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Opposing views: associations of political polarization, political party affiliation, and social trust with COVID-19 vaccination intent and receipt

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ABSTRACT

Introduction Political polarization has increased in the USA within recent years. Studies have shown Republicans are less likely to accept COVID-19 vaccinations than Democrats; however, little is known regarding the association between COVID-19 vaccination acceptance and political polarization.

Methods We used data from a nationally-representative survey of 1427 participants conducted between 9 February 2021 and 17 February 2021. We estimated multivariate-adjusted odds ratios for COVID-19 vaccination intent and receipt according to perceived political polarization (measured as the perceived size of the ideological gap between Democrats and Republicans), political party affiliation, and social trust, controlling for demographic and socioeconomic factors.

Results Among participants perceiving high levels of polarization, Republicans (versus Democrats) reported a 90% lower odds of vaccination intent (OR = 0.10 [0.05, 0.19], $P < 0.001$). Participants with high (versus low) social trust and low perceived polarization had a 2-folder higher vaccination intent (OR = 2.39 [1.34, 4.21], $P = 0.003$); this association was substantially weaker in the high perceived polarization group.

Conclusions High perceived levels of political polarization appear to magnify the decrease in the odds of receiving the COVID-19 vaccine and the intent to get vaccinated among Republicans versus Democrats. Political polarization may further attenuate the protective associations of high social capital with vaccination.

Introduction

COVID-19 vaccination is critical to moving toward herd immunity in the ongoing pandemic. However, vaccination is not uniformly accepted, with varying degrees of vaccine hesitation across gender, racial and political party lines.[1] Meanwhile, over the past decade, the political climate within the USA has grown increasingly polarized, with widening ideological gaps.[2] Recent research has shown that higher perceived ideological differences are linked to an increased onset of mental and physical health conditions.[3] Additionally, COVID-19 vaccines are trusted and distrusted by liberal and conservative party elites, respectively.[4] Given concerns about a plateauing in COVID-19 vaccination rates among Americans while new more contagious variants emerge,[5] this study aimed to understand the role perceived political polarization may play in the receipt of a COVID-19 vaccine and the intent to get vaccinated.

Methods

Study sample

This study was based on a nationally-representative, cross-sectional survey of English-speaking adults in the USA. The survey was administered online by Qualtrics, a national survey research firm, between 9 February 2021 and 17 February 2021. The overall survey response rate was 45%. Participants were compensated for their time. This study was approved by the Institutional Review Board at Northeastern University.

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Outcomes

To measure COVID-19 vaccination intent, participants were asked to rate how likely they were to receive a vaccination once available. This measure was collapsed to create a dichotomous outcome. Published analyses on COVID-19 vaccination intent have applied a similar classification.[6,7] Participants were further asked if they had already received at least one dose of a COVID-19 vaccine.

Exposures

Perceived mass polarization was measured as one's perceived size of the ideological gap between Democratic and Republican voters in the USA.[8] Using a 0–10 scale, with 0 being the most liberal and 10 being the most conservative, participants rated the average Democratic voter and Republican voter. Perceived mass polarization was calculated as the absolute difference between Democratic and Republican voter ratings. This variable was dichotomized into high versus low perceived political polarization using the sample median value.

Political party affiliation was self-reported as either Democrat, Republican, or Other political party. Social capital was measured by a survey item asking if others can be trusted, and modeled as a dichotomous variable.

Covariates

All models controlled for participant age, gender, race, marital status, educational attainment, employment status, income, health insurance status, nativity, state of residence and comorbidities. Data for <6% of covariates was missing, and the missing indicator method was used to handle missing data.

Statistical analysis

We fit multivariate logistic regression models to estimate the adjusted odds ratios between perceived political polarization, political party affiliation, and social capital with COVID-19 vaccination intent and receipt. We further tested for statistical interactions between political party affiliation and mass polarization, and stratified our results accordingly. All analyses were performed in R version 4.0.3 (R Foundation for Statistical Computing, Vienna, Austria).

