.151-166>

- Nicholson, S. P., Coe, C. M., Emory, J., & Song, A. V. (2016). The politics of beauty: The effects of partisan bias on physical attractiveness. *Political Behavior*, 38(4), 883–898.
<https://doi.org/10.1007/s11109-016-9339-7>
- Oliveira, M., Garcia-Marques, T., Dotsch, R., & Garcia-Marques, L. (2019). Dominance and competence face to face: Dissociations obtained with a reverse correlation approach. *European Journal of Social Psychology*, 49(5), 888–902.
<https://doi.org/10.1002/ejsp.2569>
- Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, 70, 153–163. <https://doi.org/10.1016/j.jesp.2017.01.006>
- Perez, Efren, Jessica Hyunjeong Lee, and Gustavo Martir Luna. 2025. “Partisans of Color: Asian American and Latino Party ID in an Era of Racialization and Polarization.” *American Political Science Review*, 119(4), 1599–1615.
<https://doi.org/10.1017/S0003055424001217>
- Petersen, M. B., & Aaroe, L. (2012). Politics in the mind’s eye: Imagination as a link between social and political cognition. *American Political Science Review*, 107(2), 275–293.
<https://doi.org/10.1017/S0003055413000026>
- Reny, T., Zhirkov, K., & Bae, B. (2025). Perceived opposition to racially progressive policies and negative affect toward the Republican Party among Democrats. *Journal of Race, Ethnicity, and Politics*, 10(3), 664–673. <https://doi.org/10.1017/rep.2025.10011>
- Ringach, D., & Shapley, R. (2004). Reverse correlation in neurophysiology. *Cognitive Science*, 28(2), 147–166. https://doi.org/10.1207/s15516709cog2802_2

- Robbins, J. M., & Krueger, J. I. (2005). Social projection to ingroups and outgroups: A review and meta-analysis. *Personality and Social Psychology Review*, 9(1), 32–47.
https://doi.org/10.1207/s15327957pspr0901_3
- Rothschild, J. E., Howat, A. J., Shafranek, R. M., & Busby, E. C. (2019). Pigeonholing partisans: Stereotypes of party supporters and partisan polarization. *Political Behavior*, 41, 423–443. <https://doi.org/10.1007/s11109-018-9457-5>
- Rougier, M., & De Houwer, J. (2025). Unconstraining evaluative conditioning research by using the reverse correlation task. *Social Psychological and Personality Science*, 16(3), 291–299. <https://doi.org/10.1177/19485506231217526>
- Sanbonmatsu, K. (2002). Gender stereotypes and vote choice. *American Journal of Political Science*, 46(1), 20–34. <https://doi.org/10.2307/3088412>
- Schmitz, M., Rougier, M., & Yzerbyt, V. (2024). Introducing the brief reverse correlation: An improved tool to assess visual representations. *European Journal of Social Psychology*, 54(7), 1446–1461. <https://doi.org/10.1002/ejsp.3100>
- Schneider, A., & Ingram, H. (1993). Social construction of target populations: Implications for politics and policy. *American Political Science Review*, 87(2), 334–347.
<https://doi.org/10.2307/2939044>
- Shafranek, R. M. (2020). Political consequences of partisan prejudice. *Political Psychology*, 41(1), 35–51. <https://doi.org/10.1111/pops.12596>
- Shafranek, R. M. (2021). Political considerations in nonpolitical decisions: A conjoint analysis of roommate choice. *Political Behavior*, 43, 271–300. <https://doi.org/10.1007/s11109-019-09554-9>

