

**PUBLIC ATTITUDES AND
BEHAVIORS ABOUT COVID-19
IN THE UNITED STATES:
A CASE STUDY IN ISSUE
UNDERSTANDING IN A
POLARIZED POLITICAL SYSTEM**

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**ACTITUDES Y CONDUCTAS
PÚBLICAS ANTE LA COVID-19
EN ESTADOS UNIDOS:
ESTUDIO DE UN CASO EN
ORDEN A LA COMPRESIÓN
DE UN SISTEMA POLÍTICO
POLARIZADO**

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ABSTRACT: How do citizens in a polarized political system react to an unexpected emergency like the COVID-19 pandemic and how do citizens process conflicting polarized narratives to formulate a public policy view of the threat of the pandemic? The emergence of the COVID-19 pandemic is a health emergency unlike anything in the United States since the polio epidemic 70 years ago, but the political climate of the U.S. in the 1950's was far more centrist and consensual than the deep divisions observed today. This paper will utilize data from a 35-year longitudinal study of Generation X young adults (now in their mid-40's) and a three-decade time series of national U.S. surveys to examine information acquisition behaviors to understand the new threat. Our analysis of the last 35 years of Generation X finds that polarized ideological partisanship was the strongest single predictor of individual votes in the 2020 election, but that individuals with a higher level of understanding of the corona-

RESUMEN: ¿Cómo reacciona la ciudadanía en un sistema político polarizado ante una emergencia como la pandemia de la COVID-19?, ¿cómo procesa la ciudadanía las narrativas polarizadas que están en conflicto?, y ¿qué imagen se forman de la gestión política de la amenaza de la pandemia? En EE. UU, hay que retrotraerse a la epidemia de la polio de hace 70 años para encontrar una emergencia sanitaria como la pandemia de la COVID-19. No obstante, hay importantes diferencias; en la década de 1950, el clima político de los EE.UU. era mucho más uniforme y consensuado que el actual, profundamente dividido y polarizado. Este trabajo utiliza datos de un estudio longitudinal realizado durante 35 años en personas jóvenes de la Generación X (ahora ya en la cuarentena) y datos provenientes de encuestas realizadas en Estados Unidos durante tres décadas, con el propósito de examinar los patrones de adquisición de la información en la comprensión de una nueva amenaza. Nuestro análisis de los últimos 35 años de la Generación

virus were more critical of the Trump Administration's handling of the COVID-19 pandemic and were more likely to vote for Biden than Trump. A parallel analysis of a national probability sample of U.S. adults in 2020 found the same pattern of influence from ideological partisanship, coronavirus understanding, and assessment of the Trump Administration's handling of the pandemic. The results indicate that knowledge and understanding can provide a critical balancing effect in an evenly divided polarized political system.

X muestra que, en las elecciones de 2020, el factor predictivo del voto individual que tuvo más fuerza fue una ideología política polarizada, pero, aquellas personas que contaban con una mejor comprensión del coronavirus fueron más críticas con la gestión de la pandemia de la COVID-19 que realizó la administración de Donald Trump y estuvieron más predispuestas a votar por Joe Biden que a votar por Trump. Un análisis paralelo de una muestra probabilística representativa de personas adultas estadounidenses en 2020 reveló el mismo patrón de influencia del partidismo ideológico, la comprensión del coronavirus y la evaluación de la administración de Trump. Los resultados muestran que el conocimiento y la comprensión pueden proporcionar un efecto moderador crítico en un sistema político polarizado y dividido.

KEYWORDS: COVID-19, polarized political system, United States, Generation X

PALABRAS CLAVE: COVID-19, polarización política, EE. UU. Generación X

1. INTRODUCTION

How do citizens in a polarized political system react to an unexpected emergency like the COVID-19 pandemic? Do citizens process conflicting polarized narratives to formulate a public policy view of the threat of the pandemic, or do they rely on their existing beliefs to form their view of even a salient and immediate crisis? The emergence of the COVID-19 pandemic is a health emergency unlike anything in the United States since the polio epidemic 70 years ago, but the political parties in the United States were not ideologically sorted in the 1950's as they are today (Burns, 1963) and those deep divisions shape the cues that voters receive from their parties on public policy as well as how those voters react to real-world events.

