

## SOCIAL SCIENCES

# Effects of changes in perceived discrimination during BLM on the 2020 presidential election

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**Few Americans change their choice of presidential candidate to a different political party from election to election. This study evaluates whether and in what direction the Black Lives Matter movement affected the small percentage of voters whose presidential votes changed from 2016 to 2020. Six waves of nationally representative probability surveys are used to establish that significant increases in the extent to which Americans perceived discrimination against Blacks and to which people favored more government efforts to address racial inequality both occurred in 2020. Using panel data, results suggest that increases in perceptions of racial inequality significantly increased the probability of vote switching toward the Democratic candidate. Attention to racial injustice also primed voters to rely more heavily on this issue when evaluating candidates.**

## INTRODUCTION

The months leading up to the 2020 U.S. presidential election were marked by widespread protests against racial injustice, the onset of the coronavirus pandemic, and steep economic decline. Despite this turbulence, American voters' preferences hardly budged. As in past presidential elections, the overwhelming majority of voters supported the candidate of the same party as they had in the previous presidential election. Also, as in past elections, a small percentage of vote switchers—typically hovering around 10%—held the balance of power in changing the election outcome (1).

This study examines the role that Black Lives Matter (BLM) played in influencing those voters whose presidential votes shifted from 2016 to 2020. During the summer of 2020, BLM demonstrations occurred across the country following George Floyd's death while in police custody. Some polling suggested widespread support for the movement, with increasing percentages of Americans acknowledging racism as a serious problem (2). Nonetheless, identifying intended and unintended outcomes of social movements like BLM, as well as the process by which they exercise influence, has been notoriously difficult (3).

For example, BLM also gave rise to counterprotests. The popular “Black Lives Matter” hashtag on social media was soon followed by “Blue Lives Matter” and “All Lives Matter” slogans, suggesting that the emphasis on Blacks in particular was misplaced. In addition, although most BLM marches were peaceful, looting and vandalism linked to some protests led to concerns about law and order, a theme that then-President Donald J. Trump exploited in his campaign advertising. The associated movement to “defund the police” did not attract widespread public support (4), but it added to some Americans' concern that BLM was promoting lawlessness and anarchy (5, 6).

The likely influence of BLM on voter preferences remains disputed. Although the Democratic candidate won the election, aggregate outcomes reveal little about which issues mattered and in what direction. From casual observation, it is impossible to know whether Trump would have gained more votes if not for BLM or whether Biden would have gained more support without it. As one newspaper columnist opined before the election, “To save Black lives, stop

BLM protests. They could backfire by giving Trump a second term” (7). Many feared that the protests would alienate moderates who were put off by civil unrest. Another widely promoted argument was that BLM helped Trump by distracting voters from his failure to control the spread of the coronavirus pandemic, thus serving to improve his overall chances of reelection (8).

It is also possible that BLM served as a source of increasing support for the 2020 Democratic candidate, Joseph R. Biden Jr., by promoting awareness of discrimination against Blacks and raising the salience of racial injustice more generally. If a voter were looking for a candidate likely to address this issue, then a Democrat would be perceived as more likely to do so than a Republican. Evidence to date on whether and in what direction BLM affected the election is based entirely on people's self-reports about whether BLM influenced their votes. Most who reported that BLM made them more likely to support Biden were Democrats who were already likely to support Biden. Likewise, most who claimed it made them more likely to vote for Trump were already going to vote for Trump for other reasons.

The research design used in this study is ideal for purposes of understanding the impact of changing views of racial discrimination on presidential voting. Given the stability of voter preferences and the paucity of panel studies, election scholars have had few opportunities to observe changes over time in individuals' issue positions that alter voting behavior. Although this relationship is sometimes misunderstood, “small samples demand a larger treatment effect than large samples to reach an equal level of statistical significance” (9). Fortunately, the results in this study are sufficiently robust to support consistent and statistically significant inferences, despite the fact that only a small proportion of Americans are vote switchers.

This study addresses five central questions. First, did perceptions of the extent of discrimination against Black people change during the protests, and if so, in what direction? Second, were those people whose perceptions of the extent of discrimination against Blacks increased/decreased more likely to change preferences in favor of the Democratic/Republican candidate? Third, I consider the impact of change over time in opinions on whether the U.S. government should be doing more to help Blacks and other minorities. I suggest that those individuals who shifted their opinions in a direction suggesting that government should be doing more for minorities will be those most likely to change their vote preference in the direction of the Democratic candidate between 2016 and 2020.

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Fourth, I take into consideration public perceptions of the difference between the two major political parties on government help for minorities. A shift toward more favorable attitudes toward government help for minorities should be especially likely to encourage vote switching in favor of the Democratic candidate among those who perceive a large difference between where the two parties stand on this issue. Those who moved closer to where they perceived the Democratic party to stand on help for minorities should be especially likely to shift their preferences from Trump to Biden.

Fifth, I examine a more traditional mechanism by which issues change voter preferences. Most accounts of electoral outcomes assume that people's issue opinions are fixed, but campaign content causes people to weigh various issues differently on the basis of how much news media and campaigns pay attention to those issues. According to theories of priming, campaigns affect vote choice by increasing the salience of preexisting issue opinions, making some issue opinions weigh more heavily in voter preferences than others (10–15). Thus, instead of, or in addition to, changing opinions, BLM may have raised the salience of voters' agreement/disagreement with the candidates' views on race (16).

