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Politicized Identity in Disrupted Times

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Politicized Identity in Disrupted Times

By

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Dissertation Abstract

Advancements have been made in identity politics research, yet identity in times of disruption and crisis is understudied. Focusing on the 2008 economic recession and the COVID-19 pandemic, I analyze nationally representative survey data to explore various aspects related to linked fate, perceptions of the pandemic, and vaccine hesitancy.

First, using data from the Collaborative Multiracial Post-Election Survey (CMPS), I find that Black linked fate was lower in 2012, challenging the assumption that economic concerns weaken Black unity. Financial hardship did not impact levels of linked fate for Blacks, and there are no systematic racial/ethnic differences in levels linked fate among those experiencing financial struggles. These findings suggest that Black linked fate and economic concerns may be reinforcing in this context.

Using the 2020 View of the Electorate Research (VOTER) Survey, I examine the relationship between several identity factors and perceptions of the disproportionate health impact of the COVID-19 pandemic. I explore whether perceptions juxtapose with data. I find ethic differences among partisans, except for Democrats. The effect of gender is conditional on Hispanic ethnicity, suggesting that these factors play a significant role in shaping perceptions of the pandemic.

Lastly, using 2020 CMPS data, I demonstrate that the more conservative and younger a respondent is, the more likely they are to be vaccine hesitant. In contrast, older adults are unresponsive to ideology, possibly due to differences in risk perception, social media exposure, and interactions with trusted healthcare providers.

Overall, my findings suggest the importance of investigating the mechanisms behind these relationships using experimental designs. These findings also highlight the importance of

refined linked fate survey measures, since linked fate appears to be an important factor behind perceptions in the contemporary climate.

Keywords: COVID-19, partisanship, ideology, identity, linked fate, vaccine hesitancy

CHAPTER 1

Economic Shock and the "Community Values Vs Material Self-Interest" Paradigm

The economy has always mattered to American voters. From the Great Society to Reaganomics, the performance of the economy is often mixed with racial undertones regarding social services and immigrant labor. Because existing literature assumes inherent competition between race and class, I challenge that paradigm in this paper. I explore minority unity during a time of short-lived, yet acute economic downturn, specifically the 2008 recession.

I look for signs of tension that researchers would expect to see when ethnicity and class compete. Early work centered on the Black community indicates that outgroup ethnic divisions increase ethnic linked fate (Dawson, 1994), yet ingroup *class* consciousness is also seen as divisive and a threat to racial unity (Dawson, 1994; Handy, 1984; Wilson, 1978). While racial/ethnic identity and class overlap for many, identity politics may take a backseat when financial concern is high. The salience of identity politics has increased over the last few decades, but since both class and group identity matter in US politics, I look for signs of cross-cutting interests during a time of widespread financial hardship. Focusing on the Great Recession of 2008, I examine ethnic linked fate in a time of acute economic downturn to see if there is a strong relationship between the economic conditions and minority unity.

Knowing that politicized issues like discrimination, police brutality, and immigration can be unifying, I question whether financial threat in a global economic downturn can also shape minority linked fate. Americans are stratified by race and social status. The historical binding of race and class was introduced in early sociology (Du Bois, 1903) and continues with the marginalized economic and social positions of minority populations. For scholars, this raises the puzzle of whether race or class is more salient in minority politics, and under what conditions.

In *Behind the Mule*, Dawson's (1994) approach to linked fate includes a tension between the interests of race and class. His assumption is that if there is class homogeneity in the racial group, the political interests of the group are dominant, and class interests will not divide the group. In other words, economic polarization within the group is a threat to political unity. Should economic concerns dominate, elements of shared common beliefs may be undermined with the struggle to survive and the inability to agree on shared group interests.

Alternatively, economic hardship may be a uniting force if it is viewed as a threat to the community, which has been demonstrated in previous studies of Latino populations. Should economic hardship be perceived or experienced as a racial/ethnic group threat, the salience of identity may increase along with group unity and cohesion. Previous work indicates that linked fate can be a protective mechanism against xenophobic rhetoric and discrimination (Lu & Jones, 2019; Pérez, 2015). This research specifically supports the idea that linked fate among the Latino community can be elevated in a threatening context. In the context of economic crisis and financial hardship, if race and class are perceived as aligned, wealth and whiteness create an "us vs them" mentality. This could lead to a sense of group threat, and the widely described as the race/class dichotomy. Research suggests that these differences are partly explained by the immigrant experience. Immigration impacts ethnic minorities differently, with threats to cultural identity often cutting deeper than considerations of economic interest (Sniderman et al., 2004).

In this paper, I use empirical analysis to look for signs of weakening ethno-racial interests during a time of widespread, yet short-lived financial hardship. To the extent that these identity measurements reflect the salience of identity, as well as the economic hardship measurements measure the salience of financial matters, the results can be theoretically applied. I found a survey measure taken during the time of severe economic collapse to see if there is a strong relationship between economic conditions and unity.

The puzzle I seek to address here is whether economic hardship weakens both Black and Latino ethnic unity. Do individual economic interests outweigh community interests during times of economic hardship? In this paper, I seek to understand the relationship between economic hardship and levels of group solidarity. Despite the primacy of the economy, the salience of identity politics has increased over the last few decades. Both economic interests and group identity matter in US politics. The question I explore is not new, though it has not been a central theme in the fields of economics or identity politics.

Focusing on minority communities, I examine two survey years of the Collaborative Multiracial Post-Election Survey (CMPS) with large samples of minority populations and timing that covered both the recession and post-recession periods, I explore the relationship between financial hardship and ethnic linked fate. Previous recession periods in recent history were not nearly as devastating as the 2008 recession[1] (Bennett & Kochhar, 2019), and I was able to identify a data set that aligns with this period. I investigate group unity for Blacks, Latinos, and whites during this time. I seek to understand the relationship between worsening economic conditions, financial struggle, and levels of minority solidarity.

Building on this work and others, I leverage a unique opportunity to explore whether financial strain drives a wedge in ethnic and racial unity using survey data that overlapped with the financial crisis. I find that, after the economic recession, levels of linked fate among the Black voting population declined. Not only this, but the decline occurred across all levels of financial hardship, from Blacks who were doing well to those who were severely distressed

[1] In the early 1990s and again in the early 2000s there were relatively brief and less consequential periods of economic downturn.

financially. Although the downturn coincided with the election of the nation's first Black president, the findings suggest that, uniquely for Blacks, the overlap of race and class reinforced threat and, ultimately, linked fate during a time of economic crisis. This subsequently led to overall weaker levels of linked fate in 2012.[2]

Background

Economic Hardship

The economy matters. Economic performance continues to take center stage in elections, functioning as a reflection of party effectiveness and incumbent responsibility. The longstanding theory of retrospective voting continues to be relevant to the extent that the health of the economy is relevant to electoral outcomes (Fiorina, 1981; Stiers, 2022). Financial uncertainty can present unique challenges that lead to self-interested beliefs and behavior.

Theoretically, with the removal of *de jure* racial segregation and societal advancements to increase economic opportunity, the salience of individual social class would increase among minority populations (Wilson, 1978). However, systematic discrimination and lingering *de facto* discrimination has limited progress (Traub et al., 2017). Low-income populations also tend to be politically and socially marginalized populations, disproportionately impacted in times of economic crisis. People of color tend to earn lower wages and experience barriers to building wealth and property ownership due to systematic and institutional factors. Historically, Blacks and Latino were denied homeownership through "redlining" practices employed by federal insurers. Today, Black and Latino men are disproportionately incarcerated, leading to a long-term impact on families and overall lifetime earnings. At the same time, should economic concerns

[2] I address the Obama presidency below. Although I do not have a measure identical to the CMPS, National Political Study data indicate elevated levels of linked fate among Blacks relative to other ethnic groups in 2004.

dominate, elements of shared common beliefs may be undermined with the struggle to survive and the inability to agree on shared group interests.

Economic hardship was widespread during the 2008 recession. As a result of the subprime mortgage crisis, the US experienced significant economic decline beginning in late 2007 through early 2009. In a January 2008 Pew Research Center (PRC) survey of 1,500 adults, PRC indicates that over a third of those surveyed listed the economy as their top concern (PRC, 2008). In March of the same year, Gallup reported that over 50 percent of Americans saw the economy as the top priority (Jacobe, 2008). Using prior literature to guide this inquiry, I explore whether class-based concerns, in the context of an economic crisis, can lead to a reduction in the relevance of ethnic interests and ethnic identity.

There is evidence that upper class Blacks are less attuned to racial unity, while lower- and middle-class Blacks are very aware of the salience of race, likely due to their experiences of racial inequity (Durant & Sparrow, 1997). Individual status, experiences, and perceptions regarding race and class play a key role, and likely interact, to determine one's level of race and class consciousness (Durant & Sparrow, 1997). In his foundational work on Black linked fate, Michael Dawson presented a theory with an inherent tension in it. Class interests and racial interests were competing interests, with class interests holding the potential to weaken the Black vote. Class interests, Dawson argued, had the potential to weaken Black solidarity. It is this puzzle in the literature that motivates the analysis. The question of whether group unity could be threatened by economic differences (Dawson, 1994), or, on the other hand, promoted, has not been resolved. Individual characteristics (like class/status) and perceptions of Black, and even all nonwhite, political interests may be at odds in times of financial uncertainty given the current and historical US context. Because of this, levels of linked fate among Blacks experiencing high levels of financial hardship may be significantly higher in 2008 relative to 2012, since the distracting economic context and the salience of economic interests in 2008 led to self-interested behavior and beliefs.

Group Identity

Yet, another line of literature suggests that hardship, in the form of segregation, discrimination, and marginalization strengthens racial and ethnic ties. Ethnic identity, particularly among Blacks, has been a source of political solidarity, partly because of historical injustices. Beginning with Michael Dawson, scholars have explored ethnic linked fate, uncovering strong evidence that the Black community is characterized by a sense of unity which translates into Black solidarity and voter turnout.

The utility heuristic Dawson identifies is that of community leaders serving to conserve cognitive resources by prioritizing race interests over individual interests. Conceptually, the mechanisms begin with individual identity. Individuals draw a sense of who they are from the groups they identify with. Individual preferences are then shaped by preferences of community, as communicated by group elites. In this approach, Dawson relies on Downs (1957) and foundational literature on the role of individual and social identities (Turner et al., 1979). The significance of this is further underscored by the observable overlap of identity and partisanship today (Mason, 2016; Mason & Wronski, 2018), indicating that race/ethnicity and partisanship are more aligned now than ever, particularly for Republicans. There is, however, a lack of consistency in the literature regarding linked fate in other marginalized groups, limiting broad theoretical applications and extrapolations from the Black community to other groups.

While linked fate is clearer to measure among the Black community, it has been measured and studied in other minority populations such as Asian, Latino and Muslim communities (Barreto, Masuoka et al., 2008; Dawson, 1994; Lu & Jones, 2019; Maltby et al., 2020). A challenge with this literature is that, while linked fate is not unique to Blacks, internal variation in non-Black groups leads to inconsistent conclusions regarding group consciousness and political values (Gay et al., 2016; Sanchez & Vargas, 2016). For example, while both Black and Latino linked fate varies over time, and generationally (Smith et al., 2019). There are demographic and contextual factors, like citizenship status, that, for the Latino community, shape linked fate in a unique way (Masuoka, 2006; Sanchez & Vargas, 2016). Work on Latino linked fate has also stressed the importance of economic factors when predicting levels of linked fate (Junn, 2006). Should economic concerns dominate, the elements of commonality that provide shared common beliefs may be undermined with the struggle to agree on a choice that satisfies group interests (Lee, 2007).

Financial strain was felt by many Americans as the 2008 financial crisis rippled through the economy. At the same time, racial stereotypes and discrimination increased during this period of economic distress due to perceptions of resource scarcity (Krosch et al., 2017). Racialized politics were evident at the state and local level, particularly around immigration policy (Gulasekaram & Ramakrishnan, 2013).[3] Racialized beliefs about upward mobility could have heightened protective and defensive mechanisms, thus increasing linked fate. Because of this, levels of linked fate among Blacks may be significantly higher in 2008, since the threatening economic context and the salience of ethno-racial specific economic interests in 2008 could have reinforced community behavior and beliefs. The lack of conflict between race and class would lead to increases in linked fate during 2008, challenging Dawson's theory.

[3] For example, immigration enforcement laws, policy eligibility exclusion, and day laborer laws.

Linked Fate and the Obama Presidency

In a historically significant election, Barack Obama became the first African American to hold the office of U.S. president, with Obama's inauguration being one of the most attended in history. He served 8 years, from 2009 to 2017. The Obama presidency is an important potential confounder that some could argue would be driving any observed changes in linked fate over this period. There is no compelling reason to think that linked fate among Blacks would change from 2008 to 2012 with Obama's time in office, but a measure from 2004 provides context. Table 1 sheds some light on levels of linked fate before the Obama presidency, with data from the National Politics Study (NPS) distributed by ICPSR. This telephone survey From September 2004 to February 2005, interviewed around 3,300 respondents.[4] Levels of linked fate are higher, overall, for Black respondents. In fact, 59% of Blacks report at least some level of linked fate, with the highest percentage reporting a lot (32%). No other group reports levels that high in 2004.

Table 1

Linked Fate Response (%) by Ethnicity in 2004

	Not Much	A lot	Some
White 15		32	8
Black	32 27		6
Hispanic	18 22		5
Asian	17 37		9

Note. Data source: Jackson et al. (2004).

[4] The sample consisted of US residents, including approximately 750 Blacks, 900 Whites, 750 Hispanics, and 500 Asians.

Surprisingly, extant research on the impact of the Obama presidency on linked fate specifically is limited. Scholars report a measurable decline in perceptions of racial discrimination in the US, with the largest declines among Republicans and conservatives (Valentino & Brader, 2011). This finding suggests that a false sense of racial progress that was not a reflection of reality could have been detrimental to ethno-racial equality. While racial equality was salient during Obama's presidency, racial animosity and resentment continued (Bobo & Dawson, 2009) even among younger Americans, who, research suggests, tend to adopt more insidious forms of racism (Desante & Smith, 2020). These political realities are not lost on Black youth, who turned out in historic numbers to vote in 2008, and remained concerned about the detrimental effect of racism in the US throughout the Obama presidency (Cohen, 2011).

Ultimately, Obama's re-election in 2012 provides a constant in this study since his presidency covered the entire period of this analysis. Even though the Democratic majority in Congress was lost in the 2010 midterms, Obama was able to maintain the Black vote, or in some cases exceed in record numbers, as well as strengthen his coalition with other minority communities, such as Latino in 2012 (Jones & Stanford, 2013). Black turnout was higher in 2008 relative to 2004, but that is not the focus of my study, since I am focused on economic downturn (Mckee & Hood, 2012).

In addition to 2008 Gallup polling and Pew Research Center surveys, CMPS respondents also said the economy was a major issue. Preliminary data suggest that the Great Recession was a top priority across all racial and ethnic groups. As seen in Table 2, the 2008 CMPS included a survey question asking respondents to list the most important problem facing the nation and an overwhelming majority of Americans listed the economy as their first choice.

Table 2

Economy As the Top Issue Regardless of Ethnicity

Latino % (n)	Asian % (n)	Black % (n)	White % (n)	Total % (n)
68 (1,068)	73 (670)	72 (680)	72 (814)	71 (3,232)

Note. Data source: Barreto, Frasure-Yokley et al. (2008).

Times of financial uncertainty can present unique challenges that lead to self-interested beliefs and behavior. Knowing this, I investigate whether the disproportionate economic hardship that nonwhite individuals disproportionately carry impacts group solidarity. I measure group solidarity with ethnic linked fate: the belief that one's own success is linked to the success of the entire group. Do economic burdens weaken the fabric of racial and ethnic ties? This financial crisis had the potential to weaken racial and ethnic unity on a broad scale, as the needs of the individual begin to take center stage and conflict with the desires and interests of the group.

I expect that, after economic recession, levels of linked fate among Blacks experiencing high levels of financial hardship will be significantly lower due to a reduction in elevated threat and protective mechanisms. Financial hardship during the recession will be perceived as systematic and not individual. Since the economy had fully recovered, a decline in linked fate will be noticeable in 2012. However, it is possible that after economic recession, levels of linked fate among Blacks experiencing high levels of financial hardship will be significantly higher, since the distracting economic context and the salience of economic interests in 2008 led to self-interested behavior and beliefs. The conflict between race and class would lead class-based issues to be more salient and divisive. In this case, class would be more salient during financial crisis, which is what Dawson's theory asserts.

First, I hypothesize that linked fate among Black and Latino voters will be significantly lower in 2012 relative to 2008. Second, I expect that levels of linked fate among the Black voting population will decline in 2012 relative to 2008. Scholars have consistently argued that linked fate for Blacks is not equivalent to linked fate in other groups. For Blacks, I expect that the overlap of race and class will reinforce linked fate during a time of economic crisis, and this will lead to overall weaker levels of linked fate in 2012. Lastly, I hypothesize that linked fate will decline in 2012 relative to 2008 among Black voters, regardless of whether they are experiencing high levels of financial hardship.

Data and Measures

Data for these analyses comes from the 2008 and 2012 Collaborative Multiracial Post-Election Survey (CMPS) (Barreto, Frasure-Yokley et al., 2008; Frasure et al., 2012). The CMPS includes a unique multiracial and multilingual voter sample, with interviews conducted in multiple languages. This national survey measures voter attitudes about politics and policy with large samples of racial minority populations including Blacks and Latinos. Two survey waves were distributed by the Inter-university Consortium for Political and Social Research.

The first wave, conducted in 2008, sampled registered voters. The sample was drawn from 18 statewide databases of registered voters and was nationally representative. Participants were contacted via telephone and asked a slate of interview questions. Catalist Data Services assisted with records for voters with unlisted phone numbers. The interviews took place between November 2008 and January 2009. In total, 4563 respondents completed the survey in this first wave.

The second wave, conducted in 2012, also sampled registered voters. Participants were recruited via mail and phone using national random samples. As in 2008, the 2012 sample was nationally representative. The 2012 survey was conducted by the GfK Group (Frasure et al., 2012). Interviews were conducted by telephone or in households with no phone. If needed, respondents were given access to the Internet, adding to the representativeness of the sample. The interviews took place between November 16, 2012, and November 26, 2012, and were focused on the 2012 election. In the 2012 wave, 2,616 registered voters responded to the survey.

Since the CMPS includes a large multiracial sample of the US, I can investigate linked fate across marginalized groups. My analysis includes two years of survey data taken four years apart from 2008 to 2012. The 2008 CMPS post-election survey measure is well suited for this analysis since the survey was taken in November, when the impact of the economic recession spread throughout the US population. Early hints of the crisis began in April 2007 with bankruptcies. By the end of 2007, the nation was in recession, which lingered until spring of 2009. The main year of interest is 2012, but the 2008 CMPS measures are key to the analysis in checking for significant changes in the years after economic recovery. There are almost 5,000 respondents when all two survey years are combined (N = 4,933).

The main outcome measure is a measure of linked fate. The linked fate measure is worded as follows: "How much do you think what happens to [fill in] here in the U.S. will have something to do with what happens in your life?" There are four categories ranging from not at all to a lot. The explanatory variables include race/ethnicity [5] and financial hardship. The survey measure of economic hardship was measured as a scale from 1-5, with 5 being severe hardship.[6]

[5] I include three racial/ethnic categories: Black, Latino, and White. I did not include Asians because the 2012 CMPS did not include a category specific to Asian, and White is the baseline category.

6 The question was "We are interested in how people are getting along financially these days. Would you say that you and your family are better off, worse off, or just about the same financially as you were a year ago? (2012) We are interested in how people are getting along financially these days. Would you say that you and your family are better off, worse off, or just about the same financially as you were four years ago?" (Barreto, Frasure-Yokley et al., 2008).

There are several control variables in the model. Age ranges from 18 to 99, binned into 7 categories. This variable was rescaled from 0-1. Partisanship is in three categories: Democrat, Independent, and Republican. I measure socioeconomic status beyond annual income by including several variables: whether a respondent rents their home (0-1). Individuals who lived with someone else were included in the rental category since they do not own property. Whether they are an immigrant (0-1), and education level. Education is in four categories ranging from no high school to at least a 4-year degree and is rescaled. Income is in seven categories ranging from less than $20,000 to $150,000 or more and is rescaled. Survey weights are included in the OLS regression models.[7] To isolate the impact of the recession, I include a dichotomous variable for year and interact this term with race and financial hardship to predict ethnic linked fate.

Although I do not have a precise measure of class interests, I am able to leverage a measure of financial hardship. To the extent that this measure captures the salience of class, I can apply these findings to Dawson's framework of ethnic linked fate.

Results

First turn to the regression results in Model 1 in Table 3. The year variable is significant and negative, though small in magnitude, and suggesting that linked fate was lower overall in 2012. In Model 1, the baseline category for ethnicity is white. Relative to whites and Latinos, the Black community is unique. In fact, only the coefficient for Black is significant, all else equal. We see here that Blacks have lower levels of ethnic linked fate relative to Latino respondents and whites, controlling for other factors. The coefficient is relatively large and negative indicating that there is a unique relationship between race and linked fate for Blacks that does not exist for Latinos and whites. This finding supports the hypothesis that, after economic recession, levels of

[7] Ordered logit model table is shown in Chapter 1 Appendix.

Table 3

Changes in Ethnic Linked Fate Unique for Black Respondents

	Dependent variable: P (Ethnic linked fate)
Age 0.126**	(0.054)
Birthplace: US	-0.091** (0.044)
Gender: Female	0.025 (0.030)
Financial Situation	0.004 (0.016)
Year: 2008	-0.330*** (0.053)
Ethnicity: Latino	0.054 (0.058)
Ethnicity: Black -0.332***	(0.060)
Education -0.259***	(0.048)
Democrat 0.032	(0.042)
Independent -0.037	(0.047)
Year x Latino	0.178** (0.072)
Year x Black	0.650*** (0.078)
Constant 2.898***	(0.095)
Observations 5,052	
R^2 0.033	
Adjusted R^2 0.031	
Residual Std. Error	1.063 (df = 5039)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto, Frasure-Yokley et al. (2008).

linked fate among the Black voting population declined. This is only partially as expected. I anticipated that linked fate among Black and Latino voters would be significantly lower in 2012 relative to 2008. Importantly, these findings are correlations only and do not suggest causality, but they suggest that there is a systematic difference by both race and year, and that there is not uniformity in the relationship among nonwhites. Scholars have consistently argued that linked fate for Blacks is not equivalent to linked fate in other groups. For Blacks, the overlap of race and class might reinforce linked fate during a time of economic crisis, and this will lead to overall lower levels of linked fate in 2012 after the economy recovers.