The American political system has become deeply polarized ideologically and affectively as political and non-political identities align. How the pandemic affected voters' choice in the 2020 presidential election has been the focus of a growing scholarly literature (Algara *et al.*, 2022; Muldoon *et al.*, 2021; Ruisch *et al.*, 2021; Mendoza Aviña and Sevi, 2021; Miller, *et al.*, 2022). To understand the factors that influenced how voters made sense of the emerging pandemic, we examine first a 35-year longitudinal study of a national sample of public school students that represent the core years of Generation X. This data set allows us to understand the development of educational choices and attainment as well as the origins of ideological partisanship.

The rich data record of the Longitudinal Study of American Life (LSAL) provides important context for understanding political attitudes, values, and vote choices in mid-life, but a 35-year longitudinal study is limited to the individuals who were in U.S. public schools in 1987 and no longer represents the profile of American voters three decades later. To test our findings from our LSAL analysis, we will examine a national probability sample of verified voters in 2020, using a combination of descriptive tables and structural equation models.

2. DATA

This analysis will utilize data from two U.S. probability studies. To provide a developmental perspective on the evolution of the current polarized political system, we utilize data from the 35-year Longitudinal Study of American Life (LSAL)¹. The LSAL was launched in 1987 using a national probability sample of 7th and 10th grade public school students (Miller and Laspra, 2017). Because the LSAL is based on a national probability sample of public school students in 1987, it excludes immigrants and other individuals entering the U.S. after 1987 or who were not enrolled in a public school in 1987.²

To provide an accurate portrait of U.S. voters in 2020, we use a national probability sample of adults aged 18 and older using Ameri-Speak, a panel service operated by the National Opinion Research Center (NORC) at the

1 The LSAL has been supported by grants from the National Science Foundation (awards MDR8550085, REC96-27669, RED-9909569, REC-0337487, DUE-0525357, DUE-0712842, DUE-0856695, DRL-0917535, HRD-1348619), the National Institute on Aging (grant number 5R01AG049624-02), and the National Aeronautics and Space Administration (award: NNX16AC66A).

2 In 1987, approximately 92% of 7th and 10th grade students were enrolled in public schools. This division of public and private elementary and secondary school enrollment remains essentially the same in 2021.

University of Chicago³. An initial survey of 3,141 respondents was collected in February and March of 2020, near the onset of the COVID-19 pandemic. A second wave of 2,737 was collected from the same respondents in November and December of 2020, for a retention rate of 87.1%. Respondents in both waves were offered the choice of an online survey or a telephone survey in English or Spanish and were free to select the method (and language) with which they were most comfortable.

The data from both surveys have been deposited in the Inter-university Consortium for Political and Social Research (ICPSR) and should be available for public use by the end of calendar year 2022.

3. PARTISAN POLARIZATION IN THE UNITED STATES

American political polarization is the result of many factors. The sorting of ideologues into separate parties increases visible polarization, as does political sorting on rural-urban, racial/ethnic, religious, and other cleavages. (Burns, 1963; Carsey and Layman, 2006; Abramowitz, 2010, 2018; Abramowitz and Saunders, 2006; Abramowitz and Webster, 2018; Lelkes, 2016, 2018; Mason, 2015, 2016, 2018a, 2018b; Mason and Wronski, 2018; Carmines and Stimson, 1989; Cramer, 2016; Hetherington, Long, and Rudolph, 2016; Iyengar and Westwood, 2015; Iyengar, Sood, and Lelkes, 2012; Iyengar *et al.*, 2019; Finkel *et al.* 2021). The tension between rural and urban areas described by Cramer (2016) contributes to this polarization. Abramowitz (2010, 2018), Mason (2016, 2018a, 2018b) and Claassen *et al.* (2021) have described the convergence of these strands into a cohesive Conservative Republican coalition, which also includes white religious fundamentalists and some right-wing groups that are increasingly embracing white supremacy or Christian Nationalism. As liberals sort into the Democratic Party and conservatives into the Republican Party, the alignment of those identities takes on increasing importance. We characterize this alignment of ideology and partisanship as *ideological partisanship*⁴. The resulting polarization has been described by Amlani and Algara (2021) as being the most extreme polarization in the U.S. since the Civil War. Bernacer, *et al.* (2021) discuss a similar political process in Spain.