Because so few voters deviate from their habitual party preference for president, isolating what causes them to alter their vote choice requires powerful statistical approaches that can identify even small amounts of change among segments of the population. To satisfy this requirement, this study relies on a large panel probability sample of U.S. citizens interviewed shortly before the 2016 and 2020 presidential elections. In between these two elections, four additional survey waves were collected that included many of the same panelists along with fresh samples. Each wave included more than 3000 respondents. More than 1200 of the same panelists were interviewed immediately before both the 2016 and 2020 elections. Comparing each panelist to himself or herself at a previous point in time adds several methodological advantages relative to other approaches, as detailed further under Materials and Methods.

## RESULTS

Figure 1 tracks newspaper mentions of BLM, illustrating the timing of the sudden surge in news attention to the treatment of Blacks by police in June 2020. Given the timing of this event, any opinion change brought on by BLM should appear between waves 5 and 6 of the panel, that is, during the summer of 2020 (see the Supplementary Materials for survey dates). As shown on the left side of Fig. 2, levels of perceived discrimination against Blacks relative to whites were largely flat throughout most of Trump's presidency. However, substantial increases in perceptions of discrimination occurred between waves 5 and 6, precisely when the BLM protests brought the issue to public attention. Between the spring and fall of 2020, whites, Blacks, and people of color more generally all increased in the extent to which they perceived Blacks to be discriminated against. This increase was more than five times the size of any other change between survey waves during the previous 4 years. Notably, this increase occurred across the board, among people of all races.

The timing of these changes—immediately before the 2020 presidential election—raises the likelihood of potential effects on voting. On the other hand, the results on the right side of Fig. 2 temper those expectations. All racial groups showed increased perceptions of discrimination against Blacks, but all partisan groups did not. Given that a mean of 0 indicates that Blacks and whites are perceived to be

discriminated against equally, what is most notable in Fig. 2 is that throughout the Trump presidency, Republicans' perceptions of discrimination against Blacks hovered near zero. In other words, they perceived Blacks to be treated no differently from whites, and the BLM protests did not change this. Among Democrats and Independents, on the other hand, there was a significant increase in perceptions of discrimination between waves 5 and 6, as hypothesized.

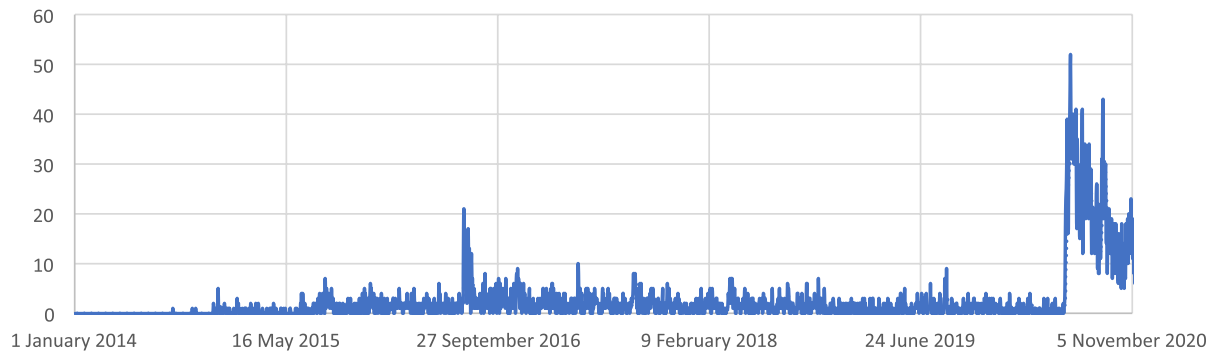
To what extent did these changes in perceptions of discrimination alter people's attitudes toward the Republican and Democratic candidates between 2016 and 2020? An estimated 11% of voters changed preferences, a percentage that is typical for U.S. presidential elections. Among those vote switchers, a larger percentage defected from Trump in 2016 to Biden in 2020 (7.6%) than from Clinton in 2016 to Trump in 2020 (3.2%).

Figure 3 addresses the question of whether individuals who increased in their levels of perceived discrimination were the same people who switched their vote preferences. Figure 3A illustrates mean levels of change in *perceived discrimination against Blacks* between 2016 and 2020 broken down by whether a voter switched from some other preference toward the Republican or toward the Democratic candidate or neither. Most respondents did not change preferences, so the largest group with the smallest confidence interval surrounds nonchangers. Despite the fact that the SEs surrounding estimates for the small groups of vote switchers were large, those whose perceptions of discrimination against Blacks increased the most were significantly more likely to shift from voting for someone other than the Democratic candidate in 2016 to voting for the Democrat in 2020. Lesser increases were evident among those who shifted their votes in the opposing direction. In short, despite the limitations of a small sample of vote switchers, those who upwardly adjusted their perceptions of discrimination against Black were significantly more likely to shift their vote toward Biden.