These initial findings indicate that ethnicity and financial crisis potentially shape ethnic linked fate. It is also important to notice that the coefficient for education shows the strongest relationship with linked fate, even when controlling for ethnicity. In terms of education, this large and negative coefficient indicates that there were lower levels of linked fate among the highly educated. Given that higher levels of education are suggestive of increasing levels of incorporation, this finding supports Sanchez and Masuoka (2010) who reported that, among the Latino population, levels of linked fate declined with incorporation. Age is a positive factor, though not as large in magnitude, suggesting that older voters tend to have higher levels of linked fate as well.

The interaction in model 1 is visualized in Figure 1. In Figure 1, we see that Blacks are driving this result, with linked fate being elevated for Blacks during the recession. Just as expected, linked fate among Blacks drops post-recession. The opposite is observed for Whites and Latinos. And, although the relationship moves in the same direction for Whites and Latinos, the difference in year is not statistically different for Latinos. These findings further challenge the null hypothesis and further substantiate the idea that the 2008 financial crisis, on average, was experienced differently for Blacks than any other group. For the Black community, these results suggest that Dawson's concerns about the tension between class-based interests and community-based interests may not hold for Blacks, due to a strong, sense of overlapping racial and class-based identities during times of hardship.

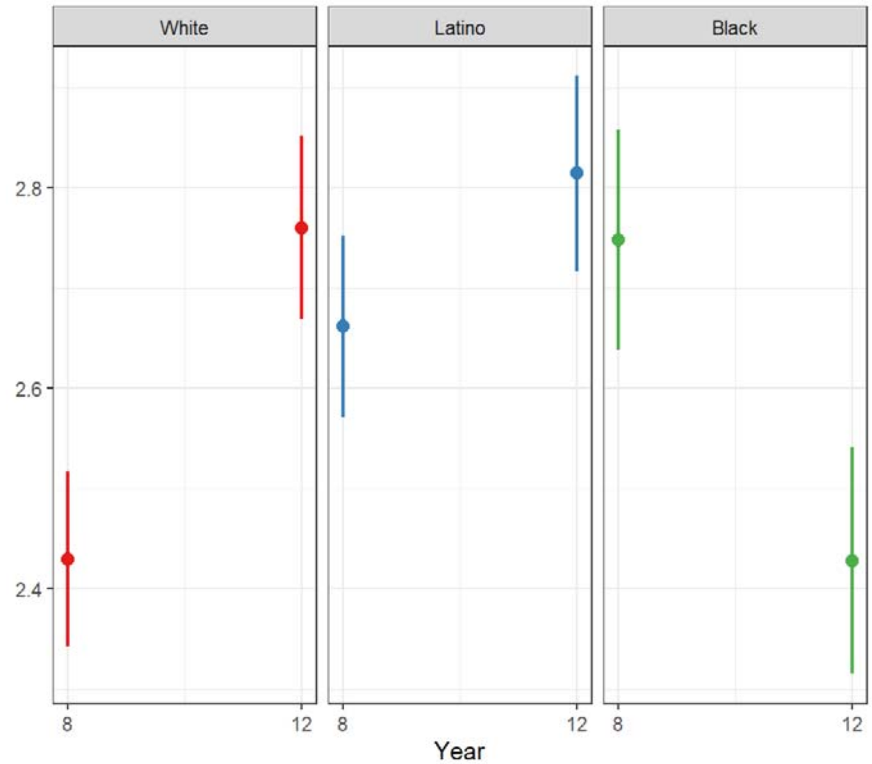
I will next explore the moderating effect of self-reported financial struggle. I hypothesized that linked fate will decline in 2012 relative to 2008 among Black voters, regardless of whether they are experiencing high levels of financial hardship.

Figure 2 illustrates the marginal effects of a new 3-way interaction term introduced to the original model.[8] This interaction between year, race, and financial situation is introduced to

[8] The 3-way interaction model table is shown in Chapter 1 Appendix.

Figure 1

Changes in Ethnic Linked Fate Post-Recession by Race



Note. Marginal effects plot with 95% confidence intervals.

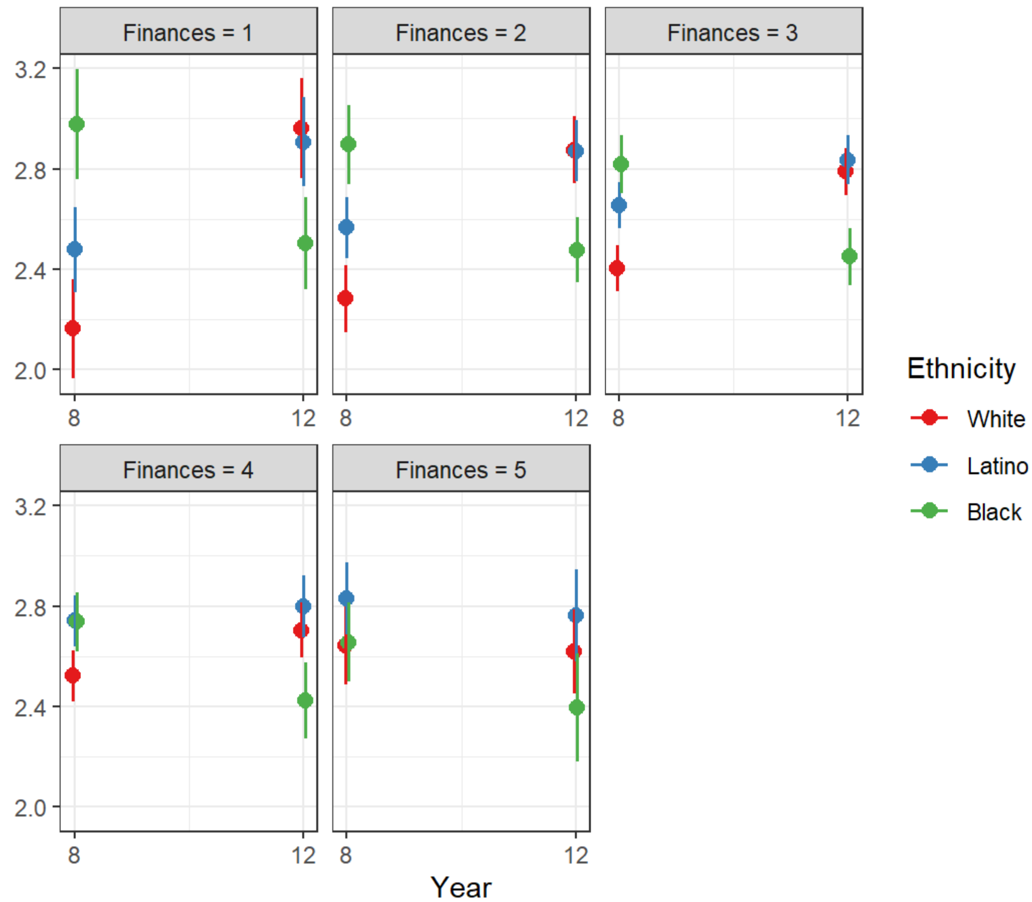
Data source: Barreto, Frasure-Yokley et al. (2008).

address the last hypotheses. The interaction coefficient is negative and large for Blacks only. When the effect is examined across levels of recent financial hardship, racial differences are more pronounced at lower levels of financial hardship. For clarity, a value of one indicates being better off financially, and a value of 5 indicates being worse off. What we see here in Figure 2 is that for those who are better off (not struggling financially), the financial context of 2008 differentiates racial differences in levels of linked fate. This pattern does not continue in 2012.

Another major finding is that the impact of economic downturn is opposite for Blacks. In 2012, Black linked fate is lower for every level of financial hardship. In contrast, Latino and

Figure 2

The Moderating Effect of Financial Hardship on Linked Fate by Racial/Ethnic Group



Note. 1 Is Doing Well, 5 Is Much Worse. Marginal effects plot with 95% confidence intervals. Data source: Frasure et al. (2012).

white linked fate is higher in 2012, relative to 2008. It is interesting that, for Blacks, linked fate is higher than all other categories of race/ethnicity in 2008 and lower than all other categories in 2012. The results in Model 3 indicate that recent financial hardship and recession context are both associated with lower levels of ethnic linked fate. The coefficient for finances moderated by year is positive and significant. However, there is an outsized effect for Blacks relative to Latino and white respondents.

For Blacks, linked fate was elevated during the recession, but the level of financial hardship did not cause the relationship between year and linked fate to change direction. For Latinos, the opposite is observed. Linked fate was significantly lower during a time of economic downturn with the salience of economic interests. And, for Latino and whites, the relationship between ethnicity, financial hardship and linked fate, fades as financial hardship is greater.

Implications and Conclusion

In this paper, I question whether race or class is more salient in minority politics, and whether a recession presents conditions under which the two conflict. What I found was surprising, and important. Although I do not have a precise measure of class interests, I am able to leverage a measure of financial hardship. And, to the extent that this measure captures the salience of class, I can apply these findings to Dawson's framework of ethnic linked fate. After the economic recession, levels of linked fate among the Black voting population declined. The findings suggest that the overlap of race and class reinforced threat, and linked fate during a time of economic crisis, and this subsequently led to overall weaker levels of linked fate in 2012.

Class interests, Dawson argued, had the potential to undermine Black unity. It is this tension in the literature, the suggestion that group unity could be threatened by economic differences (Dawson, 1994), or potentially strengthened, that motivated my analysis. Individual characteristics (like class/status) and perceptions of minority political interests may be at odds in times of financial uncertainty given the current and historical US context. Because of this, I expected that levels of linked fate among Blacks and Hispanics experiencing high levels of financial hardship would be significantly higher in 2008 relative to 2012, since the distracting economic context and the salience of economic interests in 2008 led to self-interested behavior and beliefs. My findings suggest that the Black community is unique, and is the only group that supports my hypothesis.

This finding was surprising considering previous work examining the effect of experiences of discrimination on linked fate among Latino individuals reported that income was a significant factor for Latinos, distinct from Blacks (Sanchez & Masuoka, 2010). In particular, Sanchez and Masuoka (2010) find that socioeconomic status uniquely shapes linked fate for Latinos, with low-income Latinos, on average, reporting higher levels of linked fate. In fact, they report that Latino linked fate decreases as Latinos became incorporated into US society. Among those factors unique to the Latino community are immigration policy, generational status, economic status, citizenship status, and involvement in Latino politics. Studies indicate a temporal and generational component of linked fate that hinges on immigration and economic status uniquely for the Latino population (Sanchez & Masuoka, 2010). Some scholars strongly caution against applying the same measures and concepts applied to Black linked fate to other racial and ethnic groups (Chong & Rogers, 2005) and my findings support this as well.[9]

In terms of financial hardship, only those who are doing relatively well financially show systematic differences by ethno-racial category. But, regardless of the level of financial hardship, Black linked fate was consistently lower in 2012. This trend was not seen among Whites or Latinos. It appears that, for Blacks, the economic downturn was a unifying force, regardless of their level of financial hardship. If perceived financial hardship is a proxy for wealth and income, these findings suggest that Dawson's theory did not hold in this context.

Moving forward, scholars should explore the relationship between ethnic and group identities, including class during economic downturns. Better data is needed to explore the role

[9] Marsh and Ramirez (2019) look at ethnic linked fate among whites and Latino in the period of 2008-2016, distinguishing between group solidarity and group anxiety.

of economic shock and the “community values versus material self-interest” paradigm. In addition, more work needs to be done on building theory around differences in linked fate across ethnic groups.

Chapter 1 References

Barreto, M. A., Frasure-Yokley, L., Hancock, A-M., Manzano, S., Ramakrishnan, K., Ramirez, R., Sanchez, G., & Wong, J. (2008). *Collaborative multi-racial post-election survey (CMPS), 2008 (ICPSR 35163)*. Inter-university Consortium for Political and Social Research [distributor]. https://doi.org/10.3886/ICPSR35163.v1

Barreto, M. A., Masuoka, N., & Sanchez, G. (2008). *Religiosity, discrimination and group identity among Muslim Americans*. [Conference session]. Western Political Science Association Annual Conference, San Diego, March. http://muslimandamerican.org/wp-content/uploads/2017/08/wpsa2008.pdf

Bennett, J., & Kochhar, R. (2019). Two recessions, two recoveries. *Pew Research Center*. https://www.pewresearch.org/social-trends/2019/12/13/two-recessions-two-recoveries/

Bobo, L. D., & Dawson, M. C. (2009). A change has come: Race, politics, and the path to the Obama presidency. *Du Bois Review, 6*(1), 1–14.

Chong, D., & Rogers, R. (2005). Racial solidarity and political participation. *Political Behavior, 57*(4), 347–374.

Cohen, C. J. (2011). Millennials & the myth of the post-racial society: Black youth, intra-generational divisions and the continuing racial divide in American politics. *Daedalus, 140*(2), 197-205. http://direct.mit.edu/daed/article-pdf/140/2/197/1830007/daed_a_00087.pdf

Dawson, M. C. (1994). *Behind the mule*. Princeton University Press.

Desante, C. D., & Smith, C. W. (2020). Less is more: A cross-generational analysis of the nature and role of racial attitudes in the twenty-first century. *Journal of Politics, 82*(3), 967–980.

Downs, A. (1957). *An economic theory of democracy*. Harper & Bros.

Du Bois, W. E. B. (1903). *The souls of Black folk*. A. C. McClurg & Co.

Durant, T. J., & Sparrow, K. H. (1997). Race and class consciousness among lower-and middle-class Blacks. *Journal of Black Studies, 27*(3), 334-351.

Fiorina, M. P. (1981). *Retrospective voting in American national elections*. Yale University Press.

Frasure, L., Sanchez, G., Valenzuela, A., & Hancock, A-M. (2012). *Collaborative multi-racial post-election survey (CMPS), 2012 (ICPSR 37132)*. Inter-university Consortium for Political and Social Research [distributor]. https://doi.org/10.3886/ICPSR37132.v2

Gay, C., Hochschild, J., & White, A. (2016). Americans' belief in linked fate: Does the measure capture the concept? *Journal of Race, Ethnicity and Politics, 1*(1), 117–144.

Gulasekaram, P., & Ramakrishnan, S. K. (2013). Immigration federalism: A reappraisal. *New York University Law Review, 88*(6), 2074–2145.

Handy, K. M. (1984). Race and class consciousness among southern Blacks. *Sociological Spectrum*, *4*(4), 383-403.

Jackson, J. S., Hutchings, V. L., Brown, R., & Wong, C. (2009). *National politics study, 2004*. Inter-university Consortium for Political and Social Research [distributor]. https://doi.org/10.3886/ICPSR24483.v1

Jacobe, D. (2008). *Economy widely viewed as most important problem.* GALLUP. https://news.gallup.com/poll/104959/economy-widely-viewed-most-important-problem.aspx

Jones, C. E., & Stanford, K. L. (2013). The re-election of President Barack Obama: The resilient Black vote. In M. Mitchell & D. Covin (Eds.), *Grassroots and coalitions: Exploring the possibilities of Black politics* (pp. 83-86). Routledge.

Junn, J. (2006). Mobilizing group consciousness: When does ethnicity have political consequences? In T. Lee, S. Karthick Ramakrishnan, & Ricardo Ramirez (Eds.), *Transforming politics, transforming America: The political and civic incorporation of immigrants in the United States* (pp. 32-38). University of Virginia Press.

Krosch, A. R., Tyler, T. R., & Amodio, D. M. (2017). Race and recession: Effects of economic scarcity on racial discrimination. *Journal of Personality and Social Psychology, 113*(6), 892–909.

Lee, T. (2007). From shared demographic categories to common political destinies: immigration and the link from racial identity. *Du Bois Review, 4*(2), 433–456.

Lu, F., & Jones, B. (2019). Effects of belief versus experiential discrimination on race-based linked fate. *Politics, Groups, and Identities, 7*(3), 615–624. https://doi.org/10.1080/21565503.2019.1638804.

Maltby, E., Rocha, R. R., Jones, B., & Vannette, D. L. (2020). Demographic context, mass deportation, and Latino linked fate. *Journal of Race, Ethnicity and Politics, 5*(3), 509–536.

Marsh, W. Z. C., & Ramírez, R. (2019). Unlinking fate? Discrimination, group-consciousness, and political participation among Latinos and Whites. *Politics, Groups, and Identities, 7*(3), 625–641.

Mason, L. (2016). A cross-cutting calm: How social sorting drives affective polarization. *Public Opinion Quarterly, 80*(special issue 1), 351–377.

Mason, L., & Wronski, J. (2018). One tribe to bind them all: How our social group attachments strengthen partisanship. *Political Psychology, 39*, 257–277.

Masuoka, N. (2006). Together they become one: Examining the predictors of panethnic group consciousness among Asian Americans and Latinos. *Social Science Quarterly, 87*(5), 993–1011.

Mckee, S. C., & Hood, M. V. (2012). Achieving validation: Barack Obama and black turnout in 2008. *State Politics & Policy Quarterly, 12*(1), 3-22.

Pérez, E. O. (2015). Xenophobic rhetoric and its political effects on immigrants and their co-ethnics. *American Journal of Political Science, 59*(3), 549–564.

Pew Research Center. 2008. *An even more partisan agenda for 2008*. https://www.pewresearch.org/politics/2008/01/24/an-even-more-partisan-agenda-for-2008/

Sanchez, G. R., & Masuoka, N. (2010). Brown-utility heuristic? The presence and contributing factors of Latino linked fate. *Hispanic Journal of Behavioral Sciences, 32*(4), 519–531.

Sanchez, G. R., & Vargas, E. D. (2016). Taking a closer look at group identity: The link between theory and measurement of group consciousness and linked fate. *Political Research Quarterly 69*(1), 160–174.

Smith, C. W., Lopez Bunyasi, T., & Smith, J. C. (2019). Linked fate over time and across generations. *Politics, Groups, and Identities, 7*(3), 684–94. https://doi.org/10.1080/21565503.2019.1638801

Sniderman, P. M., Hagendoorn, L., & Prior, M. (2004). Predisposing factors and situational triggers: Exclusionary reactions to immigrant minorities. *American Political Science Review, 98*(1), 35–49.

Stiers, D. (2022). Performance voting, retrospective voting, and economic voting: Conceptual clarity and empirical testing. *Social Science Quarterly, 103*(2), 399–408.

Traub, A., Sullivan, L., Meschede, T., & Shapiro, T. (2017). *The asset value of whiteness: Understanding the racial wealth gap*. Dēmos. https://www.demos.org/research/asset-value-whiteness-understanding-racial-wealth-gap

Turner, J. C., Brown, R. J., & Tajfel, H. (1979). Social comparison and group interest in ingroup favouritism. *European Journal of Social Psychology, 9*(2), 187–204.

Valentino, N. A., & Brader, T. (2011). The sword's other edge: Perceptions of discrimination and racial policy opinion after Obama. *Public Opinion Quarterly, 75*(2), 201–226.

Wilson, W. J. (1978). *The declining significance of race: Blacks and changing American institutions*. University of Chicago Press.

Chapter 1 Appendix

Table 1-1

Ordered Logit Predictors of Linked Fate

	Dependent variable: M3
Age	0.216**
	(0.092)
Born	-0.157**
	(0.075)
Gender	0.037
	(0.052)
Finances	0.008
	(0.027)
Year_new8	-0.519***
	(0.090)
Race Latino	0.107
	(0.096)
RaceBlack	-0.497***
	(0.098)
Edu	-0.441***
	(0.081)
PartyDem	0.034
	(0.072)
PartyInd	-0.072
	(0.080)
Year_new8:RaceLatino	0.322***
	(0.123)
Year_new8:RaceBlack	1.053***
	(0.131)
Observations	4,995

Note. *p<0.1; **p<0.05; ***p<0.01

Table 1-2

Model with 3-Way Interaction

	Dependent variable: Mallall
Age	0.128**
	(0.054)
Born	-0.082*
	(0.044)
Gender	0.021
	(0.030)
Finances	-0.086**
	(0.041)
Year_new8	-1.004***
	(0.192)
RaceLatino	-0.103
	(0.179)
RaccBlack	-0.516***
	(0.180)
Edu	-0.273***
	(0.048)
PartyDem	-0.003
	(0.043)
PartyInd	-0.052
	(0.047)
Finances:Year_new8	0.206***
	(0.057)
Finances:RaceLatino	0.049
	(0.056)
Finances:RaceBlack	0.059
	(0.058)
Year_new8:RaceLatino	0.451*
	(0.251)
Year_new8:RaceBlack	1.531***
	(0.267)
Finances:Year_new8:RaceLatino	-0.081
	(0.075)
Finances:Year_new8:RaceBlack	-0.259***
	(0.080)
Constant	3.201***
	(0.154)
(Observations	5,052
R^2	0.038
Adjusted R^2	0.035

Note. *p<0.1; **p<0.05; ***p<0.01

CHAPTER 2

How Identity Shaped Perceptions of Disproportionate Health Impact During the Early Stages of the Covid-19 Pandemic

Studies indicate a higher incidence of COVID-19 related mortality among racial/ethnic minorities early in the pandemic (Alcendor, 2020; Gramlich & Funk, 2020; Reyes et al., 2020). Social determinants of health (Vahidy et al., 2020) are primary factors behind this, including increased exposure to the virus,[1] inadequate access to care, and preexisting comorbidities (Alcendor, 2020). Disproportionate social and economic burdens also emerged during the crisis (Vargas & Sanchez, 2020). Given that previous work indicates increased fusion between race/ethnicity and partisanship for both major political parties (Mason, 2016; Mason & Wronski, 2018), I question whether perceptions are consistent with epidemiological data on community health impact by race/ethnicity and partisanship. I report findings that suggest these relationships are worth considering, and suggest that more research needs to be done at the intersection of public health and identity politics in the pandemic context.

It is clear that the pandemic was politicized and racialized (Kazemian et al., 2021; Jamieson et al., 2021; Motta et al., 2020). Social distancing and other voluntary precautions were guided by partisan identity (Algara et al., 2021; Bello-Pardo et al., 2020). Willingness to follow state and local laws (Algara et al., 2021; Grossman et al., 2020), and elite rhetoric diverged along political lines (Green et al., 2020).[2] The salience of race was also elevated for several reasons. First, elite rhetoric spread xenophobia beginning with the president. Second, the Black Lives

[1] For Hispanics and Blacks, likelihood of infection was higher in the earlier stages of the pandemic, partly due to likelihood of living in a densely populated area (Vahidy et al., 2020).

[2] In particular, Republican identifiers received mixed cues from co-partisan elites regarding not only pandemic impact, but associated risks and preventative measures. Democratic identifiers received a consistent cue of support for preventative measures and overall concern for public health (Green et al., 2020; Motta et al., 2020).

Matter (BLM) movements intersected with the pandemic in the summer of 2020 just months before the Views of the Electorate Research (VOTER) Survey was taken (Buchanan et al., 2020). Third, pre-existing institutional and structural factors exposed racial inequality. I investigate perceptions of disproportionate impact across minority communities to see how they vary in a politicized and racialized public health crisis. While others have looked at partisanship and individual perception of health risk and even general population health risk (Jamieson et al., 2021; Vargas et al., 2021; Wolaer & Doces, 2022), no one has explored perception of health impact by race/ethnicity and partisanship across different groups. It has not yet been established whether perceptions juxtapose onto the actual data, and whether other factors play a role in perception.