Using an eight-category ordinal scale of ideological partisanship⁵ ranging from Conservative Republican to Liberal Democrat, the nonpartisan center has included at least one in four verified⁶ voters in recent years (see Table 1). Among the respondents in our nationally representative cross-sectional studies from 2020, 36.8% declared themselves as a Republican or as a strong conservative strong conservative, while 36.9% described themselves as either a Democrat or a strong liberal (or a combination). This is a striking equivalence in terms of the proportion of the electorate who are likely reliable Democratic or Republican voters. When the ideological forces at each end of the spectrum are equally distributed, the nonpartisans in the middle can have a significant influence of the election outcome. The 2016 and 2020 presidential elections provide clear examples of this process. The extent to which the nonpartisan middle is comprised of those who are not politically engaged or interested, those who are true moderates, or those who have idiosyncratic belief systems has been a matter of debate (Campbell *et al.*, 1960; Converse, 1964; Fowler *et al.*, 2022). Our data indicates that some voters who occupy the political middle do have low interest, low political awareness, and often fail to vote, but approximately half of the nonpartisan

3 The 2020 U.S. survey was supported by a cooperative agreement between the University of Michigan and the National Aeronautics and Space Administration (award: NNX16AC66A).

4 A major impact of partisan polarization is its influence in party primary elections. In recent decades, Republican primary elections have consistently produced nominees that are more conservative than the segment of voters who identify as Republican and Democratic primary elections have tended to produce nominees that are more liberal than the segment of voters than identify as Democratic. We note this important consequence of deep polarization and will address it separately in other analyses, but in this analysis, we will focus on the factors that influenced the outcome of the 2020 presidential election.

5 The ideological partisanship variable is constructed from a cross-tabulation of partisan preference (Democratic, Republican, other, or none) with an ordinal measure of ideology (very conservative to very liberal), producing an eight-category measure of ideological partisanship that ranges from Conservative Republican to Liberal Democrat. In numerous analyses over the last 30 years, we have found that this measure of partisanship is a better predictor of political outcomes than the traditional Strong Republican to Strong Democrat.

6 In this analysis, we use a combination of the self-reported electoral participation of a national probability sample of American adults whose participation was verified by Catalist. Catalist is a national voter data service that collects records from the Secretaries of States of all U.S. states and the District of Columbia, including name, address, age, gender, race, and the voting activity of each individual (primary election voting, general election voting, early voting, and absentee voting). We match our survey sample and respondent data with the Catalist file. For an extended discussion and an example of the use of Catalist data, see Miller *et al.* (2020).

middle are politically interested and engaged. We separate our nonpartisan middle into those who are politically interested and those who are not.

The composition of the non-partisan middle is not static. Comparing data from our nationally representative survey in 2020 to an earlier wave of that survey (with different respondents) from 2016 shows that in the aggregate, the non-partisan middle became more politically engaged between those two elections. In 2020, 13.3% of voters were nonpartisans with high interest in the election, compared to 9.2% of voters in 2016 (see Table 1). This increase is significant at the 0.01 level.

The development of partisanship in the U.S. A full historical discussion of the evolution of the U.S. party system is beyond the scope of this analysis, but it is important to understand the developmental origins of partisanship in the U.S. The data from the LSAL provide useful insights into the structure and origins of current partisanship. It is important to note that the participants in the LSAL reflect the middle of the Generation X age range and may differ from the total U.S. population, but it is instructive to examine the patterns of partisanship in this important segment of the U.S. population. Barack Obama was the first member of Generation X to be elected President and numerous members of the Congress are members of Generation X.