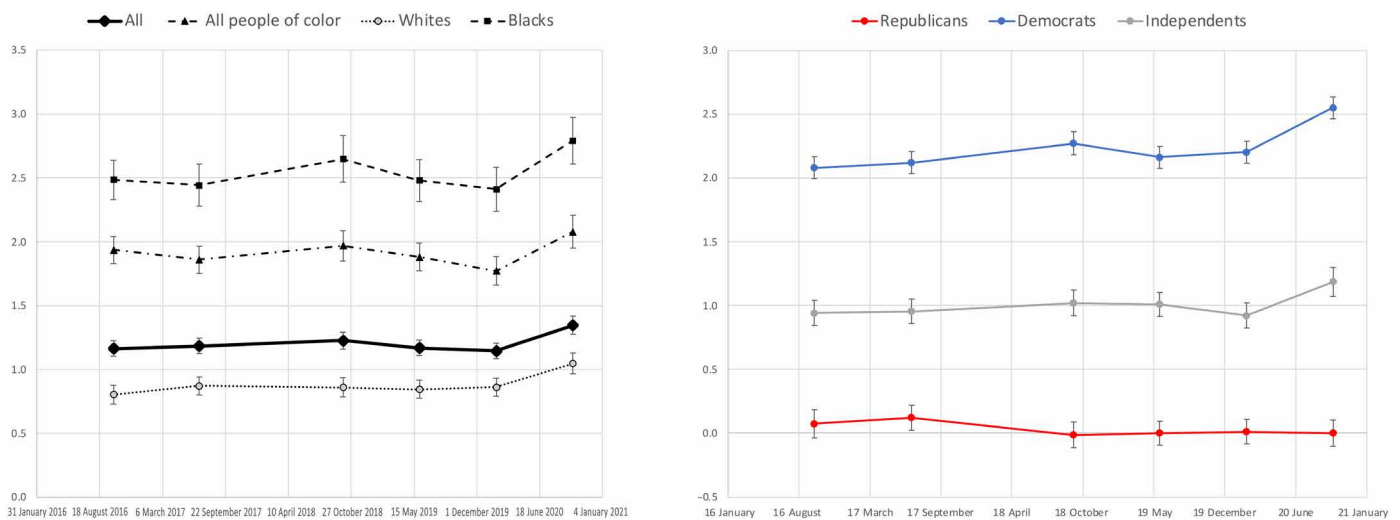
Because voter turnout increased in 2020, Fig. 3B shows results using a slightly different sample that includes those who voted in 2020 but had abstained in 2016. Again, results suggest that those who shifted to vote for Biden or became new voters had significantly greater increases in their perceptions of discrimination against Black. Perceived discrimination against Black increased among all three groups but significantly less so among those who stuck with their 2016 vote preference.

The fact that change in these indicators occurred within the same individuals is compelling, but it does not take into account other prominent events at the time, such as the coronavirus disease (COVID) 2019 pandemic, widespread job loss, and declining financial well-being. Toward that end, I provide three multivariate, independent tests of the hypothesis that changing levels of concern about the treatment of Black people and other minorities influenced vote switching. By incorporating other salient issues where change is likely to have occurred, I address multiple plausible rival interpretations of BLM's impact on the election.

In multivariate tests, I take advantage of the greater power offered by within-person analyses to identify small effects of the kind anticipated during elections. I do so by using individual-level fixed effects regressions that, in the case of two-wave panels, are equivalent to a differences-in-differences analysis. This approach controls for all time-invariant characteristics of individual voters by design. By including a variable in the model for wave of interview, it also controls for all time-varying influences on vote choice that affect the sample as a whole. This is also the best model for minimizing the risk



**Fig. 1. News coverage of BLM, 2014 to election day 2020.** Trend line represents the number of mentions of “Black Lives Matter” or “BLM” across four major newspapers including the *New York Times*, *USA Today*, the *Los Angeles Times*, and the *Tampa Bay Tribune*.



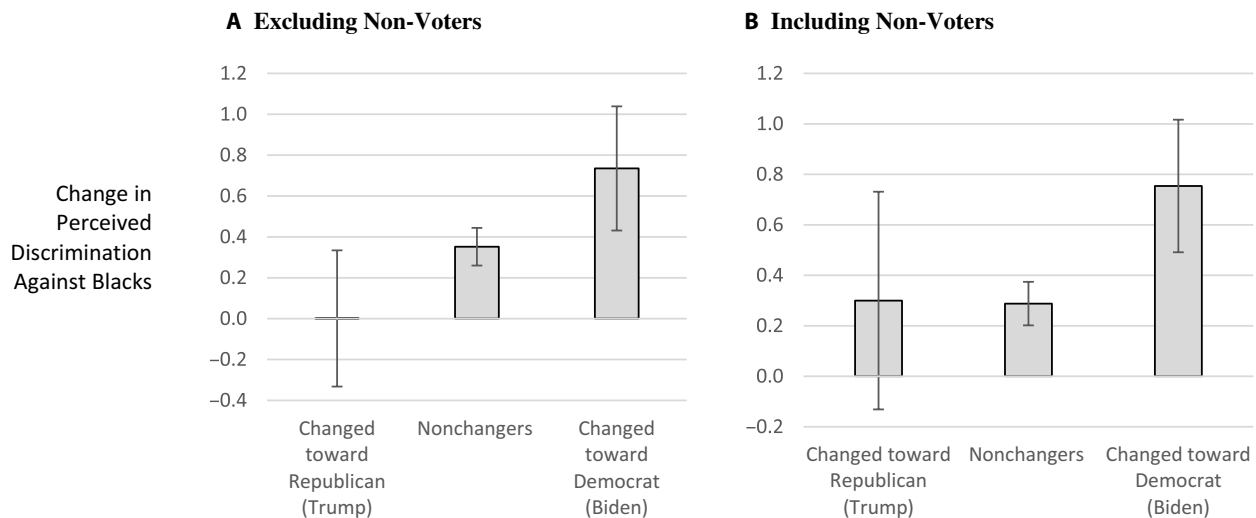
**Fig. 2. Change over time in perceived discrimination against Black by race and by party.** Means and 95% confidence intervals are from samples of more than 3000 respondents each. Scores of zero indicate that respondents perceive equal extent of discrimination against Blacks and whites. At left, the increase between waves 5 and 6, the last two waves, was statistically significant ( $P < 0.001$ ) and five times the magnitude of any other increase ( $\Delta = 0.18$ ). At right, between waves 5 and 6, both Democrats ( $\Delta = 0.23$ ) and Independents ( $\Delta = 0.19$ ) increased in perceived discrimination against Black, while Republicans’ perceptions did not change significantly. Party “leaners” are included as Independents.