- Sherman, J. W. (1996). Development and mental representation of stereotypes. *Journal of Personality and Social Psychology*, 70(6), 1126–1141. <https://doi.org/10.1037/0022-3514.70.6.1126>
- Sidler, P., Knotz, C., & Ruedin, D. (2024). How do people perceive immigrants? Relating perceptions to numbers. *Journal of Race, Ethnicity, and Politics*, 9(3), 689–708. <https://doi.org/10.1017/rep.2024.18>
- Tyler, M., & Iyengar, S. (2024). Testing the robustness of the ANES feeling thermometer indicators of affective polarization. *American Political Science Review*, 118(3), 1570–1576. <https://doi.org/10.1017/S0003055423001302>
- Wenzel, M., Mummendey, A., Weber, U., & Waldzus, S. (2003). The ingroup as pars pro toto: Projection from the ingroup onto the inclusive category as a precursor to social discrimination. *Personality and Social Psychology Bulletin*, 29(4), 461–473. <https://doi.org/10.1177/0146167202250913>
- West, E. A., & Iyengar, S. (2022). Partisanship as a social identity: Implications for polarization. *Political Behavior*, 44, 807–838. <https://doi.org/10.1007/s11109-020-09637-y>
- Winter, N. J. G. (2008). *Dangerous frames: How ideas about race and gender shape public opinion*. University of Chicago Press.
- Winter, N. J. G. (2010). Masculine Republicans and feminine Democrats: Gender and Americans' explicit and implicit images of the political parties. *Political Behavior*, 32, 587–618. <https://doi.org/10.1007/s11109-010-9131-z>

- Winter, N. J. G. (2020). Gendered (and racialized) partisan polarization. In M. C. Barnes, C. D. B. Walker, & T. M. Williamson (Eds.), *Community wealth building and the reconstruction of American democracy: Can we make American democracy work?* (pp. 160–181). Edward Elgar Publishing. <https://doi.org/10.4337/9781839108136.00020>
- Young, D. M., Sanchez, D. T., Pauker, K., & Gaither, S. E. (2021). A meta-analytic review of hypodescent patterns in categorizing multiracial and racially ambiguous targets. *Personality and Social Psychology Bulletin*, 47(5), 705–727. <https://doi.org/10.1177/0146167220941321>
- Zhirkov, K., & Valentino, N. A. (2022). The origins and consequences of racialized schemas about U.S. parties. *Journal of Race, Ethnicity, and Politics*, 7(3), 484–504. <https://doi.org/10.1017/rep.2022.4>
- Zhirkov, K., & Valentino, N. A. (2025). Revisiting the measurement of group schemas in political science. In J. A. Krosnick, T. H. Stark, & A. L. Scott (Eds.), *The Cambridge handbook of implicit bias and racism* (pp. 222–245). Cambridge University Press. <https://doi.org/10.1017/9781108885492.013>
- Zhirkov, K., & Van De Hey, L. (2025). Multidimensional constructions of target groups and their political implications: The case of immigrant (il)legality. *PS: Political Science & Politics*, 58(4), 641–650. <https://doi.org/10.1017/S1049096525000034>

Supporting Information

Table S1. White Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

Table S2. Black Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

Table S3. Femininity Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

Table S4. Valence Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

Table S5. Femininity Ratings of the Images Aggregated by Generators' Gender and Partisanship, Numerical Results

Figure S1. Hispanic Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship

Figure S2. Asian Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship

Table S1

White Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

	White sample	Black sample
Democrats as imagined by		
Democrats	2.11 [2.01, 2.20]	1.64 [1.57, 1.72]
Republicans	1.64 [1.56, 1.71]	1.79 [1.71, 1.86]
Republicans as imagined by		
Democrats	3.01 [2.90, 3.12]	2.59 [2.48, 2.70]
Republicans	2.71 [2.61, 2.82]	2.14 [2.05, 2.24]

Note. 95% confidence intervals in brackets.

Table S2

Black Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

	White sample	Black sample
Democrats as imagined by		
Democrats	1.91 [1.81, 2.00]	2.65 [2.55, 2.76]
Republicans	2.70 [2.59, 2.81]	2.03 [1.95, 2.12]
Republicans as imagined by		
Democrats	1.55 [1.47, 1.64]	1.58 [1.50, 1.65]
Republicans	1.74 [1.65, 1.83]	1.90 [1.81, 1.99]

Note. 95% confidence intervals in brackets.