Ideological Partisanship	Year			
	2016	2016	2020	2020
Conservative Republican	17.3	34.4	20.7	36.8
Moderate Republican	7.3		8.0	
Conservative Nonpartisan	9.8		8.1	
Nonpartisan Low Interest	15.8	15.8	13.0	13.0
Nonpartisan High Interest	9.2	9.2	13.3	13.3
Liberal Nonpartisan	5.9	40.4	5.4	36.9
Moderate Democrat	20.3		16.2	
Liberal Democrat	14.2		15.3	
Number of cases	4,996	4,996	2,737	2,737

Cell entries are row percentages for each category of ideological partisanship.

Table 1: Distribution of ideological partisanship, all U.S. adults: 2016, 2020

Source: AmeriSpeak NORC. Miller, Woods, & Kalmbach (2022).

For this purpose, we utilize a structural equation model (SEM) that sets partisanship in 2016 and 2020 in the context of gender, family, schooling, religiosity, and related factors (Hayduk, 1987; Jöreskog and Sörbom, 1993). In a SEM, variables are placed in a chronological or logical order and influence flows from left to right (see Table 1). To estimate the factors that contribute to ideological partisanship in 2020, we begin with three exogenous variables on the left side of the model. Exogenous variables are not predicted by any other variable in the model and are usually determined at birth.

Our SEM indicates that the level of parent education has a very small relationship favoring the Democratic Party⁷ (total effect = 0.05 in 2020) and that the gender of the participant is essentially unrelated to partisanship three decades after high school (see Figure 1). The race of participants had a slightly stronger total effect (TE = 0.13) in 2020.

Parent partisanship and the partisanship of the student during high school are stronger predictors of midlife partisanship. Parent partisanship during a student’s high school years has a total effect of 0.19 and the partisan

7 It is important to note that our ordinal measure of ideological partisanship ranges from 1 (Conservative Republican) to 8 (liberal Democrat), thus a positive total effect means that the relationship favors the Democratic Party, and a negative coefficient favors the Republican Party. This ordinal coding is not judgmental, and the sign of the coefficient should be read to indicate only the direction of the relationship.

preference of a student during his or her high school years has a total effect of 0.27⁸ (see Figure 1). This result is consistent with the political socialization literature (Hyman, 1959; Dawson and Prewitt, 1969; Hyman, Wright, and Reed, 1975; Hyman and Wright, 1979; Bengtson, Biblarz, and Roberts, 2002; Bartels and Jackman, 2013).

In broad terms, the LSAL documents a process of cumulative advantage and cumulative disadvantage in the U.S. (Sexton, 1961; Lee and Burkam, 2002; Dannefer, 2003, 2020; Ceci and Papierno, 2005; Pacheco and Plutzer, 2008; Verba, Burns, and Schlozman, 2003). Educational attainment is the central variable in this cumulative advantage/disadvantage process. Our SEM indicates that the level of academic achievement in high school is strongly predicted by the level of parent education (path = 0.37). Reflecting years of prior disadvantage, African-American students score lower on achievement tests than other students (path = -0.19), holding constant student gender and parent education. There is no difference in student academic achievement by gender during high school among our LSAL students.