of omitted variable bias (17). This approach allows differentiation between correlates of supporting a candidate from changes in opinions or perceptions that go hand in hand with changes in voter preferences. All dependent variables vary between 0 and 1; to facilitate interpretation, all independent variables were rescaled by dividing them by the SD of the amount of change in that variable between 2016 and 2020.

In analyses using a continuous measure of the difference between feeling thermometer assessments of the Democratic and Republican candidates, I use linear fixed effects regression with a sample of more than 1200 voters. The regression coefficients in Table 1 confirm that increases in levels of *perceived discrimination against Black* between 2016 and 2020 significantly increased the *feeling thermometer advantage* for the Democratic candidate relative to the Republican candidate across these two elections. A one-unit increase in *perceived discrimination* resulted in a 2% increase in *feeling thermometer*

*advantage*. The *COVID concern* by wave interaction further suggests that those with higher levels of concern about COVID in 2020 were more likely to alter their preferences in the direction of higher evaluations of the Democratic candidate.

While *feeling thermometer advantage* is known to be a good predictor of vote choice, it does not speak directly to whether Biden gained an advantage due to increased perceptions of discrimination. Likewise, the independent variable used in Table 1—increases in perceived discrimination against Blacks—is not necessarily a call for government involvement in addressing racial inequality. Thus, for a second test of whether changing attitudes toward race influenced vote switching, I used panelists’ opinions about whether the government should make every effort to improve the social and economic position of Blacks and other minority groups or whether they believe that government should not make any special efforts in this regard. Support for government involvement in addressing issues of racial



**Fig. 3. Extent of increase in perceived discrimination against Blacks, 2016–2020, by change in vote preference, 2016–2020.** Bars represent the extent to which a respondent increased in their perceptions of discrimination against Blacks from 2016 to 2020, broken down by whether the respondent changed presidential candidate preference from 2016 to 2020 in the indicated direction. In (A), respondents had to be voters in both the 2016 and 2020 elections. Those changing from supporting a third-party candidate toward either Trump or Biden are included. The means in (A) were significantly different ( $F = 5.16$ ) with each adjacent mean significantly different from the next ( $P < 0.05$ ). In (B), voters are coded the same as in (A), but those who were nonvoters in 2016 who became voters for Trump or Biden in 2020 also were included in the sample. Only the second and third means were significantly different from one another ( $P < 0.01$ ).

inequality did, indeed, increase significantly ( $t = 3.34$ ,  $P < 0.01$ ). Although the increase among the population as a whole was only 2%, among Independents—those most likely to vote-switch—the increase was around 4% ( $t = 3.18$ ,  $P < 0.01$ ).

If stronger support for government involvement in addressing racial inequality influenced electoral behavior, then within-person change over time in these opinion measures should predict change over time in the party of one's favored candidate. To evaluate whether changes in these measures produce change in vote choice, a dichotomous outcome, I used fixed effect logit regressions. This nonlinear version of fixed effects automatically drops from the model those who do not change vote choice, thus substantially lowering the sample size. Linear fixed effects does not, so the appendix includes replicated results using a linear model. As I discuss further in Materials and Methods, all analyses were conducted using multiple approaches, which converge on the same conclusions.

To put in perspective the impact of changing opinions on the need for government to do more to address racial inequality, the analyses in Table 2 compare the impact of changing opinions about government help for minorities to the impact of changes in opinions on other major issues that received high levels of attention during the 2020 campaign. In Table 2, I incorporate respondents' change over time in opinions on both immigration and whether China is a threat or an opportunity for the United States. Both of these issues were and continue to be politically controversial.

As shown by the odds ratios in Table 2, those individuals who increased in their belief that government should do more to address racial inequality were more likely to change their vote choice toward support for the Democratic candidate. *Support for China* is close to being a statistically significant predictor in the analyses excluding new voters, but *support for government help for minorities* has clearer and more consistent implications for voting defections whether excluding new voters or not. These odds ratios suggest that a one-unit change in *support for government help for minorities* increased the

odds of defecting toward the Democratic candidate by a factor of 1.8. Both the bivariate analyses in Fig. 3 and the multivariate analyses in Tables 1 and 2 support the idea that increases in awareness of racial discrimination before the 2020 election facilitated greater support for the Democratic candidate.