Results

The survey sample consisted of 1427 participants (see Supplementary Table 1 for descriptive characteristics). The mean age of study participants was 45.3 (range 18–92) years. The study sample was predominantly female (53.6%) and non-Hispanic White (62.9%). Approximately one-quarter of participants reported trust in others (24.8%). The mean perceived ideological distance between Democratic and Republican voters was 2.9 points.

We observed a statistical interaction between political polarization and political party affiliation for vaccination intent (P for interaction <0.001) but not vaccination receipt (P for interaction = 0.97). Among respondents perceiving low levels of polarization, Republicans had a 41% lower odds of planning to get vaccinated (OR = 0.59 [0.34, 1.10], $P = 0.055$) than Democrats (Fig. 1A). Among participants perceiving high levels of polarization, this association was markedly stronger, with Republicans reporting a 90% lower odds of vaccination intent (OR = 0.10 [0.05, 0.19], $P < 0.001$) than Democrats (Fig. 1A). Similar patterns of association were observed for vaccination receipt but did not reach a 0.05 significance level (Fig. 1B).

The association of social capital with vaccination intent differed by level of polarization (P for interaction = 0.11). Participants with high (versus low) social capital had a 2-fold higher vaccination intent (OR = 2.39 [1.34, 4.21], $P = 0.003$) in the low polarization group. This relationship was weaker in the high polarization group (OR = 1.40 [0.74, 2.66], $P = 0.30$) (Fig. 1A). We identified qualitatively similar patterns for vaccination receipt (Fig. 1B).

Discussion

Main findings

In this nationally-representative study, Republicans reported less vaccination intent and receipt than Democrats, similar to findings from other studies.[6,9,10] High perceived levels of political polarization substantially magnified the size of the association for decreased vaccination intent in Republicans versus Democrats. Republicans perceiving high levels of polarization may view COVID-19 vaccine acceptance as a partisan political issue rather than a public health concern, thereby diminishing vaccine acceptance in this group. We further found evidence that political polarization may attenuate the protective effects of social capital. Respondents with high levels of social capital and low perceived political polarization showed greater odds of vaccination intent, but this was not observed in the high polarization group. High levels of political polarization may negate the salutary effects of high social capital.

What is already known

COVID-19 vaccination acceptance varies greatly varies by political party. Republicans are more inclined to accept conspiratorial disinformation about COVID-19 vaccines