I make two contributions. First, I report partisan effects, which are conditional on ethnicity. Second, I investigate the often overlooked role of ethnic linked fate. Beyond the self, ethnic linked fate describes shared values that translate into a group consciousness, unity and solidarity (Dawson, 1994). Extant literature indicates that ethnic linked fate is associated with perceptions of threat and discrimination in addition to actual experiences (Lu & Jones, 2019). Since experiences varied by race/ethnicity and gender, perhaps the pandemic heightened shared experiences with the shelter in place orders and reminders of existing structural inequities. Given this, I explore the role of ethnic linked fate in the pandemic context.

I demonstrate that perceptions of pandemic health burden are related to partisanship and race/ethnicity. Republican perceptions of pandemic burden, regardless of the community in question, are lower. In addition, white perceptions are shaped by partisanship to a larger degree than their Hispanic counterparts. Most importantly, I find robust effects in terms of Hispanic linked fate and perceptions of coethnic pandemic burden among males.

These findings further our understanding of the relationship between the interpretation of epidemiological data and political-social identity during the pandemic. Because I am the first to employ a survey measure of early perceptions of collective health impact stratified by race/ethnicity, I contribute to existing knowledge by exploring the role of identity in the early COVID-19 pandemic context for both in-group and out-group respondents.

COVID-19: Partisan Divergence and Disproportionate Health Impact

From the patchwork of state responses to media framing, partisanship shaped the pandemic. Members of Congress politicized the crisis as early as February 2020 (Green et al., 2020). State officials were no exception, translating polarized rhetoric into policy. In June of 2020, Florida Governor Ron DeSantis announced his decision to not implement a statewide mask mandate while California's Governor Gavin Newsom instituted one in response to the COVID-19 state of emergency. Among the American public, voluntary precautions, rhetoric, official guidelines, and even willingness to follow state and local laws varied by partisan identity as well (Algara, 2021; Green et al., 2020; Grossman et al., 2020). Media consumption (Zhao et al., 2020) and overall levels of concern (Vargas et al., 2021) correlated with ideology, contributing to deepening lines of conflict around this public health crisis.

Risk perception also varied by partisanship. In a nationally representative survey conducted early in the pandemic, both individual risk and collective risk were associated with partisanship (Wolaver & Doces, 2022).[3] Democrats, higher income earners, and women had greater levels of concern regarding pandemic guidelines and the risks of infection (Fan et al., 2020). Early on, health impacts were linked to partisanship in some areas, as mortality rates in urban areas were higher in the early stages of the pandemic due to population density leading to

[3] Wolaver and Doces (2022) also report that males are less worried than females, while support for Trump is associated with less concern.

more rapid transmission as well as limited medical resources.[4] Subsequently, there was a reversal, likely based on local guidelines and individual behaviors, leading to significantly higher COVID-19 death rates in Republican counties (Chen & Karim, 2021). While urban areas and Democratic counties struggled to gather the resources and knowledge to manage the pandemic early on, it was in rural areas that the politicization of precautionary measures such as social distancing and wearing a mask occurred.

A long line of political science research indicates that Americans use partisanship to filter their interpretations of the political world (Bartels, 2002). It has already been demonstrated that partisans have different perceptions deriving from the same set of facts (Campbell et al., 1960). Fundamental behind the *perceptual screen* hypothesis is the idea that partisans see different realities. Contemporary experimental evidence supports this, indicating that voters adopt legislator positions with no evidence or justification for doing so (Broockman & Butler, 2015). Standing literature indicates that partisan identities have fused together with other social identities such as race, ethnicity, and culture, leading to stronger overall sense of identity (Mason, 2016; Mason & Wronski, 2018). Individuals identify with a party because they see themselves as a part of the social group that is the party (Green et al., 2002). In addition, identity fusion with partisanship is more pronounced for Republicans due to higher levels of alignment, reduced cross-pressures, and overall homogeneity (Mason & Wronski, 2018). Mason and Wronski (2018) provide evidence that partisan identity fusion is more pronounced for Republicans due to less within-party heterogeneity. The pandemic context is not immune to this phenomena. In a study that was limited to California voters, liberal whites had lower levels of concern than their conservative non-white counterparts (Vargas et al., 2021). These findings

[4] For Blacks and Hispanics, the likelihood of infection was higher in the earlier stages, partly due to likelihood of living in a densely populated area.

suggest that Republicans and Democrats might have different perceptions of the disproportionate health impact.

There are two main reasons why this study is highly relevant to identity politics and health policy. First, divergent perceptions can impact the policy process and ultimately the policy response. Second, divergent perceptions precede precautionary behavior in the pandemic context. Subsequent work has shown that political behavior is based on group identity and membership and voters will overlook factual information in order to avoid cognitive dissonance (Achen & Bartels, 2016). Alignment across partisan, racial, religious, ethnic, and ideological identities could weaken the connection between actual public health data on disparities and individual perceptions of that data during the COVID-19 pandemic. This is particularly true if the data contradicts copartisan messaging. Likewise, personal experiences of the crisis, which were related to race/ethnicity and socioeconomic status (Vargas & Sanchez, 2020) could have enforced or weakened partisan perceptions of the pandemic depending on how greatly actual experience differed for copartisans.

Since perceptions often precede behavior, perceptions are important for political scientists to understand in contemporary times (Fan et al., 2020). If perceptions of the impact of COVID-19 on the health of minorities in the U.S. are independent of partisanship, I expect an absence of systematic variation in across categories of self-identified party identification. If partisanship alters perceptions, I expect that perceptions of pandemic severity will be conditioned by partisanship. Building on the work of Mason and Wronski (2018), I expect that Republicans will be more likely to underestimate the health impact of the pandemic relative to their fellow Democrats.

Race, Ethnic Linked Fate, and Perceptions

Longstanding racial inequality across U.S. institutions restricts the contours of individual opportunity, belonging, social mobility, and even health status (Brown, 2018; Golash-Boza, 2016). The COVID-19 pandemic is no exception. Low wage minority community members were unable to shelter in place, often living in high density housing. In addition to pre-existing variation in social determinants of health and reported disproportionate impact, studies show elevated risk perception among racialized minorities (Vargas et al., 2021; Jamieson et al., 2021). These findings correlate with epidemiological trends (Reyes et al., 2020; Tai et al., 2021; Vahidy et al., 2020; Yancy, 2020). The disproportionate impact of the pandemic on minorities was predictable and predicted (Bibbins-Domingo, 2020; Corbie-Smith et al., 2002) due to existing policies and institutions.

Extant literature indicates that shared community experiences of threat can shape perceptions in contemporary times (Lu & Jones, 2019). For example, levels of ethnic linked fate were elevated among Hispanics as a result of the 2006 immigration protests that began in Chicago and spread nationwide in response to proposed federal policy changes (Marsh & Ramirez, 2019). Linked fate can vary by gender (Stout et al., 2022), time period (Smith et al., 2019), demographic context (Maltby et al., 2020), discrimination experience (Lu & Jones, 2019) and policy environment (Maltby et al., 2020). During the pandemic, policy environment varied by state, but the salience of race was high across the nation. Previous studies show that levels of ethnic linked fate are elevated by experiences and perceptions of discrimination and xenophobic rhetoric (Lu & Jones, 2019; Perez, 2015).

Ethnic linked fate is a key factor in this study because the Black Lives Matter (BLM) movements intersected with the pandemic in the summer of 2020 just months before the VOTER survey was taken (Buchanan et al., 2020). Police brutality had the attention of the American public at this time, a concern among many minority populations. My survey measure was taken when the BLM movements were salient and discussions of institutional racism quickly emerged later in 2020. The pervasive lack of trust in health institutions dominated media coverage. It was after the September 2020 VOTER survey that the media participated in discussions of institutional racism and the pervasive lack of trust in health institutions due to historical medical racism.

Taking all of this into account, the pandemic was situated in a context where race/ethnicity was a source of cohesion and context for many. Not only was there a higher incidence of COVID-19 related mortality among racial/ethnic minorities (Alcendor, 2020; Gramlich & Funk, 2020; Reyes et al., 2020), variation in economic burden was disproportionate (Vargas & Sanchez, 2020). At the same time, news consumption varied by ethnicity among the Spanish speaking community. Not only was Spanish-language news perceived to be more credible among the Hispanic community during the pandemic, it was associated with satisfactory assessments of government officials across the entire federal system (Gomez-Aguinaga et al., 2021).

In this case, racial/ethnic identity and partisan identity may have been complementary — particularly for in-group perceptions of pandemic severity. Like partisans, those with high levels of linked fate tend to favor in-group members and discriminate against out-group members.

The BLM movements' context is likely associated with elevated and politicized levels of ethnic linked fate among minorities. In addition, there is overlap between partisan identity and ethnic identity for the Latinx community (Cain et al., 1991). The link between partisan identity and ethnic identity naturally leads to the question of perceptions of disproportionate health burden. I expect to see that the political and epidemiological salience of race surrounding data on community health impact strengthens the relationship between linked fate and perceptions. If racial/ethnic community cohesion contributed to pandemic perceptions, ethnic linked fate will be a strong predictor of pandemic perceptions among the minority community.

Gendered Perceptions

Drawing from social identity theory, we know that gender identity becomes group consciousness with commonalities and gender salience. Because of this, the strength of gender identity is often reinforced by experiences of gender inequality. Politicized gender identity predicts political behavior at times (Campi & Junn, 2019), and often reinforces rather than competes with other group identities. For example, identifying as both Hispanic and female leads to identity reinforcement in both attributes (Harnois, 2015). Discrimination and forms of inequality outside of gender enhance identities for women (Harnois, 2015). Since gender can shape ethnic linked fate among minority communities (Masuoka, 2006), the pandemic presents a unique opportunity to explore this intersectionality in a new context. I argue that social identities such as gender, race, ethnicity, and sexuality collided during the pandemic. As a result, gender identity came into conflict in a way that challenges previous findings (Harnois, 2015).

It is clear that women experienced gender inequality due to pandemic-driven economic disruption (Stout et al., 2022; Collins et al., 2020). There were several reasons for this. Women had higher levels of gender-linked fate when they were subject to major employment changes to care for their families (Stout et al., 2022). Women were more likely to voluntarily limit work-related travel, avoid socializing and adopt precautionary measures (Algara et al., 2021). Relative to men, women tended to rely more heavily on health risk data to guide perceptions and actions (Algara et al., 2021), and had a measurably lower risk tolerance (Fan et al., 2020). Loss of childcare support was linked to risk of unemployment for mothers (Petts et al., 2021), and mothers of young children lost hours of work as a result of day care and school closures (Collins et al., 2020).

While women in general faced disruption and hardship, minority women faced additional economic and health challenges. For Hispanic females with families, the pandemic experience was more severe. Not only were Hispanics more likely to face COVID-19 infection and mortality, levels of economic adversity were greater. Families postponed health treatment, drained emergency funds, and had difficulty with payments and housing, along with experiencing elevated job loss (Vargas & Sanchez, 2020).

Existing literature leaves this puzzle unanswered: did gender inequality alter ethnic linked fate for minority females enough to impact their perceptions? I suggest that gender linked fate outweighed ethnic linked fate during the pandemic for Hispanic females. As a result, I expect to see that there is a stronger relationship between ethnic linked fate and perceptions for Hispanic males.

Since the pandemic experience was uniquely burdensome for Hispanic females, I question the role of gender in perceptions of coethnic health impact for Hispanic women. I address this puzzle by examining early pandemic perceptions among the survey subset of Hispanics to see if gender and ethnic linked fate shape female and male Hispanic assessments of the severity of the pandemic on their community equally.

In summary, standing literature reports distinct gender differences during the pandemic. These differences highlight economic inequality as a gendered experience. Previous work on the intersectionality of race and gender suggests that overlapping identities such as race and gender can reinforce each other among minority women. I question whether that finding will hold in this context. I explore whether gender was more salient than racial/ethnic identity for Hispanic women in the context of a health crisis. I expect to see that ethnic linked fate has a different relationship with perceptions for Hispanic women relative to Hispanic men.

Theoretical Expectations

We know that racial, ethnic, and ideological identities have begun to overlap with partisanship in the US (Mason, 2016; Mason & Wronski, 2018). Identity has a central role in American politics. With the pandemic being contextualized in a highly polarized and racialized context, I explore hypotheses around these overlapping of identities and how they impact perceptions of the pandemic.

Building off Mason and Wronski's (2018) finding on identity fusion with partisanship, I expect partisans to underestimate or overestimate pandemic health impact on minorities, depending on their partisan identification. Not only this, but insulation, homogeneity and white privilege will lead to a greater reliance on partisanship in shaping perceptions for non-Hispanic whites. Likewise, I expect that racial/ethnic minority perceptions will be based on personal experience which more closely correlates with data on disproportionate disease burden. The pandemic also highlighted gender differentiation and gender-based inequality (Collins et al., 2020; Petts et al., 2021; Stout et al., 2022). Among Hispanics, I expect to see that the intersectionality of race and gender will result in ethnic linked fate being closely correlated with male perceptions.

I address gaps in the literature by first testing for differences in perception across partisan and ethnic lines. I then investigate the role of ethnic linked fate and gender in shaping perceptions. There are valid reasons provided in standing literature to support the role of all of these identity factors in shaping perception. My hypotheses are as follows:

H1: Democrats (Republicans) will be more (less) likely to perceive a greater pandemic health impact on Hispanics.

H2: Partisan identity will be a weaker (stronger) predictor of Hispanic (non-Hispanic white) perceptions of pandemic health impact.

H3a: Hispanic males (females) will be less (more) likely to perceive a greater health impact on Hispanics.

H3b: Hispanic males with high levels of ethnic linked fate will be more likely to perceive a greater pandemic health impact on Hispanics than their female counterparts.

Data and Measurement

To assess my hypotheses and evaluate whether partisanship, race/ethnicity, and gender impact perceptions, I rely on the September 2020 VOTER survey (n = 5,900). The VOTER survey, funded by the Democracy Fund, is conducted in partnership with YouGov (Democracy Fund Voter Study Group, 2021). Although the Voter Study Group gathers information on a large number of American voters over time, the September survey, in particular, included questions on the severity of the COVID-19 impact. Respondents were asked about several racial/ethnic categories including: Hispanics, Blacks, non-Hispanic whites and Asians. Given that the primary predictors in this analysis are partisanship and race, I exclude Blacks, Asians, and other minorities due to small sample size of Republicans.[5] Once I remove less numerous racial groups, the dataset includes 4,490 respondents (Hispanic, n = 630, White, n = 3,860).

The survey is composed of a sample drawn from YouGov's online panel. Relative to other methodologies using online samples, YouGov's approach shows less bias across a series of criteria (Ansolabehere & Rivers, 2013). The Voter Study Group aims to collect a representative cross section of the American voter population using a combination of respondent age, gender, and racial characteristics. These characteristics are initially stratified and responses are then

[5] See Supplemental section in Chapter 2 Appendix for partisan distribution by race/ethnicity.

matched, primarily using select U.S. Census Bureau's American Community Survey demographic and non-demographic variables. The wave used in this analysis was conducted between August 28 and September 28, 2020. This sample is made up of a large majority of respondents who had previously participated in a prior wave of the VOTER Survey but there were some respondents who had never participated before.

The dependent variable is the perception of group health impact of COVID-19, and ranges from "none at all" to "a lot."[6] I begin with three main predictors: partisan identification, race/ethnicity and ethnic linked fate. Partisanship is coded as a categorical variable where Democrat identifiers are the baseline. To measure linked fate, I rely on the traditional measure of the concept which asks how much they think what happens to the larger group will impact them as an individual. This ranges from "none" to "a lot."[7] The item is coded such that higher scores indicate greater endorsement of linked fate. Lastly, racial identification was based on the survey question: "What racial or ethnic group best describes you?" Because my research centers on in-group/out-group perceptions of COVID-19 on the white and Hispanic community, I restrict my analyses to these subgroups. I control for a series of covariates, including birth year, education, and gender. Age is numeric, ranging from approximately age 20 to 97; education is measured by a six-category response variable (1 = No High school, 6 = Post-graduate degree).[8]

To examine perceptions of the severity of COVID-19, I first estimate a linear regression model with several interaction terms. I selected this particular approach since it allows me to estimate all relevant relationships within a single model. Alternatively, if I had employed a separate model approach, I would not be able to test differences across groups, and thus would

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[6] See Chapter 2 Appendix for question wording.

7 See Chapter 2 Appendix for question wording.

8 To facilitate interpretation, I rescale education, age, and linked fate to lie between 0 and 1. For gender, males are coded as "0" and females as "1."

be limited in my ability to test the specific hypotheses. I explore the impact of partisanship and race on perceptions by including a number of two-way interactions, controlling for several covariates. Lastly, I target what is most important by employing an alternative dependent variable. This dependent variable is the difference between perceived impact on non-Hispanic whites and Hispanics. I do this to predict individual differences in perception across racial groups. This approach allows me to predict the most compelling measure in the pandemic context which is the disproportionate impact of COVID-19 on minorities. Survey weights are included for all regressions.

Results

My general proposition is that identities such as partisanship, race, gender, and linked fate play an important role in shaping perceptions of the disproportionate health impact of COVID-19. Turning first to partisanship, I expect that Democrats will perceive a greater pandemic health impact on Hispanics relative to Republicans. A simple examination of the dependent variable, grouped by partisanship, suggests this is the case. When asked about the impact on Hispanics, Democrats have a mean rating of 3.85. When asked about whites, Democrats have a mean rating of 3.24. The reported difference in means is significant ($t = 23.69$, $p < 0.0001$). In contrast, I find that Republican perceptions are almost indistinguishable across the groups. When asked about impact on Hispanics, Republicans have a mean rating of 2.76, while the same question about whites yielded a mean rating of 2.70 ($t = -1.88$, $p = 0.06$). This indicates that, among Republicans, there are no significant differences when asked about minority impact. It is already apparent that there are clear partisan differences regarding the impact of COVID-19.

Democrats view non-Hispanic white and Hispanic health impact very differently, while Republicans, on average, do not. So far, the differences suggest that Democrat identifiers have perceptions that more closely align with early pandemic data on the disproportionate minority health impact, and Democrats tend to perceive a greater pandemic impact overall. Given this summary information, I further investigate the validity of my hypotheses with regression modeling.

In order to test my first three hypotheses in a multivariate context, I construct a model of perception by regressing the perception of impact scale on partisanship and linked fate. I use this model with two different outcomes: perceptions of impact on the white community and perceptions of impact on the Hispanic community. Both models include the series of seven controls described above and eight interaction terms. I strategically chose this methodological approach in order to estimate all relevant relationships within a single model. A single model allows me to test differences across groups and specifically address the hypotheses at hand. The model specifications are shown in Equation 1:

$$\begin{aligned}\hat{O}g = {} & \beta_0 + \beta_1 Gender + \beta_2 Linked\ fate + \delta_0 Race + \beta_3 Independent \\ & + \beta_4 Republican + \beta_5 Age + \beta_6 Education \\ & + \delta_1 Independent \times Race + \delta_2 Republican \times Race \\ & + \delta_3 Education \times Race + \delta_4 Gender \times Race \\ & + \delta_5 Age \times Race + \delta_6 Linked\ fate \times Race \\ & + \gamma_1 Linked\ fate \times gender + \gamma_2 Linked\ fate \times gender \times race \qquad (1)\end{aligned}$$

$\hat{O}g$ is the outcome measure indexed by the group (Hispanic or non-Hispanic white). In this model, β_0 indicates the baseline estimates for white respondents, while all β_k are the estimates for party, education, gender, age, and linked fate for whites. The parameter δ_0 gives the offset for Hispanics, and the δ_k gives the *differences* in estimates for each of the covariates for Hispanics. In total then, estimates of the impact of COVID-19 on both communities for white and Hispanic respondents can be fully estimated by equation one. Both race and gender are dummy variables with values of 0 and 1, with Democrat as the baseline category for partisanship.

The expectations are all linked to identity and in-group/out-group dynamics. If partisanship dominates, we expect that perceptions will vary distinctly by partisan identity. At the same time, the realities of disproportionate impact across communities will do little to shape American perceptions. If gender plays a dominant role, we expect that perceptions will vary by gender identification. I expect that race and gender moderate Hispanic perceptions. If Hispanic perceptions are conditional on gender, we will likely see no relationship between gender and perception in the aggregate, but instead there will be significant interaction effects.

There are four main findings of interest in Table 1. First, American perceptions follow the expected pattern predicted in hypothesis 1 for both for whites and Hispanics. Republican perceptions are reliably lower relative to Democrats for both groups. Relative to the baseline perception, the coefficient for Republican is significant and negative. This finding is further illustrated in Figure 1, which plots the predicted values of perception, when the Hispanic community is in reference, by party and race/ethnicity, along with the 95 % confidence intervals. The dominant role of partisanship is clear, but Democrats are different.