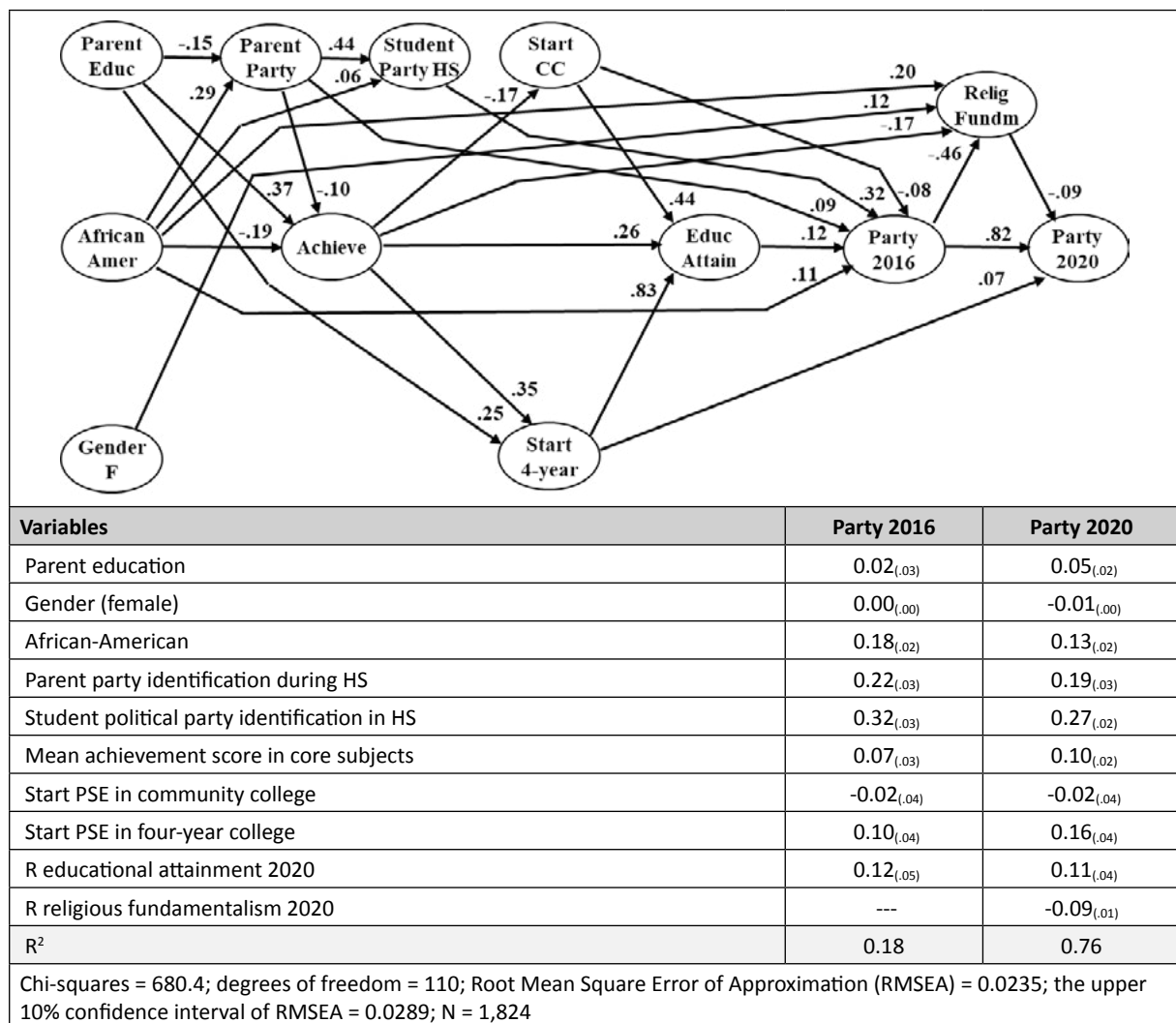


Figure 1. A model to predict ideological partisanship in 2016 and 2020

Source: LSAL. Own elaboration.

8 Because both parent and student partisanship are coded using the same ordinal scale, the total effect indicates the strength of the relationship and does not reflect the partisan direction of the relationship. A low total effect would mean that the student and his or her parent(s) disagree about partisanship.

Academic achievement is a strong predictor of the pathway that LSAL students take to enter post-secondary study if they seek a post-secondary degree. Our SEM indicates that high school students with higher academic achievement scores are significantly more likely to enter a four-year college or university (path = 0.35) than a two-year community college (path = -0.17). These entry points make a difference. Students who enter a four-year college or university are significantly more likely to earn a U.S. baccalaureate or advanced degree (path = 0.83) than students who start at a community college (path = 0.44).