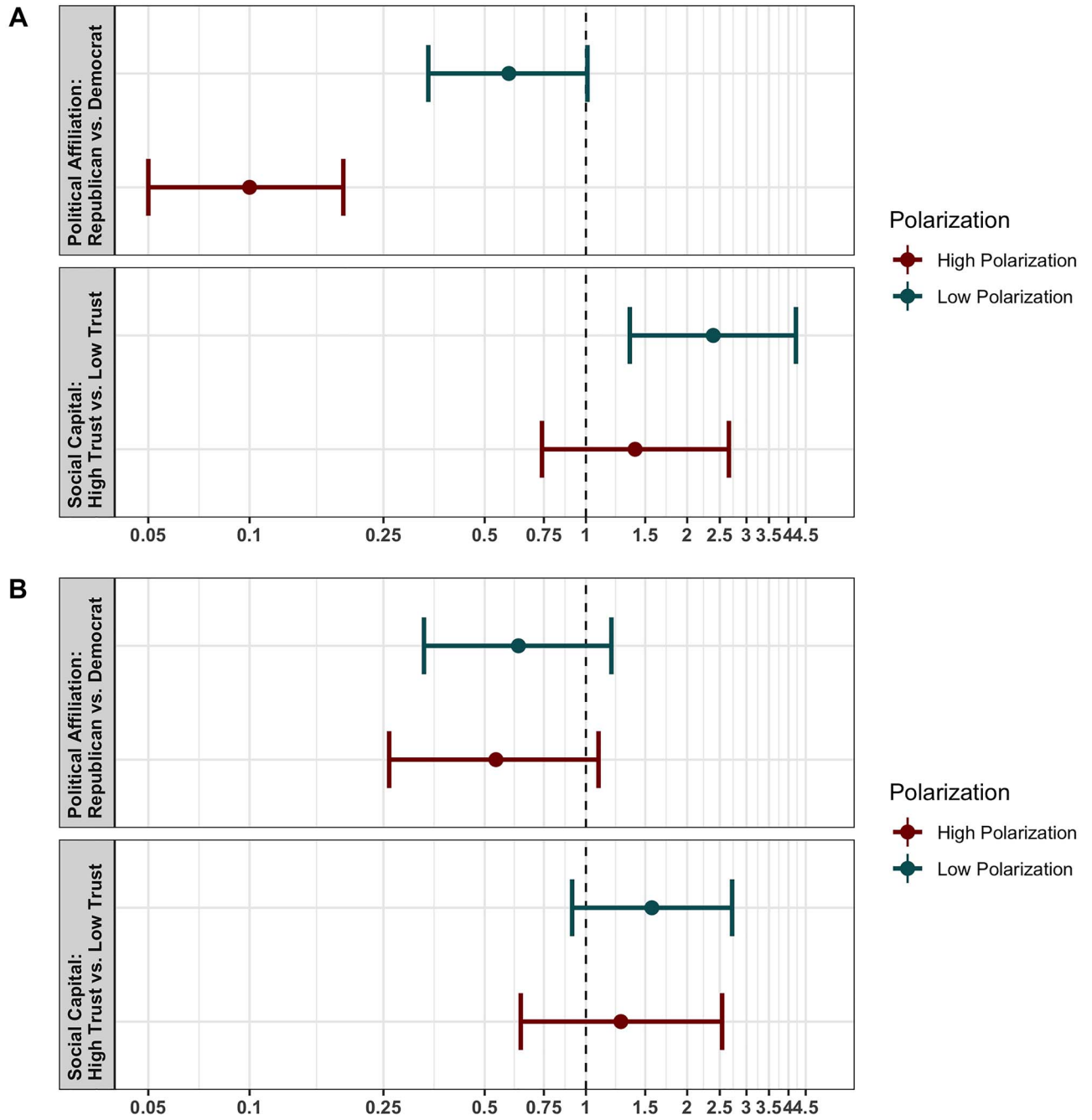

Fig. 1 (A) Estimated odds ratios for COVID-19 vaccination intent with 95% confidence intervals by perceived polarization level (n = 1135). Odds ratios are plotted on the log-scale and were adjusted for age, gender, race, employment status, insurance status, income, educational attainment, marital status, nativity, state of residence; and comorbidities including heart disease, depression, sleep disorders, high blood pressure, high cholesterol, diabetes and COVID-19 diagnosis. (B) Estimated odds ratios for COVID-19 vaccination receipt with 95% confidence intervals by perceived polarization level (n = 1427) odds ratios are plotted on the log-scale and were adjusted for age, gender, race, employment status, insurance status, income, educational attainment, marital status, nativity, state of residence; and comorbidities including heart disease, depression, sleep disorders, high blood pressure, high cholesterol, diabetes and COVID-19 diagnosis.

and express hesitancy and distrust in vaccines.[6] Political partisanship is linked to reduced vaccine uptake among conservatives. Meanwhile, high social capital has been previously associated with greater uptake of protective health behaviors during the COVID-19 pandemic and higher vaccination rates during the H1N1 pandemic.[11,12]

What this study adds

This study adds new evidence on political polarization to the growing body of research on societal factors that may influence COVID-19 vaccination. Understanding factors associated with COVID-19 vaccination is critical for expanding vaccination coverage in the USA.

Study limitations

There are several limitations to our study. The cross-sectional study design does not provide evidence for causal relationships between political polarization, political affiliation, and social capital with COVID-19 vaccination. The subsample reporting having received the COVID-19 vaccine was relatively small ($n = 292$), thereby limiting the statistical power to detect associations. While we controlled for multiple covariates, residual confounding may have been present and biased our findings. Future research that investigates the influences of political polarization and social capital on COVID-19 vaccination acceptance is needed.

Supplementary data

Supplementary data are available at the *Journal of Public Health* online.

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