In this analysis, the lack of robust relationship among opinion change on immigration, economic well-being, or China and changing voter preference strengthens confidence in the causal inference regarding racial issues. Reverse causation is always a concern in observational studies, even with panel data. In this case, reverse causation would mean that a voter changed his or her presidential preference for reasons unrelated to racial attitudes, and this new candidate preference led to change in those individuals' opinions on racial issues. Because this same change in candidate preference did not lead voters toward greater consistency with policy preferences on other salient issues in the 2020 campaign, racial opinions would need to have been unique.

Opinion leadership by elected officials is well documented, especially when issues are complex (18) and when the candidate's stated position is unambiguous and highly accessible (19). However, the fact that Biden actively distanced himself from BLM because of uncertainty about the electoral consequences of such an alliance also makes reverse causation less likely.

Likewise, a spurious cause of the relationship between change in racial issue opinions and change in candidate preference is small. The change in this spurious cause would need to (i) have occurred at the same time as the BLM protests, (ii) simultaneously have caused the same people to change their presidential preferences, and (iii) independently have caused them to increase their perceptions of discrimination against Blacks. It is difficult to imagine a 2020 campaign issue capable of accomplishing all three and affecting no other salient issue.

For all three issues included in Table 2, measures of where respondents perceived the two parties to stand on each of these issues

**Table 1. Predicting change in Democratic thermometer advantage based on changes in perceived discrimination against Blacks, 2016–2020 (linear fixed effects regression).** Note: Entries are fixed effects regression coefficients for a two-wave panel sample, 2016–2020, in which individuals serve as fixed effects. Coefficients represent the extent to which change in the independent variable corresponds to change in the dependent variable within person. Dependent variable is 20-point scale tapping *Democratic thermometer advantage*, rescaled to range from 0 to 1.

	Coefficient	SE	t value	P value
<i>Perceived discrimination against Blacks</i>	0.024	0.006	4.240	0.000
<i>Concern about COVID</i> × wave	0.018	0.006	3.190	0.001
<i>Personal finances</i>	−0.009	0.006	−1.540	0.123
<i>Unemployed</i>	0.004	0.006	0.760	0.447
<i>Wave</i>	−0.055	0.018	−3.090	0.002
Constant	0.430	0.023	19.100	0.000
Sigma_u	0.269			
Sigma_e	0.130			
Rho	0.812			
Observations (n)	(2407)			
Individuals (n)	(1291)			

were also available from surveys before both elections. If a voter wanted the government to do more to address racial inequality, then this should lead him or her to change in the direction of supporting the Democratic candidate to the extent that the voter also perceived the two parties to hold differing positions on this issue, assuming that the individual's own preference was moving closer to that of the Democratic party. Democrats have, for some time, been perceived as more likely to help minorities than Republicans, at least in the aggregate. However, by leveraging individuals' perceptions of where the two parties stand on help for minorities, it is possible to conduct a third test of whether change over time in opinions about levels of government attention to racial inequality produced defections from people's 2016 vote choice. The exact same process was used to construct parallel variables for opinions toward immigration and China as well as toward the need for government to do more to address racial inequality. Changes in *closeness to Democrats on government help for minorities* is the independent variable of interest, but the model also evaluates the impact of changes in *closeness to Democrats on immigration* and in *closeness to Democrats on China*.

Table 3 evaluates whether those individuals who moved closer to where they perceived the Democratic party to be on these issues were more likely to change preferences toward the Democratic candidate. On both sides of Table 3, the likelihood of changing one's vote toward the Democratic candidate increased as a person's views on government help for minorities shifted closer to those of the Democratic party. The odds of defecting to the Democratic candidate were between 2 and 2.4 times greater based on a one-unit increase in closeness. Furthermore, *closeness to Democrats on race* is the only significant predictor of change in vote choice among these three issues. When only voters in both panel years are included, the odds ratio is especially large, suggesting that racial issues were a particularly strong force in flipping previous Trump and third-party voters to Biden.

Persuasion of the kind documented in these analyses has been dubbed the "holy grail" of election campaigns (20). Yet, past empirical findings suggest that persuasion is "perhaps the last thing we should

expect a campaign to be able to accomplish" (21). The standing assumption among election scholars is that people's opinions seldom change so much as they are "primed" by campaigns. By emphasizing issues advantageous to their particular candidate, campaigns are "mostly about salience, not confrontation" (22). So strong is this assumption that scholars regularly use lagged independent variables from 4 to 5 years earlier to predict change in vote choice, with the assumption that those issue positions remained stable (23, 24). Stability is assumed especially for highly crystallized opinions such as those involving race. Nevertheless, there is clear evidence that opinion change took place shortly before the 2020 election on the extent of racial discrimination and the need for government to do something about it. Moreover, it appears that these opinion changes were related to shifting voter preferences.

Although BLM was not a candidate-organized effort to prime racial attitudes, it is likely to have raised the salience of this issue through the extensive news attention that it received. Thus, a final analysis shown in table S3 includes *closeness to Democrats on government help for minorities* as well as an interaction between this variable and *wave*. Consistent with priming, the interaction was significant, indicating that *closeness to Democrats on government help for minorities* mattered more to voter preferences in 2020 relative to 2016. In fact, the odds ratios in table S3 suggest that the increased salience of race in 2020 almost doubled its impact on vote switching. However, it is important to note that the priming effect and the influence of changing attitudes toward help for minorities are not independent because they both are based on the same independent variable, attitudes toward government help for minorities. Moreover, opinions may be more likely to change, as well as to be primed, when information and attention levels toward that issue are high. The gap between the extent of perceptions of discrimination against Blacks among supporters of the Republican candidate and supporters of the Democratic candidate was less than 25 percentage points in 2016. By 2020, that same difference in perceptions of discrimination between supporters of the two candidates was significantly greater at more than 32% points.