The main takeaway here is that there is no systematic racial difference among Democrats, and overall, Hispanics tend to view the pandemic as more severe. Hispanic perceptions of the impact of COVID-19 on their community do not reflect elite partisan rhetoric to the degree seen among whites, although they do follow the same trend. Thus far, the first two hypotheses are

Table 1

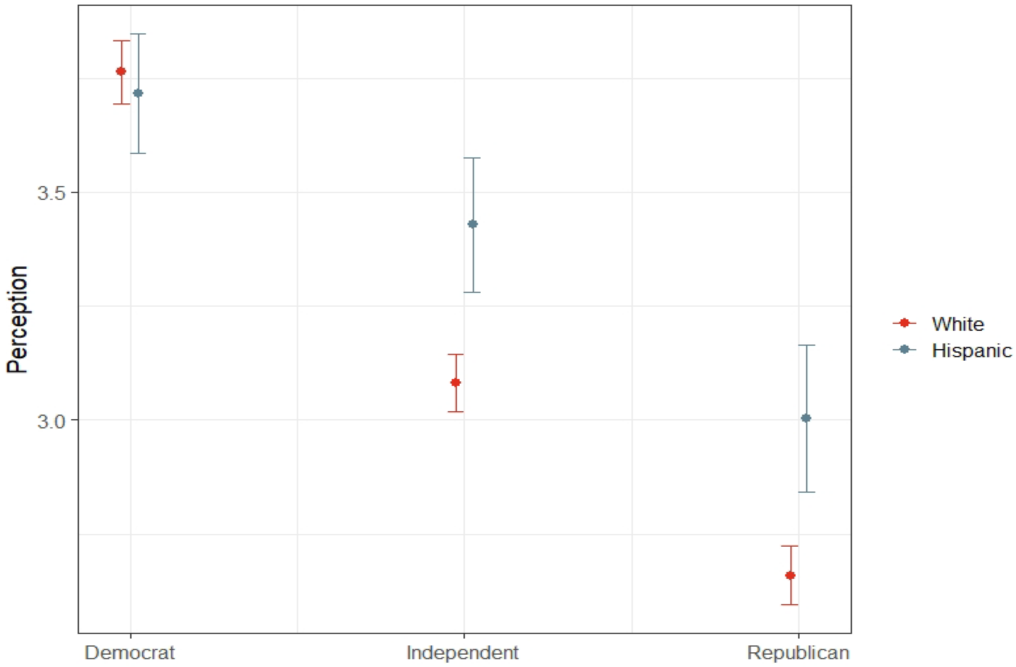
OLS Predictors of Perception of Health Impact for in-Group and Out-Group Respondents

	Hispanic	White
Female	0.060	0.083
Linked Fate	(0.064)	(0.059)
	0.224***	0.210***
Hispanic	(0.074)	(0.068)
	−0.830***	−0.377***
Independent	(0.150)	(0.138)
	−0.682***	−0.405***
Republican	(0.041)	(0.038)
	−1.104***	−0.613***
	(0.041)	(0.038)
Age	0.119	0.077
Education	(0.073)	(0.067)
	0.127**	−0.318***
Hispanic×Independent	(0.056)	(0.052)
	0.394***	0.177**
Hispanic×Republican	(0.092)	(0.085)
	0.391***	0.357***
	(0.097)	(0.090)
Hispanic×Education	−0.086	−0.032
Female×Hispanic	(0.138)	(0.127)
	0.364**	−0.137
	(0.155)	(0.143)
Hispanic×Age	0.545***	0.007
	(0.181)	(0.167)
Linked Fate×Hispanic	1.128***	0.531***
	(0.167)	(0.154)
Female×Linked Fate	0.123	0.039
	(0.105)	(0.097)
Female×Linked Fate×Hispanic	−0.553**	0.076
Constant	(0.240)	(0.221)
	3.534***	3.241***
	(0.067)	(0.062)
Observations	4,488	4,490
Adjusted R2	0.202	0.087
Residual Std. Error	0.982 (df = 4472)	0.906 (df = 4474)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Democracy Fund Voter Study Group (2021).

Figure 1

Predicted Values of Perception of Hispanic Health Impact by Party and Race



Note. Data source: Democracy Fund Voter Study Group (2021).

both supported, with the exception of those who identify as Democrats. The results provide evidence of partisan bias, but there are significant differences due to ethnicity among partisans. Thus far, in exploring the question of whether white *and* Hispanic Republicans tend to perceive the pandemic as being less severe on the Hispanic community, it is clear that Republicans do, on average and regardless of race, support this prediction. We see a racial gap among Republicans and Independents. White Republicans downplay the impact of COVID-19, while Hispanic Republicans do also, but to a lesser degree. This finding holds *invariant* to the group in reference. Recall earlier epidemiological trends in September 2020 indicated a disproportionate impact on racial and ethnic minorities (Alcendor, 2020; Gramlich & Funk, 2020; Kazemian, Fuller, & Algara, 2021; Reyes et al., 2020; Vahidy et al., 2020; Yancy, 2020).

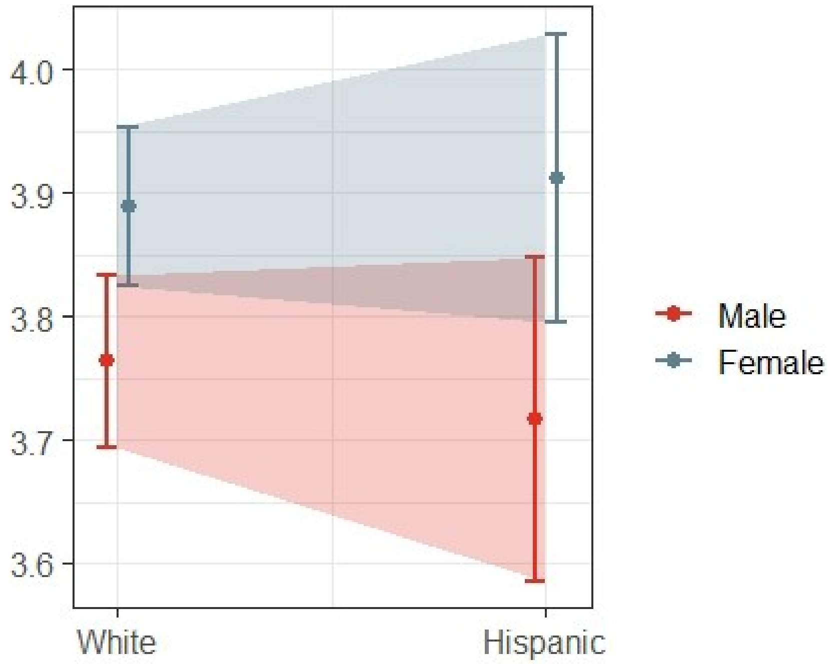
This reality is important because the impact of the COVID-19 pandemic can be understood with non-political information, such as the advice of medical experts and public health officials, but these findings suggest that partisanship influenced American perceptions differently, depending on race/ethnicity. White Republican perceptions are more aligned with partisan rhetoric surrounding the pandemic, and white Republicans are less likely to perceive a disproportionate impact relative to non-Republicans. Ultimately, members are aligned with the party line for both parties, but whites demonstrate this to a greater degree than Hispanics.

The third main finding is the unique effect of gender for Hispanics. If the impact of gender on perception is conditional on race, I expect to see a significant interaction effect between gender and ethnicity. Table 1 indicates that, in the aggregate, gender is not driving perceptions in a meaningful way. This was expected. However, we do see that Female × Hispanic in model 1 is significant. This is further illustrated in Figure 2, which is a plot of the predicted values of perception by gender and race, including the 95% confidence intervals. The predicted value for Hispanic males is lower than any other category in Figure 2, and the opposite is true for Hispanic females. This lends support to hypothesis 3a. Although the confidence intervals overlap for Hispanic males and females, this gender difference is significant. As a next step, I explore the role of linked fate in moderating this interaction. I suspect that, even though female perceptions are, on average, reliably higher than males when asked about the Hispanic health impact, the effect of linked fate will be stronger for males.

The last main finding provides evidence to support this conclusion. Among Hispanics, the moderating effect of linked fate is weaker for females. If perception is conditional on race, gender, and linked fate, so we would expect to see significant interaction effects between race and gender, and linked fate. The pandemic highlighted gender differentiation and gender-based

Figure 2

Predicted Values of Perception of Hispanic Health Impact by Gender and Race

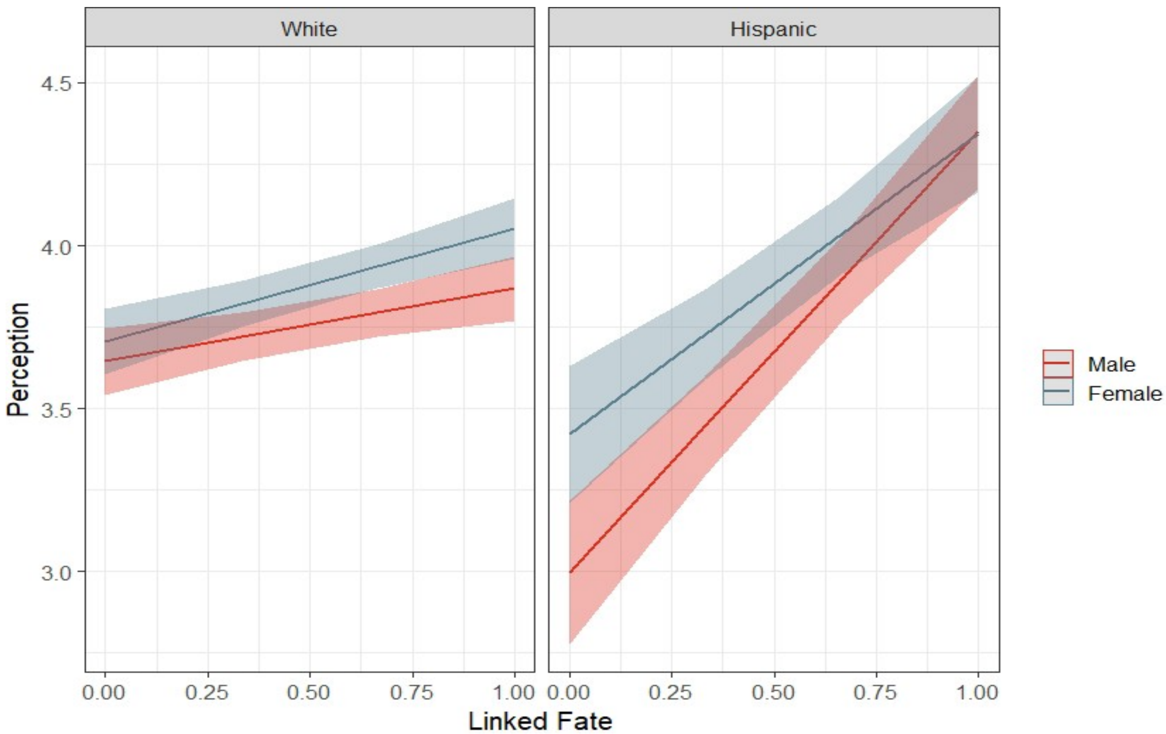


Note. Data source: Democracy Fund Voter Study Group (2021).

inequality (Collins et al., 2020; Petts et al., 2021; Stout et al., 2022), so I expect to see that the intersectionality of race and gender will result in ethnic linked fate being closely correlated with male perceptions. In other words, I expect that, relative to females, Hispanic males with high levels of ethnic linked fate will be more likely to perceive a greater pandemic health impact on their community. Notice that linked fate stands out in both model 1 and model 2 as a significant and positive predictor of perception among Hispanics and whites, regardless of the community in reference, yet is more closely tied to perceptions of minority health impact. The three-way interaction term in Table 1 (gender × linked fate × race) lends support for hypothesis 3b. The Female × LF × Hispanic interaction in model 1 is negative and statistically significant when the Hispanic community is in reference. This indicates that the moderating effect of gender on linked fate is distinct by race/ethnicity. We can see this relationship visualized in Figure 3, indicating that Hispanics are largely driving the interaction effect.

Figure 3

Predicted Values of Perception of Hispanic Health Impact by Gender and Race Across Values of Linked Fate



Note. Data source: Democracy Fund Voter Study Group (2021).

Among whites in Figure 3, we observe no meaningful gender difference at the baseline. Focusing in on Hispanics, we see the opposite is true. Only at the highest levels of linked fate do the two gender categories converge. Males generally viewed the pandemic impact as less severe than their female counterparts. For Hispanics, females are less responsive to linked fate than males. We also see a meaningful racial gap in the baseline in Figure 3. Whites see the pandemic as generally more severe on the Hispanic community, relative to Hispanics, but are much less responsive to linked fate. In summary, linked fate impacts perceptions differently across racial categories, *and* baseline perceptions vary by race/ethnicity.

These findings are important since they suggest that Hispanic perceptions of co-ethnic community impact are not only shaped by partisanship, but they are also meaningfully impacted by gender and linked fate. This evidence that challenges hypothesis 3b, since Hispanic males and females overlap at the highest levels of linked fate.

The data indicate that, for Hispanic females, concerns about Hispanic health impact may have been less connected to their racial/ethnic identity during the COVID-19 pandemic. Hispanic female perceptions were different, in part, because of the salience of gender during this economically difficult time. Previous findings indicate that women had higher levels of gender linked fate when they were subject to major pandemic changes (Stout, Kretschmer, & Ruppanner, 2022) and, given the findings thus far, Hispanic perceptions are of their own community uniquely impacted by linked fate and gender, but the analysis has been lacking in a comparative judgment that will adequately address the question of *disproportionate* impact.

Perceptions of Disproportionate Impact

One factor we have yet to consider specifically is the difference in perception across groups. I build upon the previous models by focusing on the difference in Hispanic perceptions when asked about the two different communities. By introducing this dependent variable, I am specifically measuring respondent perceptions of disparity and moving beyond the simple measure of perception alone. This measure will capture the evident discrepancies in health impact among whites and Hispanics. This new dependent variable targets individual differences in perception across racial groups. This allows me to specifically predict perceptions of the disproportionate impact of COVID-19 on the minority Hispanic community. I calculate the difference between the perceived the impact on whites and the perceived impact on Hispanics. This allows me to capture the difference between individual perceptions of co-ethnic impact and their perception of out-group impact. Equation 2 indicates the model specifications.

$$\begin{aligned}\hat{C}_D &= \beta_0 + \beta_1 Gender + \beta_2 Linkedfate + \delta_0 Race + \beta_3 Independent \\ &\quad + \beta_4 Republican + \beta_5 Age + \beta_6 Education \\ &\quad + \delta_1 Gender \times Race + \delta_2 Gender \times Linkedfate \\ &\quad + \gamma_1 Race \times Linkedfate \times Gender \qquad (2)\end{aligned}$$

$\hat{C}_D$ is the outcome measure of the difference in perception. The model includes the seven original controls along with the interactions shown in equation two. I include three two-way interactions: Female × Linked Fate, Female × Hispanic, and Linked Fate × Hispanic. In doing this, I can discern the difference that the female, Hispanic, and linked fate terms are contributing relative to the baseline category, since all of the variables included in the interaction values range from 0 to 1. In particular, I can further explore the role of linked fate and gender in predicting perceptions of disparity across groups. Lastly, I include the same three-way interaction that was in the first model to see if Hispanic perceptions are uniquely impacted by linked fate and gender using the new dependent variable.

The new model in Table 2 includes all whites and Hispanics. The dependent variable is the difference in perception (range: −4 to +4, mean: −0.4, standard deviation: 0.88). Along with linked fate, the previous controls are included: gender, party identification, birth year, and education. Because I am no longer stratifying by race, I add an additional control for race/ethnicity and include survey weights.

Table 2

OLS Predictors of Difference in Perception for All Respondents

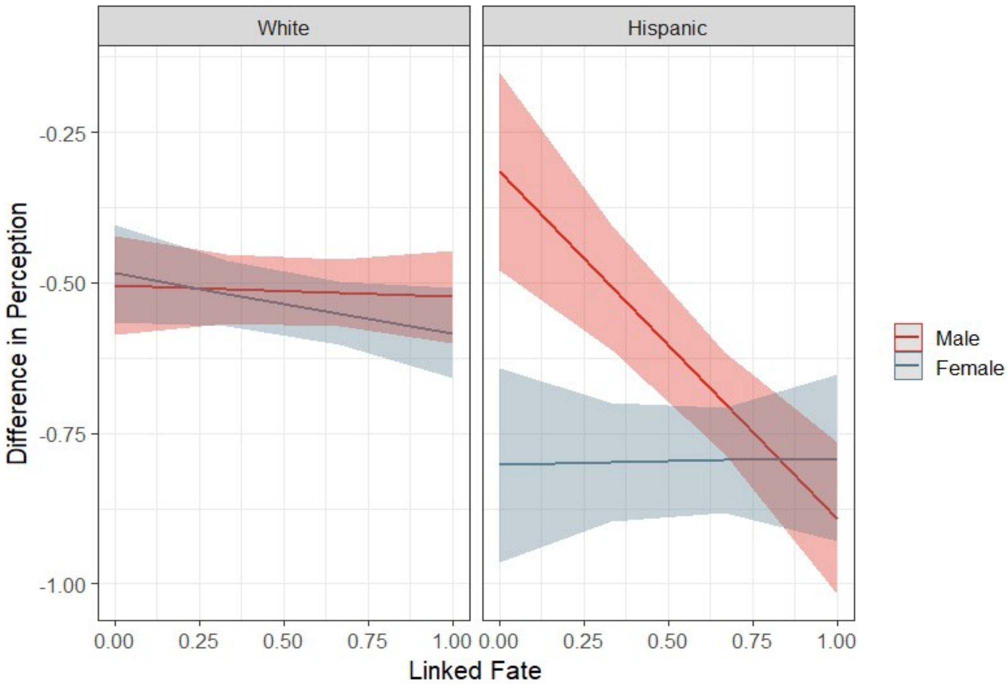
	Dependent variable: P (White health impact perception – Hispanic health impact perception)
Female	0.019 (0.052)
Linked Fate	−0.020 (0.061)
Hispanic	0.189** (0.090)
Independent	0.239*** (0.030)
Republican	0.484*** (0.030)
Age	−0.126** (0.054)
Education	−0.436*** (0.042)
Female×Linked Fate	−0.080 (0.086)
Female×Hispanic	−0.507*** 0.127)
Linked Fate×Hispanic	−0.557*** 0.136)
Female×Linked Fate×Hispanic	0.668* (0.196)
Constant	−0.242*** 0.052)
Observations	4,488
Adjusted R2	0.097
Residual Std. Error	0.804 (df = 4476)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Democracy Fund Voter Study Group (2021).

An important finding in Table 2 is the gender gap among Hispanics. Linked fate has a much weaker effect for females. While being female, alone, appears to have no independent effect (the Female × Linked Fate interaction in Table 2 indicates that there is no difference between males and females across levels of linked fate), the three-way Female × Linked Fate × Hispanic interaction is positive and significant. The interaction is visualized as predicted values in Figure 4. Figure 4 allows us to easily see what is driving the relationship in the model predicting the perception of disproportionate impact. First, for accuracy of interpretation, note that the top values on the y-axis represent smaller differences in perception. Likewise, the lower y-axis values represent larger differences in perception across groups. Drawing attention to whites on the left side, we see that white males and females are almost indistinguishable when it

Figure 4

Predicted Values of Difference Perception by Gender and Race Across Values of Linked Fate



Note. Data source: Democracy Fund Voter Study Group (2021).

comes to the impact of linked fate on a gap in perception across groups. This pattern is similar to the pattern seen among whites in the previous model.

Next, we find the central finding in this study. Hispanic women tended to perceive a greater difference in impact than any other category, since Hispanic females have the highest baseline difference in perception. They tended to view the health impact on Hispanics and whites very differently. Ethnic linked fate, however, has no impact on the difference in perceptions of Hispanic women. This provides that challenges previous findings: evidence of gender weakening the effect of ethnicity. The weak impact of linked fate among Hispanic females sharply contrasts with males, and the difference in baseline between white and Hispanic females is even more striking. At the same time, while linked fate has no impact on the *difference* in perceptions of

Hispanic women, it has a dramatic effect on Hispanic males. This reveals important finding that was missed with the original dependent variable. At the lowest values of linked fate the gender gap in perception of severity is very large. Hispanic men with weak levels of linked fate tend to have a smaller gap in perception. Hispanic men with strong levels with linked fate tend to report a larger gap in perception across the two communities. Ultimately, Figure 3 provides strong support for hypothesis 3b which states that Hispanic males with high levels of ethnic linked fate will be more likely to perceive a greater pandemic health impact on Hispanics. As was seen in the original model, the gender gap does not exist for whites.

The difference in baseline between white and Hispanic females is also striking. Hispanic females have the highest baseline difference in perception. As was previously mentioned, Hispanic families faced economic adversity during the COVID-19 pandemic, with the females bearing a disproportionate burden. These findings suggest that linked fate was not nearly as salient for females, likely because the economic pressures activated gender identity in a unique way. In contrast, male ethnicity correlates with health impact for the Hispanic community.

Discussion

Despite the polarized U.S. political system, a global pandemic is an issue of medical and scientific importance in which partisan divisions should be ostensibly irrelevant. Against this backdrop, the impact of the COVID-19 pandemic can be understood with non-political information, such as the advice of medical experts and public health officials. The COVID-19 pandemic provides an opportunity to study the relationship between partisanship identity and perceptions of non-political disproportionate health impact.

Instead, the COVID-19 pandemic was highly politicized in the US. Not only is there evidence of partisan bias, but there are significant differences in perception associated with ethnicity among partisans. In general, the results support theories of identity politics and their applicability in a global health crisis. Not only were there behavioral and epidemiological outcomes, but perceptions were altered by this partisan-dominated event. My work suggests that in order to promote health equity, public health messaging needs to be tailored to reach different audiences. Perception of interdependence and vulnerable populations is key to containment. In this work, I am furthering established work on Hispanic linked fate, challenging theories around the complementary nature of gender and ethnic linked fate, and bridging gaps between political science and public health research. Perceptions are key to understanding pandemic response since perceptions impact public health outcomes via behavioral mechanisms.

These findings suggest that personal experience and partisan information both contributed to American perceptions. Even in the aggregate, the salience of these factors depended on the self-reported identity of the individual. Not only do citizens generally see the pandemic as a partisan issue, they perceive the health impact across racial/ethnic groups differently based on their party identification and race. In general, white Republicans viewed the pandemic as less severe, indicating more alignment with conservative Republican rhetoric.

Partisanship is more aligned with race for non-Hispanic whites, indicating that partisanship was a more salient social identity early in the pandemic. With identity fusion, elite rhetoric downplayed severity and the need for precautions. Alternatively, it could be that non-Hispanic whites are, on average, more removed from the nonwhite experience of the pandemic, leading to a reliance on party identification for perceptions of pandemic impact.

For Hispanics, partisanship shaped perception in a different way. The congruence seen among white Republicans and white Democrats is not observed among Hispanics. Instead, gender is a meaningful factor behind perception. The most central findings in this study concern the out-sized impact of linked fate among Hispanic males. First, males with a strong sense of ethnic unity were much more aware of the disproportionate burden on their community. The relationship was non-existent for females, however. Most important, despite the lack of a relationship between linked fate and perception for females, they perceive the pandemic as more severe for Hispanics in general, relative to their white female counterparts. These findings make sense, given the context of the pandemic. Hispanic families faced economic adversity during this time, with the females bearing a disproportionate burden. Financial crises and job loss were high (Vargas & Sanchez, 2020). This work underscores the idea that, for Hispanic females, experiences of gender inequality defined the pandemic experience. The findings suggest that the pandemic experience was uniquely burdensome for Hispanic caretakers. These findings highlight economic inequality and the intersectionality of race and gender. In the pandemic context, race and gender were not complementary for Hispanic women. These findings suggest that gender was more salient than racial/ethnic identity for Hispanic women in the context of a health crisis.

Moving forward, we begin to understand how far perceptions stray from actual data measures. While the results of this study should be interpreted with caution due to discrepancies in sample size and the cross-sectional nature of the analysis, they shed some light on the conditions under which racial, gender and partisan identities dominate. They also underscore the need for more research centered on minority experiences of the pandemic.

References – Chapter 2

Achen, C. H., & Bartels, L. M. (2016). *Democracy for realists: Why elections do not produce responsive government*. Princeton University Press.