Table S3

Femininity Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

	White sample	Black sample
Democrats as imagined by		
Democrats	4.09 [4.00, 4.18]	4.12 [4.03, 4.22]
Republicans	2.52 [2.43, 2.62]	2.88 [2.77, 2.98]
Republicans as imagined by		
Democrats	2.20 [2.10, 2.29]	1.77 [1.67, 1.87]
Republicans	3.84 [3.74, 3.93]	2.98 [2.88, 3.08]

Note. 95% confidence intervals in brackets.

Table S4

Valence Ratings of the Images Aggregated by Generators' Race and Partisanship, Numerical Results

	White sample	Black sample
Democrats as imagined by		
Democrats	3.54*** [3.47, 3.61]	3.33*** [3.27, 3.39]
Republicans	2.57*** [2.51, 2.63]	2.76*** [2.71, 2.82]
Republicans as imagined by		
Democrats	2.50*** [2.44, 2.55]	2.55*** [2.49, 2.61]
Republicans	3.42*** [3.35, 3.50]	2.95*** [2.89, 3.01]

Note. 95% confidence intervals in brackets.

Table S5

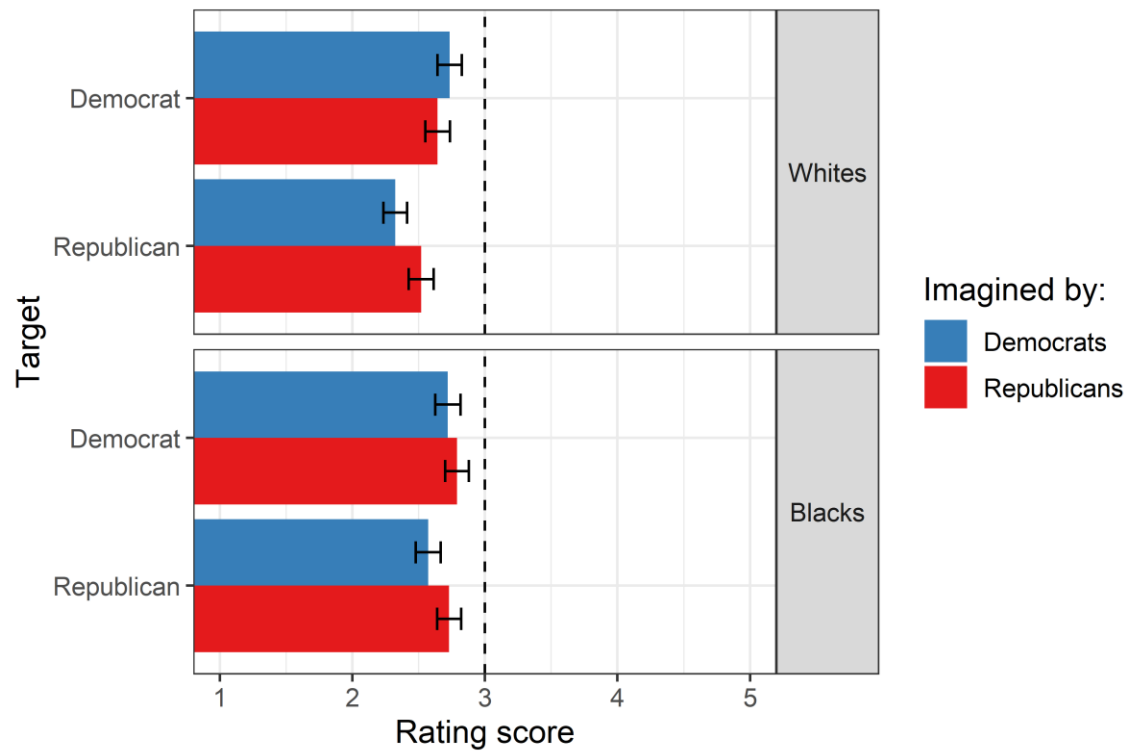
*Femininity Ratings of the Images Aggregated by Generators' Gender and Partisanship,
Numerical Results*