The level of high school academic achievement is negatively related to religious fundamentalism⁹ in the LSAL population (path = -0.17). The level of educational attainment is negatively related¹⁰ to religious fundamentalism (TE = -0.06). Religious fundamentalism is related to support for Conservative Republicans (-0.09). This set of paths illustrate an indirect influence of academic achievement and educational attainment on partisanship through influence on religious attitudes and beliefs.

The total effect of educational attainment from all pathways to ideological partisanship in 2020 was 0.11 (see Figure 1). Although this total effect is relatively small, we will observe in later analyses that educational attainment facilitates the understanding of complex issues.

4. IMPACT OF THE COVID-19 PANDEMIC ON THE 2020 ELECTION

In the context of partisan polarization in the U.S. political system, we turn to an examination of how the U.S. political system processed the personal and policy issues related to the pandemic in the midst of a presidential election. The division of the U.S. public along ideological partisanship lines (see Table 1) was even in early 2020. President Trump wanted to run for re-election on his economic record, but the economic consequences of the pandemic were increasingly negative. One of the unknown variables for both parties was how the public would see the COVID-19 pandemic and how they would assess the response of the Trump Administration to the pandemic.

The COVID-19 pandemic posed significant problems for both parties. The ability of the U.S. public to make sense of complex scientific issues is mixed. In the 1940's and 1950's, the U.S. public recognized the importance of finding a solution to the polio epidemic and contributed millions of dollars to a charity to promote medical research to find a solution. There was broad public acceptance of the Jonas Salk and Albert Sabin vaccines (Conis, 2017) and most adults and children lined up to get a polio shot. Retrospective analyses of this period have found that the cause of polio was unknown to the public and to most political leaders, but that there was a strong desire to find a cure. The policy discussion included little science and required minimal scientific literacy.

In the 2004 presidential election, President George Bush, and Senator John Kerry (his Democratic opponent) tried to explain embryonic stem cells to the public in a nationally televised debate and surveys taken after the debate found that they had created more confusion than clarity. The stem cell issue became irrelevant to most voters.

The COVID-19 pandemic posed similar problems about explaining the threat of a viral pandemic to a public with limited understanding of viruses, bacteria, and infectious disease (Miller and Krebs, 2010). The early efforts of President Trump to minimize the importance of the coronavirus – comparing it to a case of influenza – created confusion about the seriousness of the pandemic and appears to have worked to his disadvantage as the number of cases and deaths increased steadily in the months prior to the 2020 election.

9 The five items used are: (1) agreement that «There is a personal God that hears the prayers of individuals» (2) agreement that «The Bible is the actual word of God and is to be taken literally» (3) the self-reported number of times that each respondent attends a religious service in a typical week, (4) the self-reported number of times that each respondent prays during a typical week, and (5) disagreement that «Human beings, as we know them today, developed from earlier species of animals».

10 The total effect of one variable on another variable is the product of all of the path coefficients connecting the two variables. In this example, educational attainment is connected to ideological partisanship 2016, which is connected to religious fundamentalism. The product of 0.12 times -0.46 is -0.06.

Using data first from the longitudinal record of the LSAL, we examine the impact of partisanship, education, religious fundamentalism, and other factors on the public's perception of the issues and eventually on their vote decision. Recognizing that the LSAL sample is no longer an accurate picture of the U.S. adult population, we will example a similar model using our Ameri-Speak national probability sample of U.S. adults.

4.1. The 2020 presidential election from a developmental perspective

We extend our previous analysis of the development of ideological partisanship by adding several relevant variables to our earlier SEM (see Figure 2).

First, recognizing that the COVID-19 pandemic involves several scientific constructs that previous studies (Miller, 2010; Miller and Krebs, 2010; Miller *et al*, 2021) have found to be poorly understood by many Americans, we included a short set of questions in our 2020 LSAL survey asking respondents to indicate whether each of several statements¹¹ were definitely true, probably true, probably false, or definitely false (respondents were also able to indicate that they did not know) and a confirmatory factor analysis (CFA) was used to form a zero-to-10 scale of COVID knowledge and understanding. The mean score on this index for all LSAL respondents was 5.9_(0.06). Validated voters who reported that they voted for Biden had an average score of 7.2_(0.09). Validated voters who indicated that they voted for Trump had a mean score of 5.0_(0.08). This difference is significant at the 0.01 level.