Alcendor, D. J. (2020). Racial disparities-associated COVID-19 mortality among minority populations in the US. *Journal of Clinical Medicine 9*(8), 2442. doi:10.3390/jcm9082442

Algara, C., Fuller, S., Hare, C., & Kazemian, S. (2021). The interactive effects of scientific knowledge and gender on COVID-19 social distancing compliance. *Social Science Quarterly, 102*(1), 7-16. https://doi.org/10.1111/ssqu.12894

Ansolabehere, S., & Rivers, D. (2013). Cooperative survey research. *Annual Review of Political Science, 21*, 1-23

Bartels, L. (2002). Beyond the running tally: Partisan bias in political perceptions. *Political Behavior, 24*(2), 117-150

Bello-Pardo, E. D., Nayak, M., & Ray, J. (2020, March 18). *New coronavirus polling shows Americans are responding to the threat unevenly.* Medium. https://medium.com/@YouGovBlue/new-coronavirus-polling-shows-americans-are-responding-to-the-threat-unevenly-641026301516

Bibbins-Domingo, K. (2020). This time must be different: Disparities during the COVID-19 pandemic. *Annals of Internal Medicine, 173*(3), 233-234.

Broockman, D. E., & Butler, D. M. (2015). The causal effects of elite position-taking on voter attitudes: Field experiments with elite communication. *American Journal of Political Science, 61*(1), 208-221

Brown, T. (2018). Racial stratification, immigration, and health inequality: A life course intersectional approach. *Social Forces 96*(4), 1507-1540.

Buchanan, L., Bui, Q., & Patel, J. K. (2020, July 3). Black Lives matter may be the largest movement in U.S. History. *The New York Times*. https://www.nytimes.com/interactive/2020/07/03/us/george-floyd-protests-crowd-size.html

Cain, B. E., Kiewiet, D. R., & Uhlaner, C. J. (1991). The acquisition of partisanship by Latinos and Asian Americans. *American Journal of Political Science 35*(2), 390-422.

Campbell, A., Converse, P. E., Miller, W. E., & Stokes, D. E. (1960). *The American voter*. John Wiley and Sons.

Campi, A., & Junn, J. (2019). Racial linked fate and gender in U.S. politics. *Politics, Groups, and Identities, 7*(3), 654–662.

Chen, H-F., & Karim, S. A. (2021). Relationship between political partisanship and COVID-19 deaths: Future implications for public health. *Journal of Public Health, 44*(3), 716-723. doi:10.1093/pubmed/fdab136

Collins, C., Landivar, L. C., Ruppanner, L., & Scarborough, W. J. (2020). COVID-19 and the gender gap in work hours. *Gender Work Organ, 28*(Suppl. 1), 101-112.

Corbie-Smith, G., Thomas, S. B., & St. George, D. M. M. (2002). Distrust, race, and research. *Archives of Internal Medicine, 162*(21), 2458-2463.

Dawson, M. C. (1994). *Behind the mule*. Princeton University Press.

Democracy Fund Voter Study Group. (2021). *VOTER survey data*. https://www.voterstudygroup.org/data/voter-survey

Fan, Y. A., Orhun, Y., & Turjeman, D. (2020, May). *Heterogeneous actions, beliefs, constraints and risk tolerance during the COVID-19 pandemic*. National Bureau of Economic Research Working Papers 27211. Social Science Research Network. https://ssrn.com/abstract=3621796

Golash-Boza, T. (2016). A critical and comprehensive sociological theory of race and racism. *Sociology of Race and Ethnicity, 2*(2), 129-141.

Gomez-Aguinaga, B., Oaxaca, A. L., Barreto, M. A., & Sanchez. G. R. (2021). Spanish-language news consumption and Latino reactions to COVID-19. *International Journal of Environmental Research and Public Health, 18*(18), 9629. doi:10.3390/ijerph18189629

Gramlich, J., & Funk, C. (2020, June). *Black Americans face higher COVID-19 risks, are more hesitant to trust medical scientists, get vaccinated.* Pew Research Center. https://www.pewresearch.org/short-reads/2020/06/04/black-americans-face-higher-covid-19-risks-are-more-hesitant-to-trust-medical-scientists-get-vaccinated/

Green, D., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. Yale University Press

Green, J., Edgerton, J., Naftel, D., Shoub, K., & Cranmer, S. J. (2020). Elusive consensus: polarization in elite communication on the COVID-19 pandemic. *Science Advances* 6(28), eabc2717. doi: 10.1126/sciadv.abc2717

Grossman, G., Kim, S., Rexer, J. M., & Thirumurthy, H. (2020). Political partisanship influences behavioral responses to governor's recommendations for COVID-19 prevention in the United States. *Proceedings of the National Academy of Sciences, 117*(39), 24144-24153.

Harnois, C. E. (2015). Race, ethnicity, sexuality, and women's political consciousness of gender. *Social Psychology Quarterly, 78*(4), 365-386.

Jamieson, T., Caldwell, D., Gomez-Aguinaga, B., & Dona-Reveco, C. (2021). Race, ethnicity, nativity and perceptions of health risk during the COVID-19 pandemic in the US. *International Journal of Environmental Research and Public Health 18*(21), 11113. doi:10.3390/ijerph182111113

Kazemian, S., Fuller, S., & Algara, C. (2021). The role of race and scientific trust on support for COVID-19 social distancing measures in the United States. *PLoS ONE, 16*(7), e0254127. doi:10.1371/journal.pone.0254127

Lu, F., & Jones, B. (2019). Effects of belief versus experiential discrimination on race-based linked fate. *Politics, Groups, and Identities, 7*(3), 615–624. https://doi.org/10.1080/21565503.2019.1638804.

Maltby, E., Rocha, R. R., Jones, B., & Vannette, D. L. (2020). Demographic context, mass deportation, and Latino linked fate. *Journal of Race, Ethnicity and Politics, 5*(3), 509–536.

Marsh, W. Z. C., & Ramírez, R. (2019). Unlinking fate? Discrimination, group-consciousness, and political participation among Latinos and Whites. *Politics, Groups, and Identities, 7*(3), 625–641.

Mason, L. (2016). A cross-cutting calm: How social sorting drives affective polarization. *Public Opinion Quarterly, 80*(special issue 1), 351–377.

Mason, L., & Wronski, J. (2018). One tribe to bind them all: How our social group attachments strengthen partisanship. *Political Psychology, 39*, 257–277.

Masuoka, N. (2006). Together they become one: Examining the predictors of panethnic group consciousness among Asian Americans and Latinos. *Social Science Quarterly, 87*(5), 993–1011.

Motta, M., Stecula, D., & Farhart, C. (2020). How right-leaning media coverage of COVID 19 facilitate the spread of misinformation in the early stages of the pandemic in the US. *Canadian Journal of Political Science/Revue Canadienne de Science Politique* (May 1), 1-8. doi:10.1017/S0008423920000396

Pérez, E. O. (2015). Xenophobic rhetoric and its political effects on immigrants and their co-ethnics. *American Journal of Political Science, 59*(3), 549–564.

Petts, R., Daniel, J., Carlson, L., & Pepin, J. R. (2021). A gendered pandemic: Childcare, homeschooling, and parents' employment during COVID-19. *Gender Work, and Organization, 28*(S2), 515-534

Reyes C., Husain, N., Gutowski, C., St. Clair, S., & Pratt, G. (2020, April 7). Chicago's coronavirus disparity: Black Chicagoans are dying at nearly six times the rate of White residents, data show. *Chicago Tribune*. https://www.chicagotribune.com/coronavirus/ct-coronavirus-chicago-coronavirus-deaths-demographics-lightfoot-20200406-77nlylhiavgjzb2wa4ckivh7mu-story.html

Smith, C. W., Lopez Bunyasi, T., & Smith, J. C. (2019). Linked fate over time and across generations. *Politics, Groups, and Identities, 7*(3), 684–94. https://doi.org/10.1080/21565503.2019.1638801

Stout, C., Kretschmer, K., & Ruppanner, L. (2022). The link between familial care, the COVID pandemic and gender linked fate. *Journal of Women, Politics and Policy, 43*(4), 514-524.

Tai, D. B. G., Shah, A., Doubeni, C. A., Sia, I. G., & Wieland, M. L. (2021). The disproportionate impact of COVID-19 on racial and ethnic minorities in the United States. *Clinical Infectious Diseases, 72*(4), 705-708. doi: 10.1093/cid/ciaa815

Vahidy, F. S., Nicolas, J. C., Meeks, J. R., Khan, O., Pan, A., Jones, S. L., Masud, F., Sostman, H. D., Phillips, R., Andrieni, J. D., Kash, B. A., & Nasir, K. (2020). Racial and ethnic disparities in SARS-CoV-2 pandemic: Analysis of a COVID-19 observational registry for a diverse US metropolitan population. *BMJ Open, 10*(8):e039849. doi:10.1136/bmjopen-2020-039849

Vargas, E. D., & Sanchez. G. R. (2020). COVID-19 is having a devastating impact on the economic well-being of Latino families. *Journal of Economics, Race, and Policy, 3*(4), 262-269. doi:10.1007/s41996-020-00071-0

Vargas, N., Mora, G. C., & Gleeson, S. (2021). Race and ideology in a pandemic: White privilege and patterns of risk perception during COVID-19. *Social Problems* (September 10), spab037. doi:10.1093/socpro/spab037

Wolaver, A., & Doces, J. (2022). Whistling through the COVID-19 pandemic: Optimism bias and political beliefs in the United States. *American Politics Research, 50*(3), 396-415.

Yancy, C. W. (2020). COVID-19 and African Americans. *Journal of the American Medical Association, 323*(19), 1891–1892.

Zhao E., Wu, Q., Crimmins, E. M., & Ailshire, J. A. (2020). Media trust and infection mitigating behaviors during the COVID-19 pandemic in the USA. *BMJ Global Health, 5*(1), e003323. doi:10.1136/ bmjgh-2020-003323

Chapter 2 Appendix

The dependent variable is worded as follows: “How much impact do you think the coronavirus will ultimately have on the health of these groups in the United States?” [Hispanic, White]. This question is asked to everyone and all respondents rated all groups. The question is coded 1-5 with 1 being “none at all” and 5 being “a lot.”

Linked fate is measured with the survey question: “How much do you think what happens generally to [race of the respondent] in this country will have something to do with what happens in your life?” Responses to this item are on a four-point scale anchored at 1 with ”none” and 4 with ”a lot.”

Robustness Check: Ordered Logistic Model

Table 2-1

Ordered Logit Predictors of Perceived Impact of COVID-19 with Interactions

	Hispanic community	White community
Female	0.065 0.157	
(0.120)		(0.123)
Linked Fate	0.370*** 0.348	**
(0.141)		(0.145)
Hispanic	-1.557*** -0.665	**
(0.284)		(0.295)
Independent	-1.250*** -0.818	***
(0.079)		(0.079)
Republican	-2.019*** -1.272	***
(0.081)		(0.080)
Age	0.244* 0.275	**
(0.135)		(0.138)
Education	0.224** -0.616	***
(0.104)		(0.106)
Hispanic x Independent	0.776*** 0.313	*
(0.173)		(0.177)
Hispanic x Republican	0.750*** 0.776	***
(0.180)		(0.188)
Hispanic:Education	-0.076 -0.002	
(0.252)		(0.262)
Female x Hispanic	0.653** -0.243	
(0.292)		(0.301)
Hispanic x Age	1.014*** -0.206	
(0.337)		(0.347)
LF:Hispanic	2.059*** 1.142	***
(0.317)		(0.332)
Female x LF	0.307 0.151	
(0.198)		(0.203)
Female x LF x Hispanic	-0.959** -0.013	
(0.452)		(0.471)
Observations	4,344	4,345

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Democracy Fund Voter Study Group (2021).

Robustness Check: Ordered Logistic Model with Alternative Dependent Variable

Table 2-2

Logit Predictors of Difference in Perception with Interaction Terms

	M_{logit}
Female	0.040
	(0.137)
Linked Fate	-0.143
	(0.159)
Hispanic	0.377
	(0.244)
Independent	0.718***
	(0.076)
Republican	1.430***
	(0.083)
Age	-0.291**
	(0.140)
Education	-1.105***
	(0.108)
Female x Linked Fate	-0.202
	(0.223)
Female x Hispanic	-0.945***
	(0.333)
Linked Fate x Hispanic	-1.116***
	(0.363)
Female x Linked Fate x Hispanic	1.187**
	(0.511)
Observations	4,344

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Democracy Fund Voter Study Group (2021).

Chapter 2 Supplemental Appendix

Table 2-3

Partisan Identification by Race/Ethnicity

	Democrat	Independent	Republican	Total
White	1356	1323	1185	3864
Black	447	143	38	628
Hispanic	313	176	139	628
Asian	81	52	37	170
Total	2197	1694	1399	5290

Table 2-4

Unweighted Percentages Race/Ethnicity

	White	Hispanic	Total
Dem	0.30	0.07	0.37
Ind	0.29	0.04	0.33
Rep	0.26	0.03	0.29
Male	0.43	0.07	0.50
Female	0.43	0.07	0.50
Edu 1	0.02	0.01	0.03
Edu 2	0.23	0.04	0.27
Edu 3	0.20	0.04	0.24
Edu 4	0.09	0.02	0.11
Edu 5	0.19	0.02	0.21
Edu 6	0.12	0.01	0.13

Figure 2-1

Frequency Distribution of Age

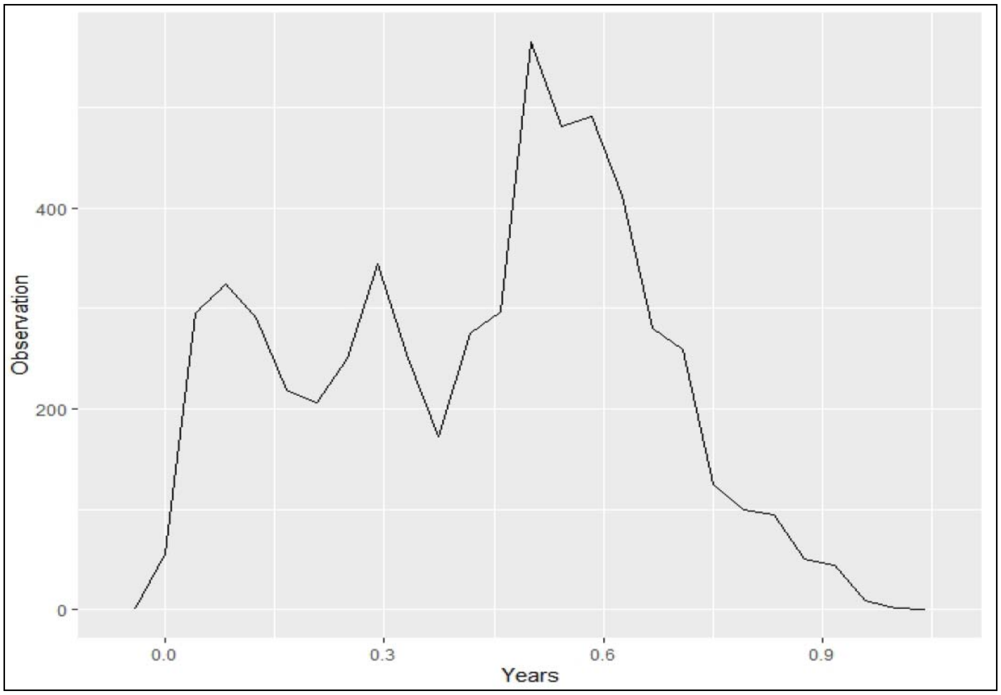


Figure 2-2

COVID-19 Impact White Predictors of Perception for All Respondents Using OLS Regression with Weights—Hispanics by Partisanship

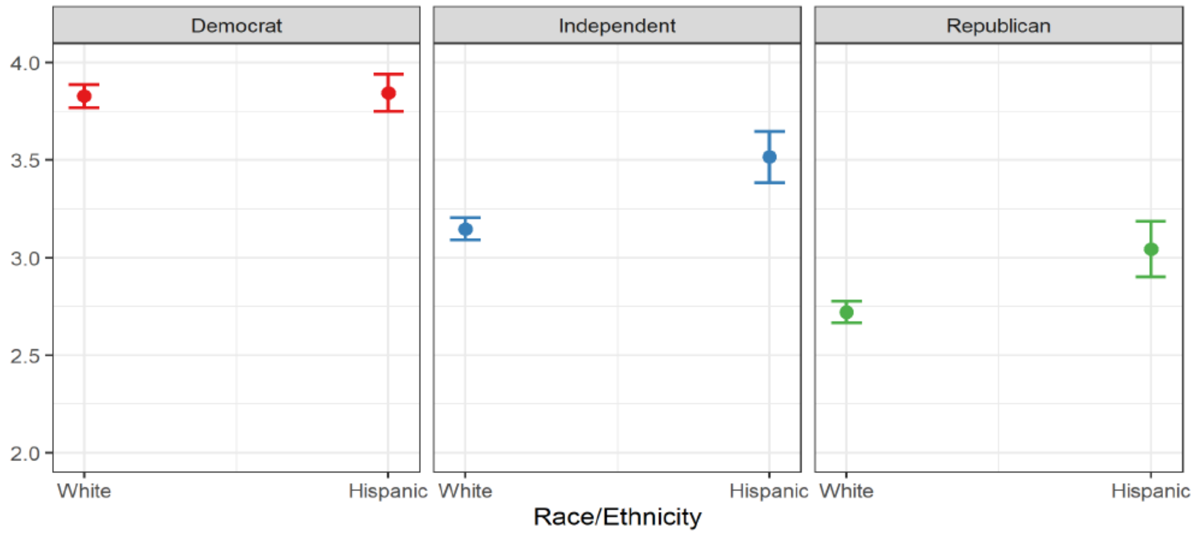


Figure 2-3

COVID-19 Impact White Predictors of Perception for All Respondents Using OLS Regression with Weights—Whites by Partisanship

Figure 2-4

OLS Regression of Difference Between Perceived Health Impact of COVID-19

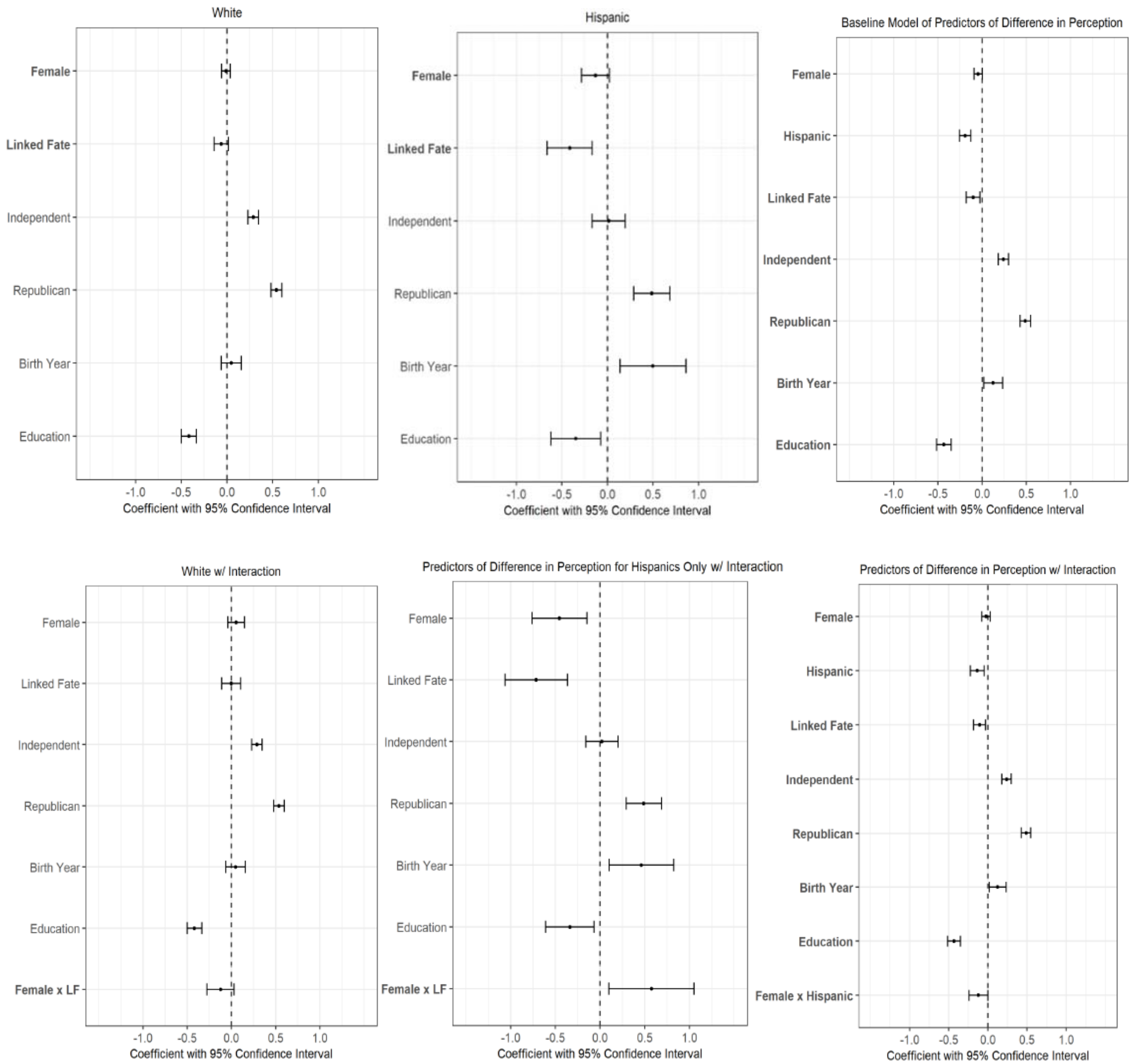


Figure 2-5

Distribution of Difference in Perception Between In-Group vs. Out-Group for Hispanics and Whites

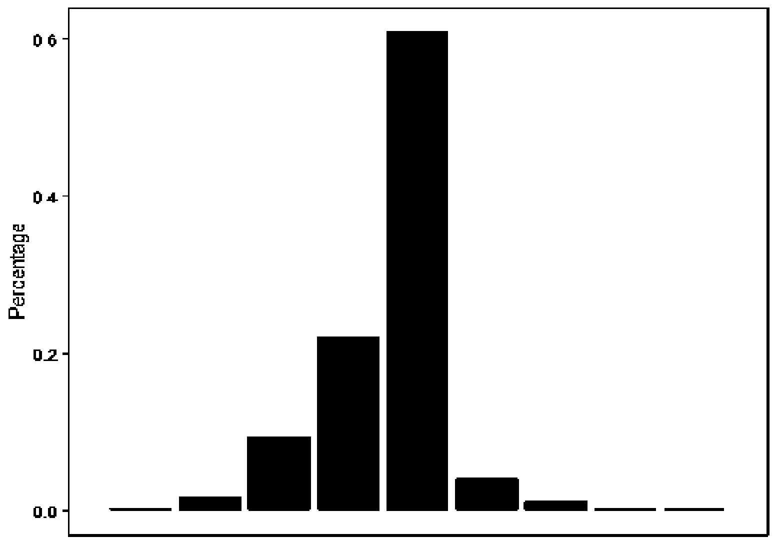


Figure 2-6

Distribution of Difference in Perception Between In Group vs. Out Group for Hispanics Only