**Table 2. Predicting change toward Democratic vote choice based on changes in opinion on race, immigration, and China, 2016–2020 (fixed effects logit models).** Note: Entries are odds ratios corresponding to fixed effects logit analyses. Given that fixed effects logit automatically drops respondents who did not change preferences, a linear fixed effects analysis is also shown in table S1. The dependent variable equals to 1 for votes supporting the Democratic candidate and 0 otherwise.

Excluding nonvoters					Including new voters				
	Odds ratio	SE	z value	P value		Odds ratio	SE	z value	P value
<i>Support for government help for minorities</i>	1.844	0.526	2.140	0.032	<i>Support for government help for minorities</i>	1.772	0.463	2.190	0.029
<i>Support for immigration</i>	0.830	0.186	−0.830	0.408	<i>Support for immigration</i>	0.864	0.183	−0.690	0.491
<i>Support for China as opportunity</i>	1.669	0.463	1.850	0.065	<i>Support for China as opportunity</i>	1.204	0.301	0.740	0.459
<i>Concern about COVID × wave</i>	1.391	0.366	1.250	0.210	<i>Concern about COVID × wave</i>	1.256	0.299	0.960	0.339
<i>Personal finances</i>	0.669	0.199	−1.350	0.177	<i>Personal finances</i>	0.795	0.205	−0.890	0.374
<i>Unemployed</i>	1.044	0.320	0.140	0.889	<i>Unemployed</i>	1.046	0.262	0.180	0.857
<i>Wave</i>	1.004	0.821	0.000	0.996	<i>Wave</i>	1.544	1.153	0.580	0.561
Observations (n)	(190)				Observations (n)	(244)			
Individuals (n)	(95)				Individuals (n)	(122)			

Unlike most analyses of voter preferences, I have focused on whether changes in respondents' issue opinions since the last election are tied to changes in vote choice. This analysis makes for much stronger causal evidence because all stable individual differences are controlled for by using strictly within-person variance. Furthermore, the overall influence of all other events during this time period is accounted for through inclusion of the wave coefficients in each of these analyses. The fact that these relationships are statistically significant—even with a relatively small proportion of vote switchers—suggests that the findings are quite robust. Findings are also consistent across three different operationalizations of the independent variable and across voting as well as feeling thermometer ratings.

## DISCUSSION

This study offers insight into the impact of the highly visible BLM protests during the summer of 2020. Perceptions of discrimination against Blacks increased shortly before the 2020 presidential election during the height of the BLM movement. Likewise, opinions on government help for minorities also changed in a more supportive direction during this period.

Pundits emphasized that the BLM movement could have had either positive or negative effects on Trump's prospects for reelection. But the net impact of BLM appears to have been toward support for the Democratic candidate. Because people became more supportive of government help for minorities during this period, a position perceived to be closer to the Democratic party than to Republicans, Biden's vote support improved. In addition, high levels of news attention to racial inequality had primed views on race to matter more to individual vote choice by the fall of 2020. The fact that changes in racial attitudes registered a statistically significant impact on changes in vote preferences is especially impressive, given the small proportion of vote switchers and the large SEs generated by fixed effects.

The influence of COVID-related concerns was more muted, most likely as a result of the heavy politicization of this issue. COVID concerns influenced feeling thermometer ratings of the candidates but not vote defections. It made those who were favorable toward one side even more so, but it did not change votes. Declining assessments of personal economic well-being also failed to change voter preferences.

When candidate issue placements are analyzed cross-sectionally, relationships may occur because respondents project their own issue positions onto the candidates that they prefer or contrast their views with those of the opponent (25). Fortunately, because each respondent's closeness to the perceived party position is compared to that same individual's closeness at a previous point in time, any tendency to project one's views onto a liked candidate or to contrast them with a disliked candidate will occur at both points in time, thus dropping out of the model when looking at the difference in distances from candidates in 2016 relative to 2020 (26). The evidence presented in Table 3 further mitigates these concerns. If new supporters of the Democratic candidate simply located Biden closer to themselves on issues due to projection or assimilation, then we would see a similar pattern of results for immigration and for China as for racial issues. This was not the case.

How much did growing perceptions of the need to help minorities increase support for the Democratic candidate? The odd ratios provide information on the marginal change expected in vote choice after changing the independent variable by one unit, that is, 1 SD, after controlling for all time-invariant heterogeneity. This still leaves the possibility of time-varying heterogeneity. Nonetheless, across all measures, the results are quite consistent in suggesting that increasing support for government help for minorities predicted increased odds of switching toward the Democratic candidate by a factor of 1.7 to 2.4, depending on the independent variable used in the analysis. As the predictor variables became increasingly specific, from perceiving greater discrimination against Blacks to supporting more

**Table 3. Predicting change toward Democratic vote choice incorporating closeness to perceived party positions on race, immigration, and China, 2016–2020 (fixed effects logit models).** Note: Entries are odds ratios corresponding to fixed effects logit analyses. Given that fixed effects logit automatically drops respondents who did not change preferences, a linear fixed effects analysis is also shown in table S2. The dependent variable equals to 1 for votes supporting the Democratic candidate and 0 otherwise.