Second, a salience-weighted attitude scale was constructed to measure each respondent's assessment of the handling of the COVID-19 pandemic by the Trump Administration. Each LSAL survey participant was asked how important each candidate's views on «Covid-19 and the impact of the pandemic» was on their vote decision. Respondents were asked to select from four responses: very important factor, important factor, minor factor, or not a factor. Individuals who indicated that the COVID-19 pandemic was a «very important factor» in their vote decision were given a salience score of two. Individuals who responded that the pandemic was an «important factor» received a salience score of one. All other responses were given a salience score of zero.

Subsequently, each respondent was asked to indicate their agreement or disagreement with the statement «The deaths and damage caused by the Covid-19 virus could have been reduced if the Trump Administration had taken stronger steps earlier» using a zero-to-10 scale, with zero indicating complete disagreement and 10 indicating complete agreement. The responses were converted into a -5 to +5 scale (by subtracting 5 from each response). To recognize the level of salience of each of the issues included in the survey, the revised attitude score was multiplied by the salience score (0, 1, 2), producing a -10 to +10 salience-weighted attitude scale. Following the logic of Converse's analysis of non-attitudes (Converse, 1970, 1974), this procedure produces a score of zero for attitudes for respondents who reported that COVID was not important to his or her vote decision and produces a weighted score that reflects the level of salience and attitudinal direction for each specific issue.

11 The five items included in this scale are: (1) Scientists think that the new coronavirus (COVID-19) originally came from a wild animal, (2) All viruses have the ability to mutate or change form over time, (3) A vaccine is designed to selectively activate your immune system to attach to a particular virus, (4) Masks are effective in preventing COVID-19 from being transmitted from one person to another, (5) The COVID -19 virus is transmitted primarily through microscopic water droplets discharged when individuals breathe, speak, or cough.