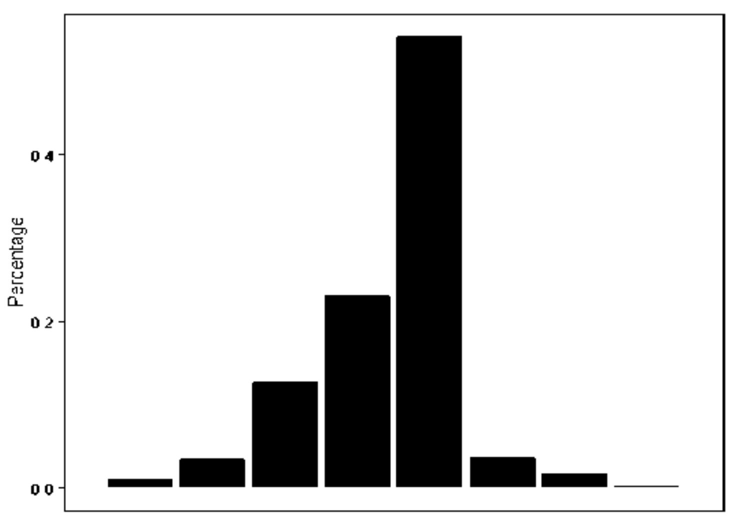


Figure 2-7

OLS Regression of Difference Between Perceived Health Impact of COVID-19

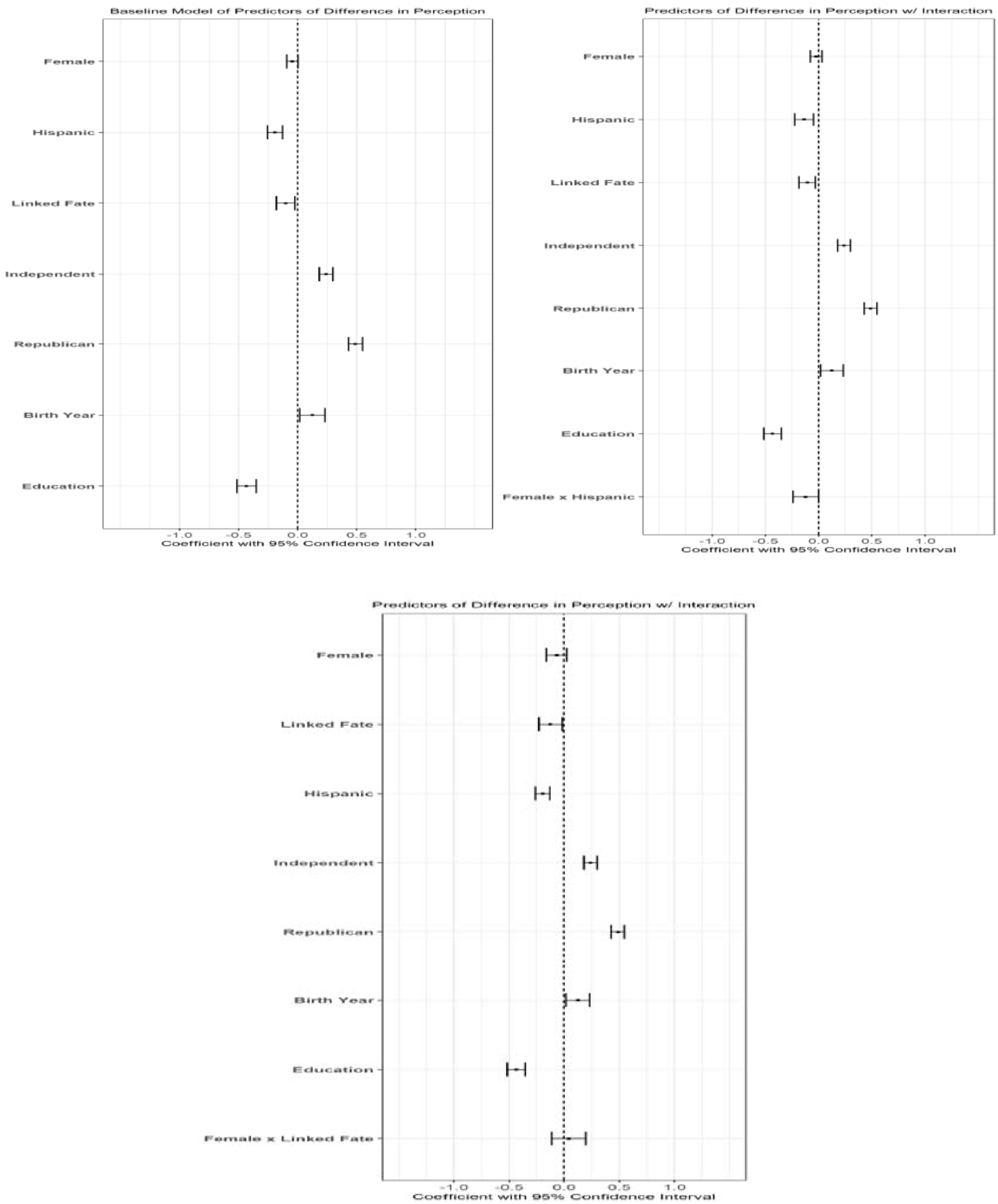
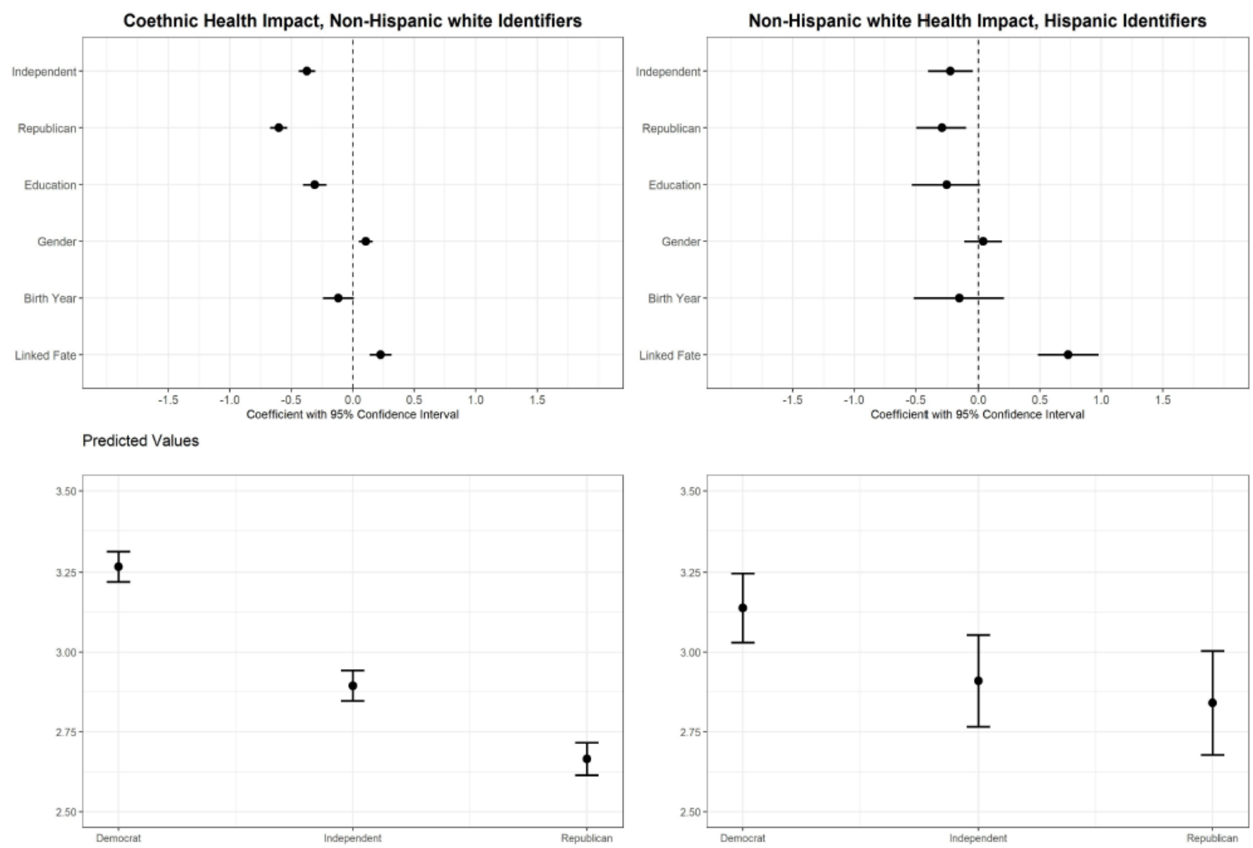


Figure 2-8

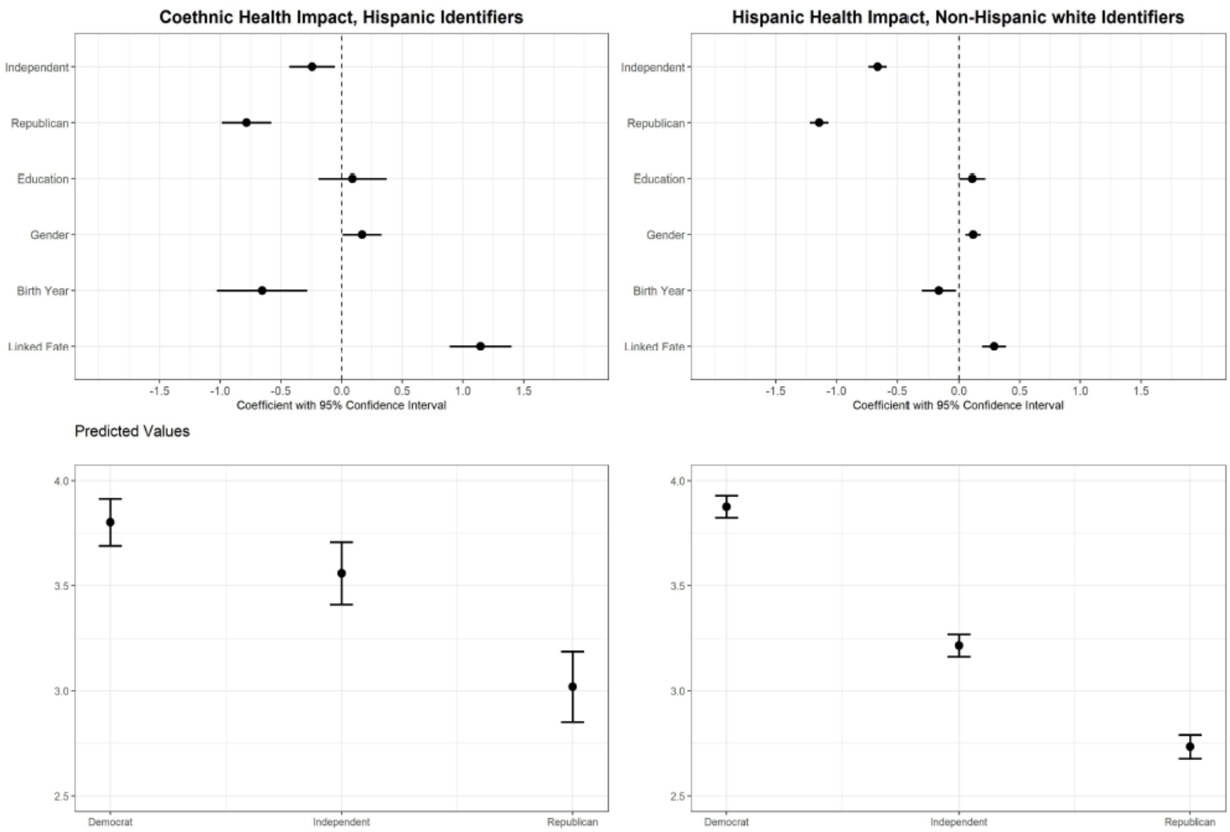
Predictors of Perception of White Community Health Impact for In-Group and Out-Group Respondents and Corresponding Predicted Valued of Partianship



Note. Data source: Democracy Fund Voter Study Group (2021).

Figure 2-8

Predictors of Perception of Hispanic Community Health Impact for In-Group and Out-Group Respondents and Corresponding Predicted Valued of Partianship



Note. Data source: Democracy Fund Voter Study Group (2021).

CHAPTER 3

Vaccine Hesitancy: A Young Partisan's Game

August 3, 2023

Abstract

Partisanship and ideology were drivers behind COVID-19 vaccine hesitancy (Fridma et al., 2021; Sharma et al., 2021). Conservative Republicans have been shown to be more hesitant of vaccination than liberal Democrats (Cowan et al., 2021). However, the interaction between age and ideology is unexplored. This paper examines whether the relationship between ideology and vaccine hesitancy is conditioned by age. We use data from the Collaborative Multiracial Post-Election Survey (N=15,000) to ask whether older adults, who tend to be more conservative and ideologically entrenched, retain these attributes in the context of a politicized vaccine campaign. We find that the relationship between ideology and COVID-19 vaccine hesitancy is conditional on age. In fact, for those over 70, ideology has no systematic effect. Furthermore, we find that for younger conservatives and liberals, vaccination attitudes are more closely tied to ideology than previously known. Our findings uncover generational differences that have terrifying implications: as older voters leave the electorate and younger voters become more polarized, future pandemic response will be rapidly hobbled by partisan disagreement.

Keywords: COVID-19, Vaccine Hesitancy, Age, Ideology

Operation Warp Speed

In May 2020, shortly after the emergence of a novel and deadly pathogen, the U.S. government, launched Operation Warp Speed with the goal of rapidly developing and deploying multiple COVID-19 vaccines (U.S. Government Accountability Office, 2021). Several highly effective vaccines were developed in record time and swiftly gained FDA approval. The goal of ending the pandemic through vaccination seemed in sight. However, success hinged on an important wrinkle, widespread vaccine uptake. While the first vaccines were available in December of 2020, the vaccination rate slowed in 2021 (Johns Hopkins University, 2023) and widespread adoption took years. Initially, high levels of uptake quickly gave way to persistent vaccine hesitancy as vaccination became a center of political debates. Slow adoption of the vaccine had real and permanent costs in terms of deaths, hospitalization, and preventable disease (Mohammed et al., 2023). While the COVID-19 pandemic is largely behind us and high levels of vaccination have been achieved (Sparks et al., 2023), understanding the dynamics of vaccine hesitancy will be a key component of efforts to end future pandemics. This paper contributes to our understanding of vaccine hesitancy in two main ways.

First, we test existing findings that vaccine attitudes and hesitancy broadly have become part of Americans ideological commitments. Keeping with previous literature, we find strong ideological effects on vaccine hesitancy and likelihood of being vaccinated. Identification as conservative predicts higher vaccine hesitancy whereas liberal identity predicts lower hesitancy.

Second, and more importantly, we demonstrate that ideological differences in vaccine attitudes and behavior are dependent on age. We find that the effects of ideology on respondents' level of vaccine hesitancy are conditional on respondents' age. *We show that age functions as a moderating variable for the effects ideology has on vaccine hesitancy. This is consistent with previous findings reporting a negative relationship between attitude susceptibility and age.* Furthermore, we find that age is a linear predictor of how well ideology predicts hesitancy. The effects of ideology on hesitancy are strongest among younger respondents and diminish linearly with age. Most surprisingly, ideology has no effect on hesitancy among the oldest Americans, and these results are robust to disaggregation by ethnicity.

Our findings have alarming implications should the pattern continue, and successive age cohorts exhibit increasing levels of vaccine hesitancy. Future pandemic responses are likely to be hampered by exceptionally high levels of hesitancy among the young and a declining share of older Americans who support vaccination. Furthermore, because the rise in hesitancy is being led by young conservatives while young liberals remain largely supportive of vaccination, future pandemic responses are likely to devolve into acrimonious partisan fights even more rapidly than the COVID 19 response.

Vaccine Hesitancy, Ideology, and Age

Previous literature has shown demographic differences and social determinants correlated with disparities in vaccine uptake including age and ideology, previously identified, along with race/ethnicity, income and urbanity and social norms (Wang & Liu, 2021; Huang et al., 2023). While there is some disagreement on the role of ideology in vaccine hesitancy (Pogue et al., 2020), the relationship existed before the COVID-19 pandemic (Baumgaertner et al., 2018). Current literature shows that Democrats and Republicans are deeply divided in their likelihood of receiving a COVID-19 vaccine (Huang et al., 2023; Motta et al., 2020). Conservatives are more likely to be anti-vaccine or vaccine hesitant not just for COVID-19 Vaccines but also for standard vaccines like measles and the flu. As expected, COVID-19 vaccine uptake, in turn, was highly influenced by partisanship as differences in attitudes toward the vaccine grew (Cowan et al., 2021). Americans who voted for Trump in 2016 were less likely to report intention to be vaccinated (Allington et al., 2021a). Republican college students, in particular, were more hesitant toward the vaccine early in the pandemic (Sharma et al., 2021) and today, younger residents still have lower vaccination rates than their older counterparts (Sparks et al., 2023).

Generational differences were magnified during the pandemic. While COVID-19 is the third leading cause of death in the US (Xu et al., 2022) it almost exclusively effects older populations. Three quarters of COVID-related deaths occurred among older adults (Xu et al., 2022) and rates of hospitalization were much higher among older adults. Perhaps unsurprisingly, younger adults have lower vaccination rates (Cao et al., 2022), and there was an uptick in resentment among younger generations who felt disrupted by pandemic restrictions, financial hardship and social isolation due to vulnerable populations, including elderly adults (Ayalon et al., 2021; Sutter et al., 2022).

So, on the one hand, the literature suggests that conservatives exhibit more vaccine hesitancy. Thus, because older American's tend to be more conservative (Gonyea & Hudson, 2020), they should exhibit higher levels of hesitancy as well. However, other researchers have found that younger Americans have higher levels of hesitancy and lower levels of vaccine uptake (Cao et al., 2022) despite being much more liberal than older age cohorts. Against this backdrop, we suspect that we will uncover consistent support for the impressionable years hypothesis (Krosnick & Alwin, 1989). This hypothesis emphasizes early exposures and influences as persistent determinants of political attitudes. What has yet to be tested is the relationship of ideology to vaccine hesitancy across age cohorts. We provide this contribution by asking to what extent the effects of ideology are moderated by age.

We provide an answer to this puzzle through an interaction effect demonstrating that ideological effects on hesitancy are dependent on respondents' age cohort. If age is the main mover, we expect that it should moderate the effect of self-reported ideology on respondent's level of vaccine hesitancy. However, if discussants' ideology moves independent of age, then age should be inconsequential in its ability to determine vaccination status.

H1: The influence of ideology on vaccine hesitancy will be contingent upon age, such that divergence in vaccine attitudes based on ideological orientations will diminish as individuals age.

H2: Age will function as a linear moderator, such that the effects of ideology on vaccine hesitancy will decline in a linear form as individuals age.

H3: The effects of ideology on vaccine hesitancy will be moderated by generational cohort, such that ideological differences in vaccine attitudes will be highest among millennials and Generation Z but lowest among Boomers and the Silent Generations.

Data and Methods

To examine the interaction between age and ideology on individuals' propensity to receive a COVID-19 vaccine, we used data from a large nationally representative survey: the 2020 Collaborative Multi-racial Post-Election Survey (CMPS). The CMPS consists of a national sample of 15,000 Americans collected between April 2 and August 25, 2021 (Barreto et al., 2020).[1] Our key dependent variable, COVID-19 vaccine hesitancy, is measured on a 4-point scale, ranging from already having the vaccine to not trusting the vaccine.[2] The question is worded as follows: When it comes to the new vaccine to protect against the coronavirus, which comes closest to your view? [I already have the vaccine (66%), I plan to get it (10%), I'm not sure/waiting (12%), I do not trust the vaccine (11%)]. Respondents report their willingness to be vaccinated using these four options. The item is coded such that higher scores indicate greater levels of vaccine hesitancy. Our key independent variables are age and ideology. Ideology is a standard self-reported five-point measure which we standardize using rescaling for ease of interpretation (0 = very liberal, 1 = very conservative). Age is a six-category ordinal variable, as binned in the CMPS, while we also include a continuous measure and generational cohorts.[3]

[1] Our N is reduced slightly due to missing values on our variables of interest (n = 11,859).
[2] See Chapter 3 Appendix section "Survey Questions" for exact question wording.
[3] (CMPS categories:18-29, 30-39,40-49, 50-59,60-69,70+); Generational cohorts: 1900:1945 = Silent;1946:1964 = Boomers 2;1965:1980 = Gen X; 1981:1996 = Millennials; 1997:2012 = Gen Z"

We control for sociodemographic variables including race/ethnicity,[4] birthplace (Born outside the US = 0, Born in the US = 1), income,[5] and gender (male = 0, female = 1) as well as factors that might impact attitudes toward vaccination including experiences with healthcare discrimination,[6] levels of trust in government,[7] and social media consumption.[8] We employ a linear probability model with an interaction term to assess the relationship between self-reported ideology and their level of COVID-19 vaccine hesitancy by generational cohort.[9]

Results

To test hypothesis one, we leverage the CMPS categorical age measure, with age binned by decade, and run a multivariate linear regression model, shown in Table 1 and Figure 1. We find that, not only is ideology strongly correlated with vaccine hesitancy, but age moderates the relationship between ideology and vaccine hesitancy. In fact, our results suggest that conservative ideology has a negative and significant effect on respondents' propensity to receive a COVID-19 vaccine, and this finding is conditional on the respondent's age. Among the youngest respondents (18-39), self-reported conservative ideology is positively correlated with vaccine hesitancy. Among the oldest respondents (70+), self-reported conservatives and liberals show no systemic difference in levels of vaccine hesitancy.

The more conservative and younger a respondent is, the more likely they are to be vaccine hesitant. Coefficients for the oldest respondents (70+) are negative and similar in

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[4] White, Hispanic, Black, Asian

[5] The income variable includes 12 categories, which were rescaled (0-1): Less than $20,000=1, $20,000 to $29,999=2, 30,000 to $39,999=3, $40,000 to $49,999=4, $50,000 to $59,999=5, $60,000 to $69,999=6,$70,000 to $79,999=7, $80,000 to $89,999=8, $90,000 to $99,999=9,$100,000 to $149,999=10, $150,000 to $199,999=11, $200,000 or more=12.

[6] See Chapter 3 Appendix for question wording.

[7] See Chapter 3 Appendix for question wording.

[8] See Chapter 3 Appendix for question wording.

[9] Our results are robust to logit modeling and state fixed effects. Logit models and models with fixed effects are shown in Chapter 3 Appendix.