	Men sample	Women sample
Democrats imagine by:		
Democrats	3.69*** (0.05)	4.09*** (0.05)
Republicans	2.89*** (0.06)	2.60*** (0.06)
Democrats imagine by:		
Democrats	2.36*** (0.07)	2.10*** (0.06)
Republicans	3.01*** (0.06)	3.53*** (0.06)

Note. 95% confidence intervals in brackets.

Figure S1

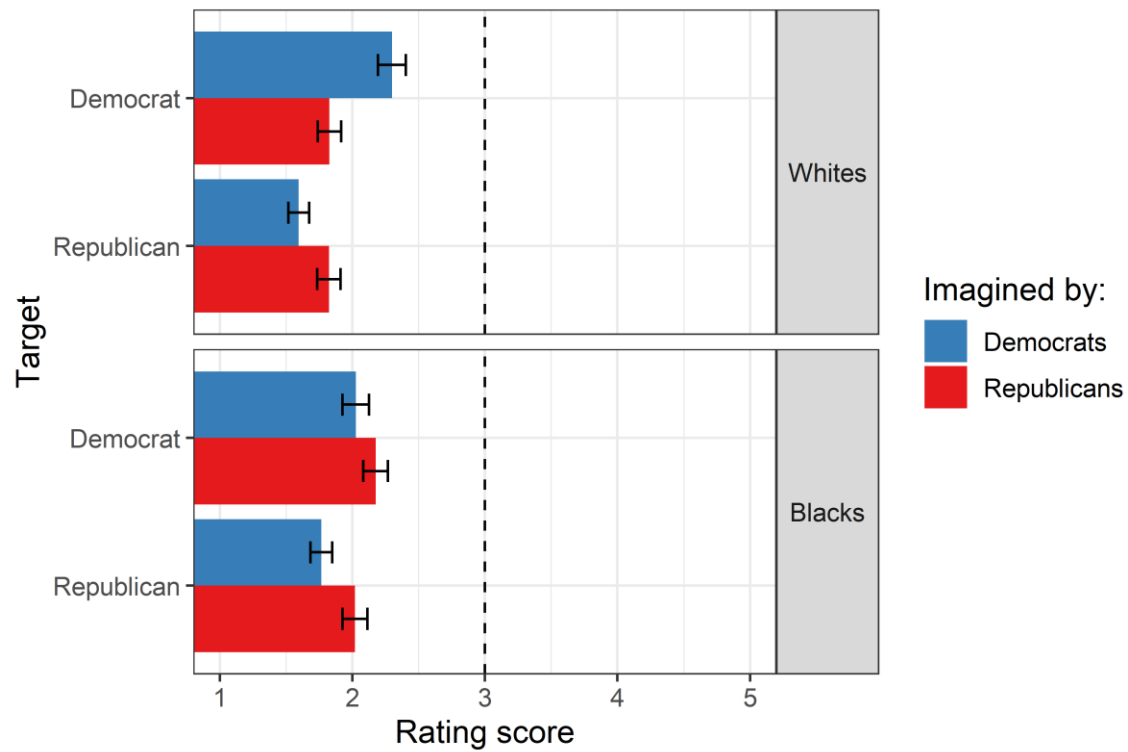
Hispanic Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship



Note. Error bars are 95% confidence intervals. See Table S2 in the SI for numerical results.

Figure S2

Asian Representativeness Ratings of the Images Aggregated by Generators' Race and Partisanship



Note. Error bars are 95% confidence intervals. See Table S2 in the SI for numerical results.