Excluding nonvoters					Including new voters				
	Odds ratio	SE	z value	P value		Odds ratio	SE	z value	P value
<i>Closeness to Democrats on race</i>	2.411	0.894	2.370	0.018	<i>Closeness to Democrats on race</i>	1.954	0.605	2.170	0.030
<i>Closeness to Democrats on immigration</i>	1.186	0.280	0.720	0.471	<i>Closeness to Democrats on immigration</i>	1.087	0.228	0.400	0.690
<i>Closeness to Democrats on China</i>	1.375	0.314	1.400	0.163	<i>Closeness to Democrats on China</i>	1.509	0.336	1.850	0.064
<i>Concern about COVID × wave</i>	1.441	0.452	1.160	0.245	<i>Concern about COVID × wave</i>	1.344	0.368	1.080	0.280
<i>Personal finances</i>	0.718	0.218	−1.090	0.275	<i>Personal finances</i>	0.765	0.217	−0.940	0.345
<i>Unemployed</i>	1.008	0.274	0.030	0.977	<i>Unemployed</i>	0.991	0.239	−0.040	0.969
<i>Wave</i>	0.975	0.977	−0.030	0.979	<i>Wave</i>	1.499	1.292	0.470	0.639
Observations (n)	(174)				Observations (n)	(226)			
Individuals (n)	(87)				Individuals (n)	(113)			

government help for Blacks and other minorities to moving closer to where Democrats were perceived to stand on helping minorities, the odds ratios gradually became larger, suggesting a greater impact the more closely the measure was linked to presidential vote choice between the two parties.

Whether these effects seem small or large as influences from a single issue is subjective, but U.S. elections are typically won by close margins. Because any one controversial issue influences some voters in a positive direction and others in a negative direction, single issues seldom change election outcomes. In addition, the small sample of vote switchers is inadequate to determine whether votes were changed in precisely the right states that could make a difference. These caveats notwithstanding, the net effect of the BLM protests appears to have encouraged greater support for the Democratic candidate.

Notably, changing opinions on other high-profile issues in the 2020 election did not demonstrate a robust impact on vote switching. The extensive attention to racial discrimination during the time leading up to the election may have primed attitudes toward government help for minorities in 2020 as well as changing Americans' perceptions of how much discrimination Blacks continue to face.

The main limitation to these conclusions is that they do not include validated evidence of voting. The risk is that if those few who changed preferences did not actually turn out to vote or self-reported voting for someone other than their chosen candidate, thus rendering these estimates inaccurate. Validated voting data can eventually address this possibility but only with respect to who voted, not for whom they voted.

The study of social movements has tended to focus on how those within a social movement are affected by it, as opposed to “extra-movement” outcomes, that is, broader changes in the larger political context that can occur as a result (3, 27). Although virtually all Americans were exposed to the BLM movement, not all of them

changed views about the extent of discrimination against Blacks as a result. Drawing inferences about the impact of those public opinion changes has steep methodological requirements. To do so requires data on the opinions and behaviors of a representative sample of the same individuals, both before and after the social movement. It also requires corroboration that those individuals whose opinions on race were altered by the movement were the same people whose political behavior was altered.

Although altering voters' candidate preferences is notoriously difficult, it appears that well-timed mass movements such as BLM can, indeed, influence voters in presidential elections. Incidents of police brutality toward African-Americans were not new in 2020, and they had generated protests many times in the past. However, they had not attracted as much widespread and persistent attention as the BLM movement did in 2020. Given the public's often myopic focus at election time, the fortuitous timing of these protests during the months leading up to the 2020 presidential election undoubtedly made them more likely to influence voter decision-making.

A natural next question one might ask is whether these changes in opinion persisted beyond the period of the BLM protests. Support for the BLM movement has apparently waned (28). However, any consequences that it had for presidential voter preferences must persist for at least 4 years throughout the Biden presidency. Persistence of changes in the perceived severity of discrimination against Blacks cannot be assumed. Data gathered 6 months after the 2020 election suggest that these changes in opinion have faded to some extent (29). Nonetheless, levels of *perceived discrimination against Blacks* remain significantly higher than they were immediately before the BLM movement garnered public attention.

Is it fair to say that voting in the 2020 presidential election was influenced by a social movement? Trump's defeat was not a stated objective of the BLM movement. However, raising public awareness of the unfair treatment of Blacks was a stated goal, and this outcome

was achieved to some degree. Furthermore, by changing mass opinion about the extent of discrimination against Blacks, as well as by raising the salience of racial issues more generally, BLM benefitted the candidate whose party was already perceived to be more likely to help minorities. Ironically, this unintended consequence of BLM could be the most long lasting.

## MATERIALS AND METHODS

### Data

Six successive nationally representative probability surveys, each including a random sample of more than 3000 Americans, were conducted in either Spanish or English. Data were collected by AmeriSpeak/National Opinion Research Center at the University of Chicago as part of a project sponsored by the Institute for the Study of Citizens and Politics at the University of Pennsylvania. This study was approved by the University of Pennsylvania's Institutional Review Board no. 8 as protocol no. 826006.