Table 1

CMPS Age Categories and the Effect of Ideology on Vaccine Hesitancy

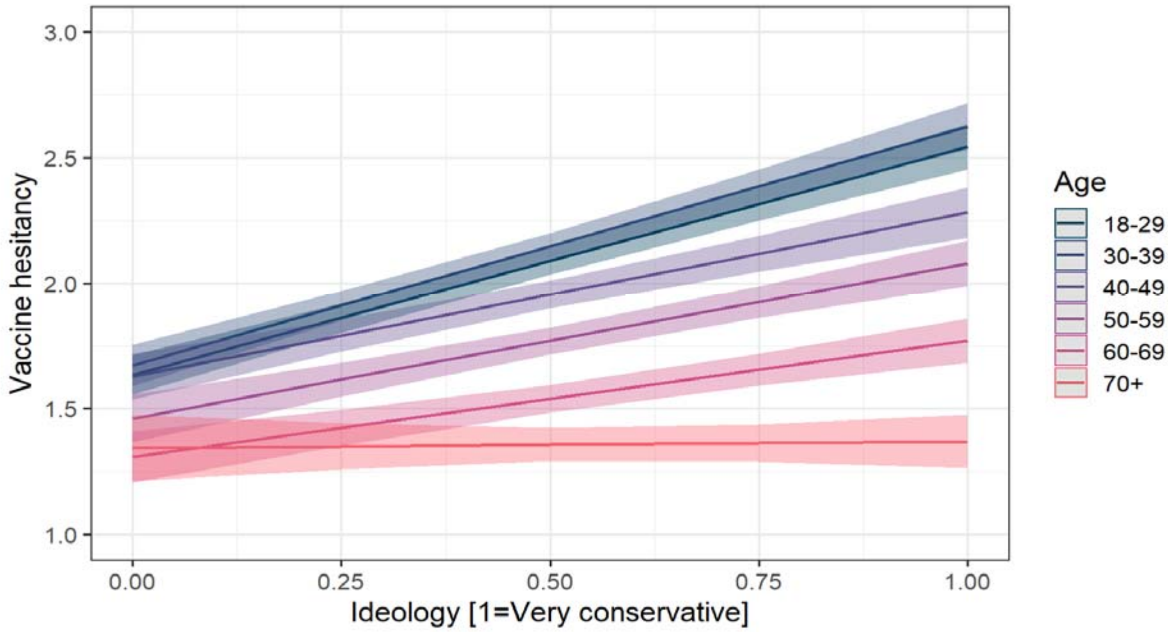
	Dependent variable: P (COVID-19 Vaccine Hesitancy)
Ethnicity: Hispanic	-0.145*** (0.028)
Ethnicity: Black	0.101*** (0.026)
Ethnicity: Asian	-0.397*** (0.029)
Income	-0.521*** (0.029)
Gender: Female	0.028 (0.018)
Social Media Use	0.015*** (0.004)
Healthcare Discrimination	0.018 (0.033)
Ideology	0.911*** (0.067)
Age: 30-39	0.038 (0.051)
Age: 40-49	-0.006 (0.054)
Age: 50-59	-0.172*** (0.057)
Age: 60-69	-0.324*** (0.059)
Age 70+	-0.289*** (0.074)
Birthplace: Not US	-0.068*** (0.022)
Trust in Govt	-0.196*** (0.012)
Ideology x 30-39	0.042 (0.097)
Ideology x 40-49	-0.257** (0.102)
Ideology x 50-59	-0.293*** (0.101)
Ideology x 60-69	-0.449*** (0.102)
Ideology x 70+	-0.885*** (0.120)
Constant	2.222*** (0.056)
Observations	11,859
R^2	0.197
Adjusted R^2	0.196
Residual Std. Error	0.949 (df = 11838)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. (2020).

magnitude to those in their sixties. Whereas, among younger age categories, we see a pattern of increasing hesitancy as ideology becomes more conservative. As seen in Figure 1, which shows the marginal effects, relative to all other age cohorts, the older respondents are less hesitant than

Figure 1

CMPS Age Categories: No Impact of Ideology on Vaccine Hesitancy Among 70+



Note. Marginal effects plot with 95% confidence intervals. Data source: Barreto et al. (2020).

younger respondents, supporting the impressionable years hypothesis. In summary, we find that age magnifies ideological differences in hesitancy, supporting H1.

Figure 1 further illustrates the interaction, lending support to H1. Although the two youngest age categories are statistically similar, the positive relationship between conservative ideology and vaccine hesitancy diminishes with age. The pattern holds for each decade of adulthood with the oldest respondents showing no evidence of ideological impact.

Next, to address the continuous age hypothesis (H2), we use a similar statistical model with a continuous age measure, shown in Table 2 and Figure 2. We find that age functions as a linear moderator for ideological effects on hesitancy. As clearly shown in the marginal effects plot shown in Figure 2, the effects of ideology on vaccine hesitancy decline in a linear form as individuals age increases, providing support for H2.

Table 2

Continuous Age and the Effect of Ideology on Vaccine Hesitancy

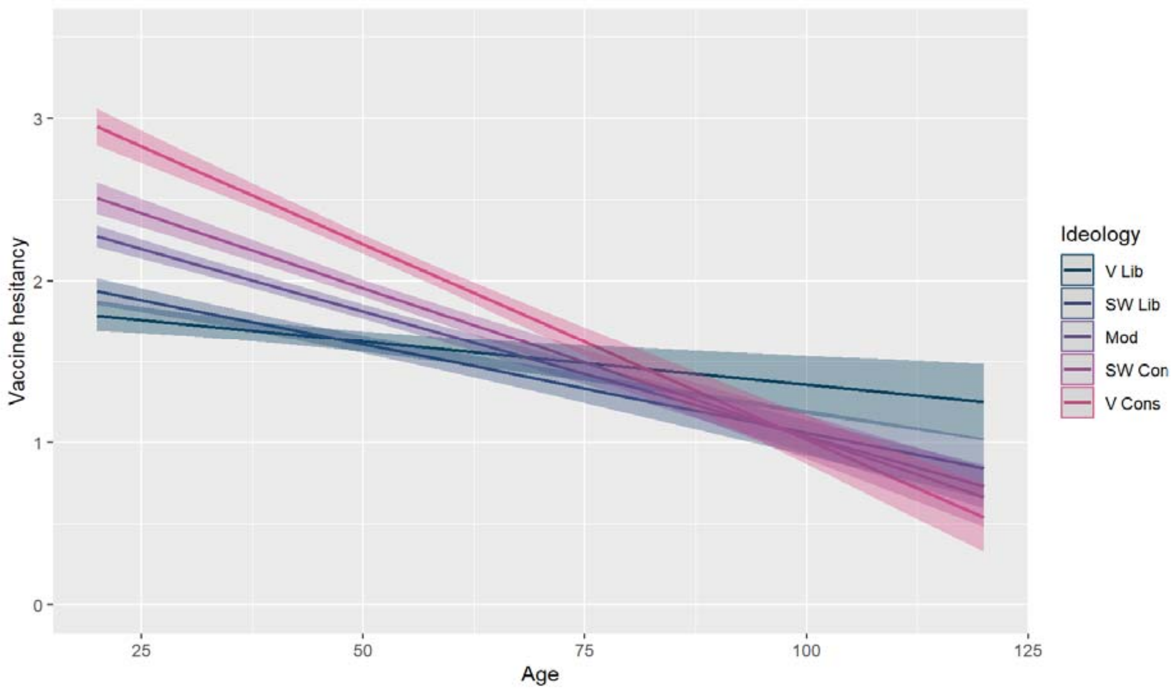
	Dependent variable: P (COVID-19 Vaccine Hesitancy)
Ethnicity: Hispanic	-0.136*** (0.028)
Ethnicity: Black	0.097*** (0.026)
Ethnicity: Asian	-0.397*** (0.029)
Income	-0.487*** (0.029)
Gender: Female	0.042** (0.018)
Social Media Use	0.013*** (0.004)
Healthcare Discrimination	0.017 (0.033)
Ideology: SW Lib	0.262*** (0.089)
Ideology: Mod	0.690*** (0.081)
Ideology: SW Con	0.987*** (0.098)
Ideology: V Cons	1.538*** (0.107)
Age	-0.005*** (0.002)
Birthplace: Not US	-0.054** (0.022)
Trust in Govt	-0.192*** (0.012)
SW Lib x Age	-0.006*** (0.002)
Mod x Age	-0.010*** (0.002)
SW Con x Age	-0.013*** (0.002)
V Cons x Age	-0.019*** (0.002)
Constant	2.461*** (0.085)
Observations	11,859
R^2	0.194
Adjusted R^2	0.193
Residual Std. Error	0.951 (df = 11840)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. (2020).

Lastly, we address H3 using a generational cohort binning of respondent age. We use standard definitions for generations: Silent (1900-1945), Boomers (1946-1964), Gen X (1965-1980), Millennials (1981-1996), Gen Z (1997-2012). We expect that the effects of ideology on vaccine hesitancy will be moderated by generational cohort, such that ideological differences in vaccine attitudes will be highest among Millennials and Generation Z but lowest among

Figure 2

Continuous Age Interacted with Ideology



Note. Marginal effects plot with 95% confidence intervals. Data source: Barreto et al. (2020).

Boomers and the Silent Generations. There is no significant difference between the baseline category, Gen Z, and Millennials. However, supporting H3, we find that there is a progressive increase in the magnitude of the ideological effects on hesitancy as generations increase in age, shown in Table 3 and the corresponding marginal effects in Figure 3. Not only is vaccine hesitancy moderated by generation, but we see consistent evidence that the youngest generations report the strongest relationship between conservative ideology and vaccine hesitancy.

Figure 3 illustrates the marginal effects and shows the effects of ideology on vaccine uptake within each age cohort. For older adults in the Silent generation cohort, there is no significant impact of ideology on vaccine hesitancy. We see that there is no systematic relationship between conservative ideology and vaccine hesitancy among those in the Silent

Table 3

Generational Cohorts and the Effect of Ideology on Vaccine Hesitancy

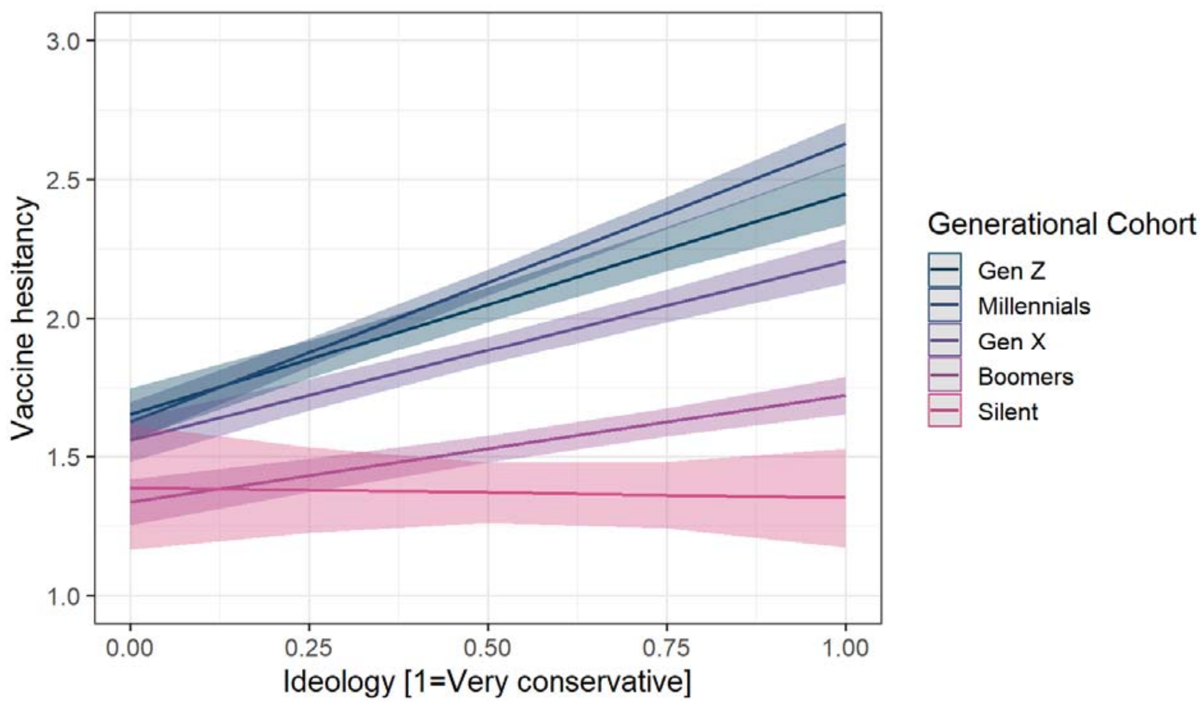
	Dependent variable: P (COVID-19 Vaccine
Ethnicity: Hispanic	-0.139*** (0.028)
Ethnicity: Black	0.110*** (0.026)
Ethnicity: Asian	-0.387*** (0.029)
Income -0.516***	(0.029)
Gender: Female	0.030* (0.018)
Social Media Use	0.019*** (0.004)
Healthcare Discrimination	0.022 (0.033)
Ideology 0.796***	(0.082)
Cohort: Millennials	-0.026 (0.052)
Cohort: Gen X	-0.091* (0.055)
Cohort: Boomers	-0.316*** (0.057)
Cohort: Silent	-0.261** (0.122)
Birthplace: Not US	-0.072*** (0.022)
Trust in Govt	-0.194*** (0.012)
Ideology x Millennials	0.207** (0.101)
Ideology x Gen X	-0.150 (0.103)
Ideology x Bo omers	-0.411*** (0.101)
Ideology x Silent	-0.834*** (0.192)
Constant 2.217***	(0.062)
Observations 11,859	
R^2 0.193	
Adjusted R^2 0.191	
Residual Std. Error	0.952 (df = 11840)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. (2020).

generation. This is unique, with Boomers being less hesitant regardless of ideology, but there are still progressive age differences across all other (non-Silent generation) cohorts from the very conservative to the very liberal. It is the magnitude of the difference that dramatically changes for conservatives. Ultimately, there is a strong, positive correlation between vaccine hesitancy and conservatism among younger respondents. In conclusion, we find that the effect of

Figure 3

Generational Cohorts: No Impact of Ideology on Silent Generation



Note. Marginal effects plot with 95% confidence intervals. Data source: Barreto et al. (2020).

conservative ideology on vaccine hesitancy weakens with age, regardless of the age measure used. This is consistent across all three models. We find support for all three hypotheses.

Discussion

We demonstrate that the relationship between vaccine hesitancy and ideology is moderated by age. We leverage a large national sample to investigate aging, ideology, and attitudes toward vaccinations to contribute to the existing work in two main ways. First, we test existing findings that vaccine attitudes and hesitancy broadly have become part of Americans ideological commitments. Keeping with previous literature, we find additional support for this.

Second, and more importantly, we demonstrate that ideological differences in vaccine attitudes and behavior are dependent on age.

The pandemic provided a unique opportunity to test existing knowledge surrounding vaccine hesitancy. There were partisan cues regarding vaccination and dramatic differences in risk or mortality and morbidity by age. Not only do older generations tend to be affiliated with Republican Party and have more conservative views of the role of government (Gonyea & Hudson, 2020), but conservative Republicans have been shown to be more hesitant of vaccination than liberal Democrats (Cowan et al., 2021). Because of this, one might expect that a conservative wave of politicized vaccine hesitancy would capture the attention of even the oldest adults. However, the evidence we show here suggests otherwise. While ideology is clearly a factor, our findings suggest that the oldest Americans were not impacted by conservative vaccine hesitancy. We discuss several potential reasons for this below.

In addition, previous literature demonstrates that younger Americans are more politically impressionable than older adults (Alwin & Krosnik, 1991). Our results support this work. We find that the impact of ideology is conditional on age, effecting younger individuals' vaccine hesitancy to a much greater degree. These findings further our understanding of the limitations of the impact of politics on voluntary participation in public health programs, the healthcare establishment, and health institutions on attitudes toward vaccines. Based on general findings from the literature, we propose three potential causal explanations for our findings.

First, risk related to COVID-19 infection somewhat follows the pattern, increasing linearly with age. Older Americans were at greater risk. Older Americans, though often politically engaged, had higher levels of threat from a biological standpoint, relative to their younger counterparts (Adams et al., 2021). As the observed moderating effect is linear, the causal factor or factors is likely to also vary similarly with age.

Second, social media related differences in exposure to sources of information not backed by scientific evidence likely fit the pattern. The increase in misinformation was exacerbated by social media and there are niche ideological news sources with low levels of accountability. *This, combined with youth social media consumption and the lower levels of health risk among youth, may be important to consider.* Studies also suggest that younger adults also had more exposure to misinformation (Allington et al., 2021b), in part, due to the increase in misinformation online (Kata, 2012). While many factors contribute to vaccine hesitancy (Burki, 2020; Salmon et al., 2015), social media exposure took center stage during the COVID-19 pandemic, particularly for American youth (Burki, 2020). Not only was there an increase in misinformation, reliance on healthcare providers for information regarding vaccine safety shifted away from trained medical professionals and toward online sources, which leads to the third potential mechanism.

Third, exposure to trusted healthcare providers likely contributed to the relationships we report. Older adults tend to gather health information from healthcare providers (Cutilli et al., 2018). Individuals who interacted with a healthcare provider generally found them to be trustworthy sources of information to consider in making informed vaccine decisions (Cutilli et al., 2018). Older adults tend to interact with healthcare providers more often compared to younger adults. In contrast, younger adults relied more heavily on social media for health information specifically regarding vaccination during the pandemic (King et al., 2021). This was, in effect, disempowering physicians and healthcare providers as sources of information and challenging them with claims not backed by scientific evidence (Kata, 2012).

Our findings uncover generational differences that have terrifying implications: as older voters leave the electorate and younger voters become more polarized, will future pandemic responses be hobbled by partisan disagreement? Despite the limited scope of our study, our findings have future implications beyond the COVID-19 pandemic. Effective prevention of infectious disease hinges on vaccine uptake. Policymakers and healthcare officials should empower physicians and other healthcare providers as well as public health officials by increasing contact, and therefore access to credible health information, across all generational cohorts in the pandemic context. Scholars need to address these findings with additional work to uncover the mechanisms behind the relationships reported here. The core values linked to ideological placement may also be an area of study to explore in addition to the three mechanisms we discuss.

References – Chapter 3

Adams, S .H., Schaub, J. P., Nagata, J. M., Park, M. J., Brindis, C. D., & Irwin, C. E., Jr. (2021). Young adult perspectives on COVID-19 vaccinations. *Journal of Adolescent Health, 69*(3), 511–514.

Allington, D., Duffy, B., Wessely, S., Dhavan, N., & Rubin, J. (2021a). Health-protective behavior, social media usage and conspiracy belief during the COVID-19 public health emergency. *Psychological Medicine, 51*(10), 1763–1769. doi:10.1017/S003329172000224X

Allington, D., McAndrew, S., Moxham-Hall, V. L., & Duffy, B. (2021b). Media usage predicts intention to be vaccinated against SARS-CoV-2 in the US and the UK. *Vaccine, 39*(18), 2595–2603.

Alwin, D. F., & Krosnick, J. A. (1991). Aging, cohorts, and the stability of sociopolitical orientations over the life span. *American Journal of Sociology, 97*(1), 169-195.

Ayalon, L., Chasteen, A., Diehl, M., Levy, B. R., Neupert, S. D., Rothermund, K., Tesch-Römer, C., & Wahl, H. W. (2021). Aging in times of the COVID-19 pandemic: Avoiding ageism and fostering intergenerational solidarity. *Journals of Gerontology - Series B Psychological Sciences and Social Sciences, 76*(2), e49–e52. doi: 10.1093/geronb/gbaa051

Barreto, M. A., Frasure-Yokley, L., Vargas, E., & Wong, J. (2020). *Collaborative multiracial post-election survey.* CMPS. https://cmpsurvey.org/2020-survey/

Baumgaertner, B., Carlisle, J. E., & Justwan, F. (2018). The influence of political ideology and trust on willingness to vaccinate. *PLoS ONE, 13*(1), e0191728. doi:10.1371/journal.pone.0191728

Bhagianadh, D., & Arora, K. (2022). Vaccine hesitancy among community-dwelling older adults: The role of information sources. *Journal of Applied Gerontology, 41*(1), 4–11.

Burki, T. (2020). The online anti-vaccine movement in the age of COVID-19. *The Lancet Digital Health, 2*(10), e504–e505.

Cao, J., Ramirez, C. M., & Alvarez, R. M. (2022). The politics of vaccine hesitancy in the United States. *Social Science Quarterly, 103*(1), 42–54.

Cowan, S. K., Mark, N., & Reich, J. A. (2021). COVID-19 vaccine hesitancy is the new terrain for political division among Americans. *Socius: Sociological Research for a Dynamic World, 7*, 1-3. https://doi.org/10.1177/23780231211023657

Cutilli, C. C., Simko, L. C., Colbert, A. M., & Bennett, I. M. (2018). Health literacy, health disparities, and sources of health information in U.S. older adults. *Orthopaedic Nursing, 37*(1), 54–65. doi:10.1097/NOR.0000000000000418

Fisher, P. (2008). Is there an emerging age gap in US politics? *Society, 45*(6), 504–111.

Fridman, A., Gershon. R., & Gneezy, A. (2021). COVID-19 and vaccine hesitancy: A longitudinal study. *PLoS ONE, 16*(4), 3025012. doi:10.1371/journal.pone.0250123

Godlee, F., Smith, J., & Marcovitch, H. (2011). Wakefield's article linking MMR vaccine and autism was fraudulent. *British Medical Journal, 342*(7788), 64–66.

Gonyea, J. G., & Hudson, R. B. (2020). In an era of deepening partisan divide, what is the meaning of age or generational differences in political values? *Public Policy & Aging Report, 30*(2), 52–55.

Huang, Q, Abad, N., Bonner, K. E., Baack, B., Petrin, R., Hendrich, M. A., Lewis, Z., & Brewer, N. T. (2023). Explaining demographic differences in COVID-19 vaccination stage in the United States – April-May 2021. *Preventive Medicine, 166*, 107341.

Johns Hopkins University. (2023). *The vaccine story.* The John Hopkins Coronavirus Resource Center. https://coronavirus.jhu.edu/vaccines/story

Kata, A. (2012). Anti-vaccine activists, Web 2.0, and the postmodern paradigm: An overview of tactics and tropes used online by the anti-vaccination movement." *Vaccine, 30*(25), 3778–3789.

King, W., Rubinstein, M., Reinhart, A., & Mejia, R. (2021). Time trends, factors associated with, and reasons for COVID-19 vaccine hesitancy: A massive online survey of US adults from January-May 2021. *PLoS One, 16*(12), e0260731. doi:10.1371/journal.pone.0260731

Krosnick, J. A., & Alwin, D. F. (1989). Aging and susceptibility to attitude change. *Journal of Personality and Social Psychology, 57*(3), 416–425. https://doi.org/10.1037/0022-3514.57.3.416

Mohammed, I. Nauman, A., Paul, P., Ganesan, S., Chen, K. H., Jalil, S. M. S., Jaouni, S. H., Kawas, H., Khan, W. A., Vattoth, A. L., Al-Hashimi, Y. A., Fares, A., Zeghlache, R., & Zakaria, D. (2022). The efficacy and effectiveness of the COVID-19 vaccines in reducing infection, severity, hospitalization, and mortality: A systematic review. *Human Vaccines & Immunotherapeutics, 18*(1), 2027160. doi:10.1080/21645515.2022.2027160

Motta, M., Stecula, D., & Farhart, C. (2020). How right-leaning media coverage of COVID 19 facilitate the spread of misinformation in the early stages of the pandemic in the US. *Canadian Journal of Political Science/Revue Canadienne de Science Politique* (May 1), 1-8. doi:10.1017/S0008423920000396

Peterson, J. C., Smith, K. B., & Hibbing, J. R. (2020). Do people really become more conservative as they age? *Journal of Politics, 82*(2), 600–611.

Pogue, K., Jensen, J. L., Stancil, C. K., Ferguson, D. G., Hughes, S. J., Mello, E. J., Burgess, R., Berges, B. K., Quaye, A., & Poole, B. D. (2020). Influences on attitudes regarding potential COVID-19 vaccination in the United States. *Vaccines (Basel), 8*(4), 1–14.

Salmon, D. A., Dudley, M. Z., Glanz, J. M., & Omer, S. B. (2015). Vaccine hesitancy: Causes, consequences, and a call to action. *Vaccine, 33*(Suppl 4), D66–D71. https://doi.org/10.1016/j.vaccine.2015.09.035

Sharma, M., Davis, R. E., & Wilkerson, A. H. (2021). COVID-19 vaccine acceptance among college students: A theory-based analysis. *International Journal of Environmental Research and Public Health, 18*(9), 4617.

Sparks, G., Presiado, M., Valdes, I., Kirzinger, A., & Brodie, M. (2023). *KFF COVID-19 vaccine monitor: March 2023*. KFF. Retrieved May 15, 2023, from https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-march-2023/

Sutter, A., Vaswani, M., Denice, P., Choi, K. H., Bouchard, J., & Esses, V. M. (2022). Ageism toward older adults during the COVID-19 pandemic: Intergenerational conflict and support" *Journal of Social Issues, 78*(4), 815–841.

Wang, Y., & Liu, Y. (2021). Multilevel determinants of COVID-19 vaccination hesitancy in the United States: A rapid systematic review. *Preventive Medicine Reports, 25*(10), 101673. https://doi.org/10.1016/j.pmedr.2021.101673.

U.S. Government Accountability Office. (2021, February 11). *Operation warp speed: Accelerated COVID-19 vaccine development status and efforts to address manufacturing challenges.* https://www.gao.gov/products/gao-21-319

Xu, J. Q., Murphy, S. L., Kochanek, K. D., & Arias, E. (2022). *Mortality in the United States, 2021*. NCHS Data Brief, no 456. National Center for Health Statistics. https://dx.doi.org/10.15620/cdc:122516

Chapter 3 Appendix

Supplement Material for "Vaccine Hesitancy: A Young Partisan's Game"

8/3/2023

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Survey Questions

Respondent COVID-19 vaccine hesitancy
When it comes to the new vaccine to protect against the coronavirus, which comes closest to your view?

I already have the vaccine (1)
I plan to get it (2)
I'm not sure/waiting (3)
I do not trust the vaccine (4)

Ideology
When it comes to politics, do you think of yourself as liberal, moderate, or conservative?

Very Liberal (1)
Somewhat Liberal (2)
Moderate (3)
Somewhat Conservative (4)
Very Conservative (5)

Healthcare discrimination
In the past four years, have you experienced discrimination or exclusion because you are {}in any of the following settings?

- When seeking medical care for you or your family

Trust in government
How much of the time do you think you can trust the government in Washington, DC to do what is right-- just about always, most of the time, only some of the time or never?

Never (1)
Only some of the time (2)

Most of the time (3)
Always (4)

Social Media Consumption

Please rank the following as sources of news and information. The item you rank 1 is where you go to for most of your news and information and the item you rank 9 you rarely if ever use. [Rank items 1-9]

- Social media like Twitter or Instagram

Model Variations

Table 3-1

Fixed Effects

	Dependent variable: P(COVID-19 Vaccine Hesitancy)		
	Base (1)	Control (2)	State Fixed Effects (3)
Ethnicity: Hispanic		-0.157***	-0.146***
		(0.027)	(0.028)
Ethnicity: Black		0.092***	0.082***
		(0.025)	(0.026)
Ethnicity: Asian		-0.391***	-0.375***
		(0.028)	(0.029)
Income		-0.520***	-0.509***
		(0.028)	(0.029)
Gender: Female		0.031*	0.028
		(0.017)	(0.017)
Healthcare Discrimination		0.011	0.016
		(0.032)	(0.032)
Ideology	0.773***	0.881***	0.872***
	(0.031)	(0.048)	(0.048)
Age: 40-49	-0.216***	-0.056	-0.057
	(0.025)	(0.047)	(0.047)
Age: 50-59	-0.373***	-0.237***	-0.231***
	(0.025)	(0.050)	(0.050)
Age: 60-69	-0.602***	-0.393***	-0.388***
	(0.026)	(0.051)	(0.051)
Age: 70+	-0.823***	-0.382***	-0.373***
	(0.031)	(0.066)	(0.066)
Birthplace: Not US		-0.069***	-0.066***
		(0.021)	(0.022)
Trust in Government		-0.191***	-0.188***
		(0.012)	(0.012)
Ideology x 40-49		-0.221**	-0.225**
		(0.089)	(0.089)
Ideology x 50-59		-0.282***	-0.284***
		(0.088)	(0.088)
Ideology x 60-69		-0.434***	-0.439***
		(0.088)	(0.088)
Ideology x 70 +		-0.816***	-0.829***
		(0.107)	(0.107)
Constant	1.612***	2.337***	2.706***
	(0.019)	(0.045)	(0.214)
Observations	13,799	12,573	12,573
R^2	0.094	0.192	0.198
Adjusted R^2	0.094	0.191	0.194
Residual Std. Error	1.006 (df = 13793)	0.951 (df = 12555)	0.949 (df = 12505)

Note. *p<0.1; **p<0.05; ***p<0.01. Slate fixed effects not shown (data source: Barreto et al., 2020).

Table 3-2

Ordered Logit Predictors of Vaccine Hesitancy

	Dependent variable: P(COVID-19 Vaccine Hesitancy)
	M3
Ethnicity: Hispanic	-0.311***
	(0.060)
Ethnicity: Black	0.165***
	(0.055)
Ethnicity: Asian	-0.997***
	(0.069)
Income	-1.263***
	(0.067)
Gender: Female	0.048
	(0.039)
Healthcare Discrimination	-0.017
	(0.068)
Ideology	1.511***
	(0.099)
Age: 40-49	-0.301***
	(0.108)
Age: 50-59	-0.756***
	(0.122)
Age: 60-69	-1.570***
	(0.148)
Age: 70+	-1.835***
	(0.231)
Birthplace: Not US	-0.172***
	(0.049)
Trust in Government	-0.348***
	(0.026)
Ideology x 40-49	-0.117
	(0.195)
Ideology x 50-59	-0.201
	(0.204)
Ideology x 60-69	-0.078
	(0.233)
Ideology x 70+	-0.918***
	(0.346)
Observations	12,314

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. (2020).

Figure 3-1

Predicted Values of Vaccine Hesitancy conditional on Ideology by Decade

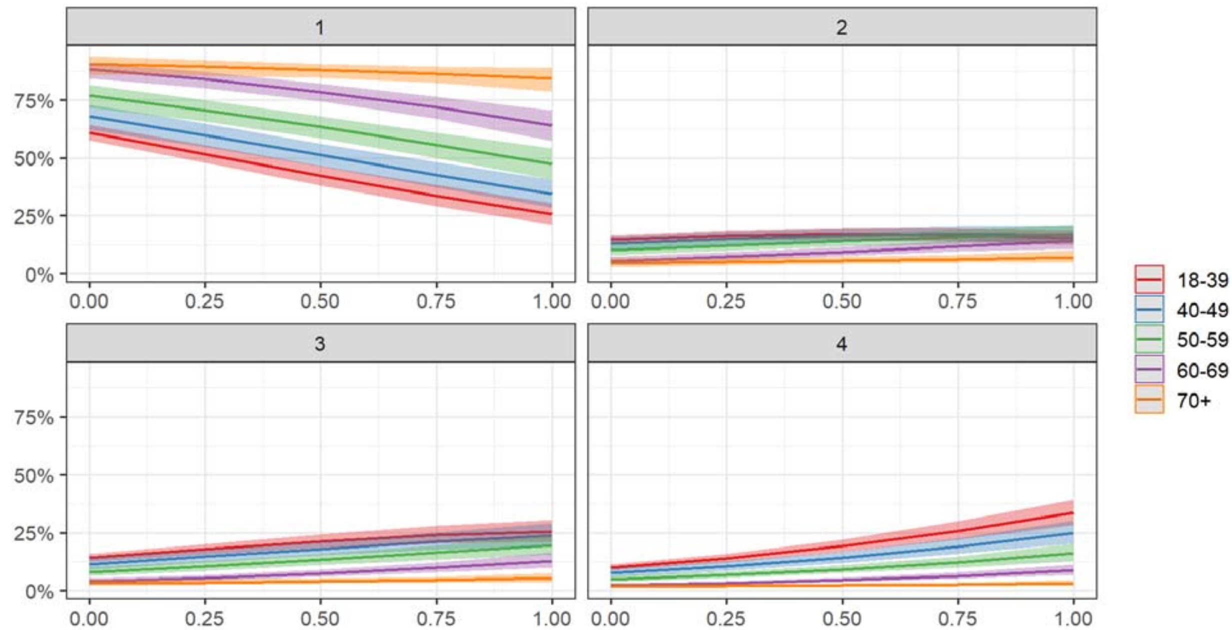

Table 3-3

Logit (Gender Removed)

	Dependent variable: P(COVID-19 Vaccine Hesitancy)
	M_b
Ethnicity: Hispanic	-0.156***
	(0.027)
Ethnicity: Black	0.092***
	(0.025)
Ethnicity: Asian	-0.388***
	(0.028)
Income	-0.524***
	(0.028)
Healthcare Discrimination	0.016
	(0.031)
Ideology	0.906***
	(0.047)
Age: 40-49	-0.041
	(0.047)
Age: 50-59	-0.221***
	(0.050)
Age: 60-69	-0.380***
	(0.051)
Age: 70+	-0.366***
	(0.066)
Birthplace: Not US	-0.068***
	(0.021)
Trust in Government	-0.191***
	(0.012)
Ideology x 40-49	-0.245***
	(0.089)
Ideology x 50-59	-0.308***
	(0.088)
Ideology x 60-69	-0.454***
	(0.088)
Ideology x 70+	-0.845***
	(0.107)
Constant	2.337***
	(0.043)
Observations	12,659
Log Likelihood	-18,395.940
Akaike Inf. Crit.	36,825.880

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. (2020).

Figure 3-2

Logit Model Predicted Values

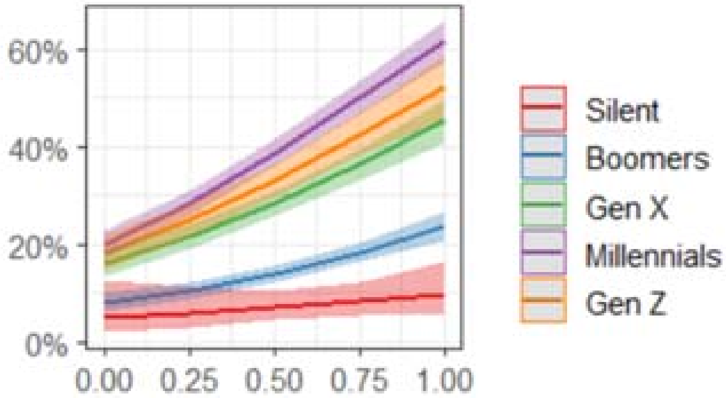

Table 3-4

OLS (Gender Removed)

	Dependent variable: P(COVID-19 Vaccine Hesitancy)
	M_a
Ethnicity: Hispanic	-0.156***
	(0.027)
Ethnicity: Black	0.092***
	(0.025)
Ethnicity: Asian	-0.388***
	(0.028)
Income	-0.524***
	(0.028)
Healthcare Discrimination	0.016
	(0.031)
Ideology	0.906***
	(0.047)
Age: 40-49	-0.041
	(0.047)
Age: 50-59	-0.221***
	(0.050)
Age: 60-69	-0.380***
	(0.051)
Age: 70+	-0.366***
	(0.066)
Birthplace: Not US	-0.068***
	(0.021)
Trust in Government	-0.191***
	(0.012)
Ideology x 40-49	-0.245***
	(0.089)
Ideology x 50-59	-0.308***
	(0.088)
Ideology x 60-69	-0.454***
	(0.088)
Ideology x 70+	-0.845***
	(0.107)
Constant	2.337***
	(0.043)
Observations	12,659
R^2	0.191
Adjusted R^2	0.190
Residual Std. Error	0.950 (df = 12642)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. (2020).

Table 3-5

OLS with Medicaid Eligibility Instead of Income

	Dependent variable: P(COVID-19 Vaccine Hesitancy)
	M1
Ethnicity: Hispanic	-0.109***
	(0.026)
Ethnicity: Black	0.147***
	(0.025)
Ethnicity: Asian	-0.445***
	(0.027)
Medicaid	0.240***
	(0.028)
Gender: Female	0.037**
	(0.017)
Healthcare Discrimination	-0.008
	(0.031)
Ideology	0.910***
	(0.046)
Age: 40-49	-0.113**
	(0.046)
Age: 50-59	-0.298***
	(0.049)
Age: 60-69	-0.409***
	(0.050)
Age: 70+	-0.413***
	(0.064)
Birthplace: Not US	-0.055***
	(0.021)
Trust in Government	-0.193***
	(0.011)
Ideology x 40-49	-0.225**
	(0.087)
Ideology x 50-59	-0.276***
	(0.085)
Ideology x 60-69	-0.477***
	(0.086)
Ideology x 70+	-0.826***
	(0.104)
Constant	2.094***
	(0.042)
Observations	13.646
R^2	0.177
Adjusted R^2	0.176
Residual Std. Error	0.960 (df = 13628)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. **(**2020).

Table 3-6

OLS with Generational Cohort

	Dependent variable: P(COVID-19 Vaccine Hesitancy)
	M
Ethnicity: Hispanic	-0.148***
	(0.027)
Ethnicity: Black	0.103***
	(0.026)
Ethnicity: Asian	-0.377***
	(0.028)
Income	-0.522***
	(0.028)
Gender: Female	0.031*
	(0.017)
Healthcare Discrimination	0.015
	(0.032)
Ideology	-0.060
	(0.164)
Generation: Boomers	-0.058
	(0.112)
Generation: Gen X	0.197*
	(0.112)
Generation: Millennials	0.300***
	(0.111)
Generation: Gen Z	0.328***
	(0.115)
Birthplace: Not US	-0.072***
	(0.022)
Trust in Government	-0.188***
	(0.012)
Ideology X Boomers	0.454***
	(0.173)
Ideology X Gen X	0.681***
	(0.175)
Ideology x Millennials	1.000***
	(0.174)
Ideology x Gen Z	0.825***
	(0.183)
Constant	2.007***
	(0.114)
Observations	12,573
R^2	0.187
Adjusted R^2	0.186
Residual Std. Error	0.954 (df = 12555)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. **(**2020).

Figure 3-3

Predicted Values of Vaccine Hesitancy conditional on Ideology by Generational Cohort

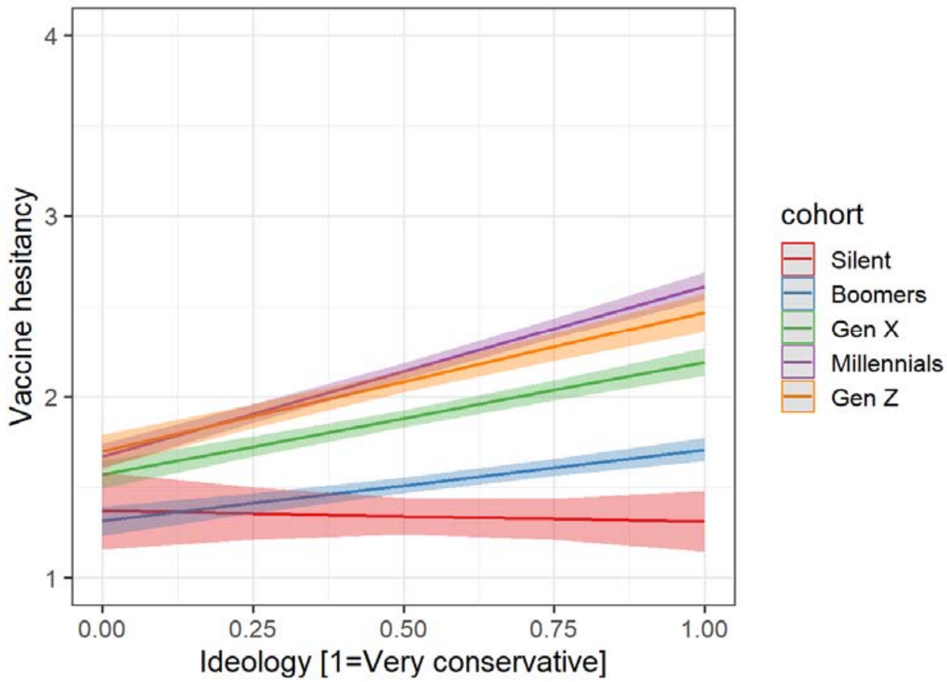

Figure 3-4

OLS with Generational Cohort Subset by Race/Ethnicity

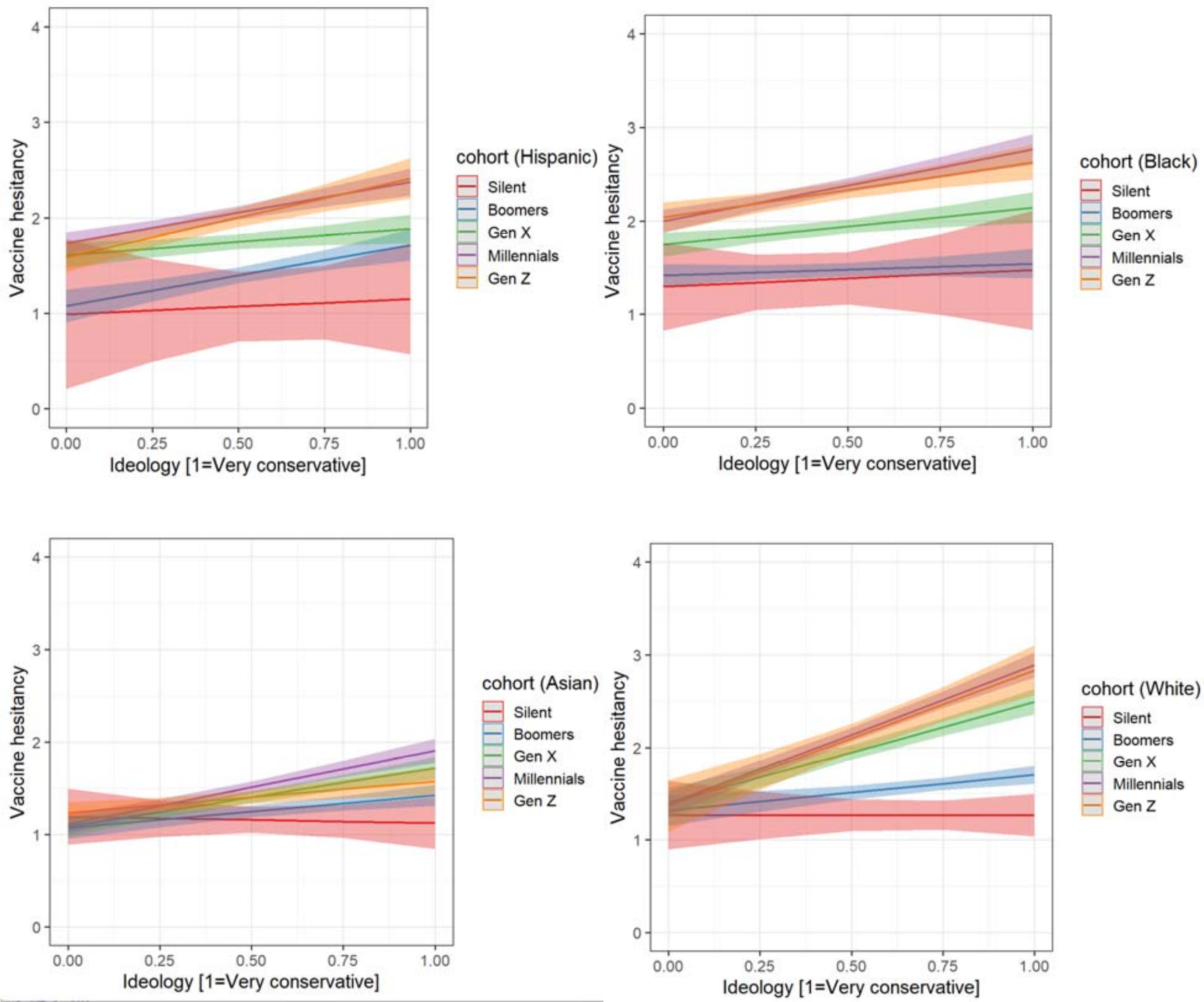

Table 3-7

OLS with Continuous Age

	Dependent variable: P(COVID-19 Vaccine Hesitancy)
Ethnicity: Hispanic	-0.159***
	(0.027)
Ethnicity: Black	0.079***
	(0.025)
Ethnicity: Asian	-0.405***
	(0.028)
Income	-0.500***
	(0.028)
Gender: Female	0.041**
	(0.017)
Healthcare Discrimination	0.021
	(0.032)
Ideology	1.358***
	(0.088)
Age	-0.008***
	(0.001)
Birthplace: Not US	-0.056***
	(0.022)
Trust in Government	-0.190***
	(0.012)
Ideology x Age	-0.015***
	(0.002)
Constant	2.571***
	(0.061)
Observations	12,573
R^2	0.186
Adjusted R^2	0.186
Residual Std. Error	0.954 (df = 12561)

Note. *p<0.1; **p<0.05; ***p<0.01. Data source: Barreto et al. (2020).