Respondents were selected on the basis of address-based sampling. Interviews took place either online or by telephone, according to respondents' preferred interview mode (see the Supplementary Materials for exact dates). For brevity, I refer to the survey waves as waves 1 to 6, with the most notable benchmarks occurring in wave 1 (October 2016), just before the 2016 election, and in wave 6 (October 2020), the same amount of time preceding the 2020 presidential election. Wave 5 occurred in February 2020, before the COVID outbreak in the United States, and before the release of the video of George Floyd's treatment while in police custody.

Respondents participated in a panel survey in which respondents from successive waves were reinterviewed with fresh sample added to combat attrition. The panel sample made it possible to identify those whose perceptions of the extent of discrimination against Blacks increased between 2016 and 2020 and to see whether those same people also changed vote preferences.

### Measures

To tap levels of *perceived discrimination against Blacks*, respondents in all six waves were asked to assess how much discrimination they thought there was against a variety of groups in the United States including Blacks and whites (see the "Survey question wording" section in the Supplementary Materials for details). By subtracting levels of perceived discrimination against whites from perceived discrimination against Blacks, I created a measure where scores greater than zero indicated greater discrimination against Blacks than whites, and zero represented equal amounts of perceived discrimination against both groups.

Respondents were also asked for their opinions on how much effort the government in Washington should make to improve the social and economic position of blacks and other minority groups. This variable, *support for government help for minorities* (see the Supplementary Materials for wording), is also included in models along with opinions on *support for immigration* and *support for China as an opportunity versus a threat*.

In another test of this hypothesis, I incorporated not only their own opinion on these issues but also where they perceived the Republican and Democratic positions to be on these same issue scales. I subtracted (i) the absolute distance of their own position from the perceived Democratic position from (ii) the absolute distance of their own position from the perceived Republican position. In this

way, I created parallel measures of *closeness to Democrats on race*, *closeness to Democrats on immigration*, and *closeness to Democrats on China* (see the Supplementary Materials for question wording).

Three different indicators were used to tap support for the presidential candidates in 2016 and 2020. Feeling thermometers are known to be the best predictors of voter preferences short of actual vote choice. One hundred-point scales were reduced to 20-point scales to smooth distributions in which respondents tend to pick round numbers. *Democratic thermometer advantage* was created by subtracting the Republican from the Democratic thermometer ratings in both 2016 and 2020. The Democratic feeling thermometer corresponded to evaluations of Clinton in 2016 and Biden in 2020. The Republican thermometer referred to Trump in both years. An indicator of democratic vote choice was constructed to be equal to 1 if a voter said he/she was voting for the Democratic candidate and 0 otherwise. In analyses labeled "excluding nonvoters," only those who reported voting in both the 2016 and 2020 elections were included in the sample. In analyses labeled "including new voters," those who voted for one of the major party candidates in 2020 but did not vote at all in 2016 were included to incorporate the surge in voter turnout that occurred in 2020.

Unlike the repeated measures variables described above, measures of *concern about COVID* could not be asked repeatedly, given that no one had heard of COVID in earlier years. Nonetheless, I incorporated COVID concern into the fixed effects model using a non-time-varying October 2020 measure of levels of concern about the long-term impact of COVID on American life interacted with a dummy variable for wave. This interaction coefficient indicates whether those more concerned about COVID were also more likely to change candidate preferences from 2016 to 2020.

Last, these surveys also included repeated measures of people's unemployment status (unemployment) and their subjective assessments of their family financial situations (*personal finances*). These variables account for the financial downturns suffered by some Americans during the same period as when BLM gained notoriety. All variables were rescaled to range from 0 to 1.

### Analyses

To examine whether changes in attitudes toward racial discrimination or government help for minorities played a role in encouraging defections from voters' 2016 vote preferences, I use individual-level fixed effects regressions. A Hausman test confirmed that the fixed effects model was a better fit for these data than a random effects model ( $\chi^2 P < 0.001$ ). The fixed effects approach also offered greater power by comparing each individual to his or her opinions and preferences at a previous point in time, thus making it possible to identify even small effects of the kind anticipated during elections. Furthermore, fixed effects control for all time-invariant characteristics of respondents, whether measured or unmeasured. This approach minimizes the risk of omitted variable bias (17). All panel analyses also included a wave variable to account for all other changes over time affecting the sample equally.

In analyses with a continuous dependent variable, I use linear fixed effects regression. With a dichotomous outcome such as vote choice, fixed effects logit would be a logical choice because the assumptions of a linear fixed effects regression may be violated with a dichotomous dependent variable. Nonetheless, some scholars prefer results from a linear model if the modeled probabilities are not extreme, as is usually the case with voting (26). Results in these cases



will deviate little from a linear fixed effects model but have the advantage of making it easier to interpret effect sizes.

When using fixed effects logit, the information contributed by nonchanging voters is dropped. This is obviously not ideal because one loses the ability to see what distinguishes nonchangers from changers. In this analysis, it differentiates those who changed toward Biden from those who shifted toward Trump who were previously supporting the opposing party or a third party. In a country where most people do not change their vote from election to election, dropping nonchangers can be problematic. For these reasons, this study reports both linear fixed effects results in the Supplementary Materials and fixed effects logit results in the main text. Their results do not differ.

## SUPPLEMENTARY MATERIALS

Supplementary material for this article is available at <https://science.org/doi/10.1126/sciadv.abj9140>

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