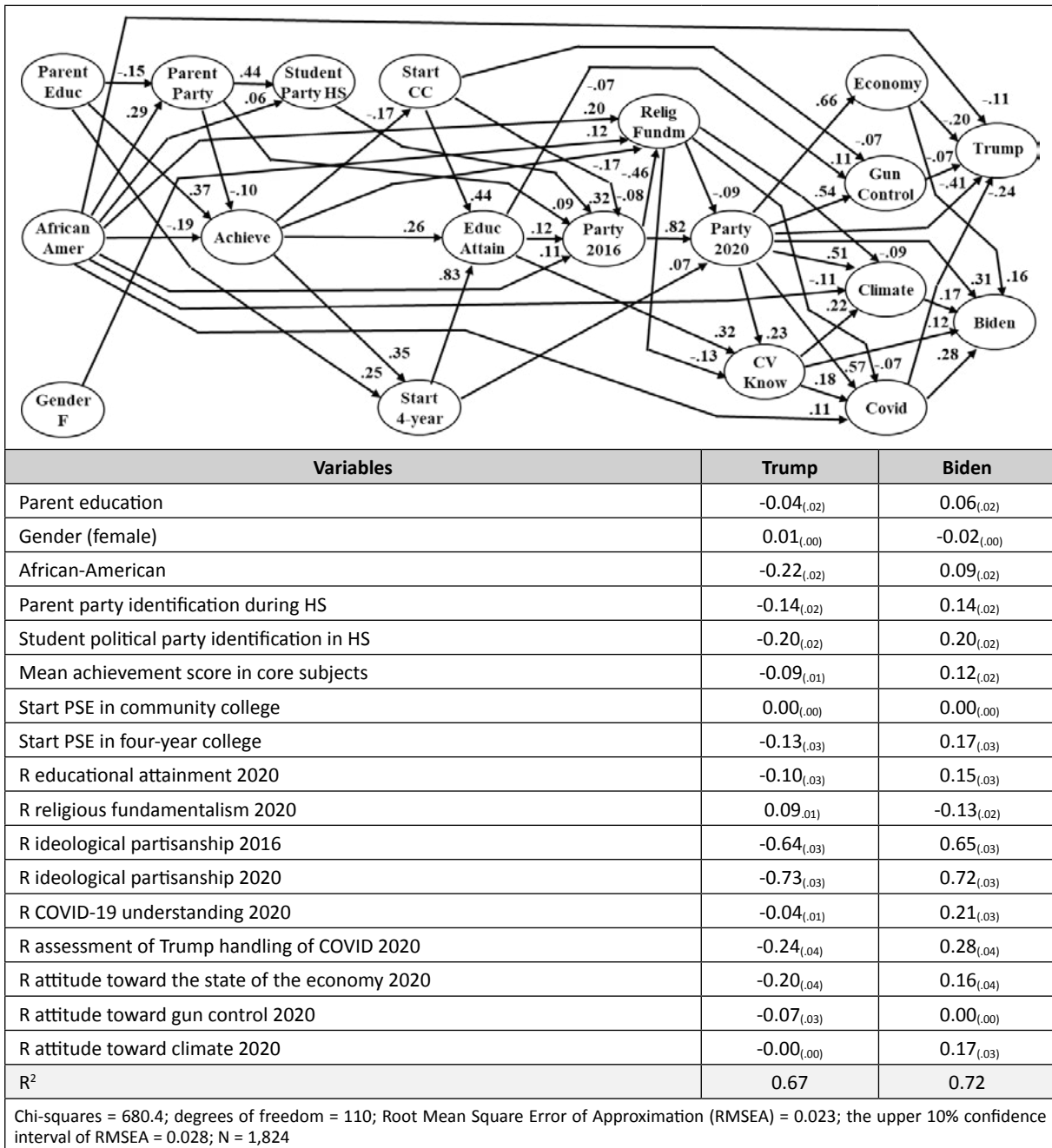


Figure 2. A model to predict COVID-19 understanding and the 2020 vote

Source: LSAL. Own elaboration.

The final model also included salience-weighted attitude scales for the condition of the economy, climate change, and gun control. There is a substantial literature on the influence of individual issues on vote choice, including the potential muting effect of strong ideological partisanship (Carmines and Stimson, 1980, 1989; Carsey and Layman, 2006; McCright and Dunlap, 2011; Castle and Stepp, 2021; Guntermann, Lenz, and Myers, 2021). Issues that were not included with the final model were either (1) fully incorporated into the individual’s ideological and affective partisanship, or (2) not related to the final vote choice in 2020.

Our LSAL SEM for the 2020 presidential vote demonstrates the continuing influence of ideological partisanship. The path coefficient for the relationship between ideological partisanship in 2016 and 2020 is 0.82 (see Figure 2). This result indicates a continuing level of influence from ideological partisanship with few individuals moving their location on our eight-point ordinal scale of ideological partisanship between 2016 and 2020.

In this context, it is important to examine the relative influence of selected issues on the final vote decision of LSAL voters. We looked at 20 issues measured in the 2020 LSAL survey and found significant marginal effects for only four issues. The strongest impact was associated with voters' assessment of the Trump Administration's in handling the COVID-19 pandemic.

An examination of the ideological partisanship cross-tabulation expanded to include the level of understanding of the coronavirus demonstrates the power of coronavirus understanding in all groups, but especially among the nonpartisan middle of the ideological spectrum (see Table 2). Among nonpartisans without a strong ideology who understood the nature and threat of the coronavirus and had a high level of interest in politics, 65% voted for Biden compared to 14% who voted for Trump. Among non-partisans with less understanding of the coronavirus and less interest in politics generally, 17% voted for Trump compared to 14% for Biden. These results show that the level of understanding made a critical difference in the final vote decision of many non-partisan voters.

Ideological partisanship	CV Know Score	2020 Presidential Verified Vote					N
		Trump	Biden	Other	No say	No vote	
Conservative Republican	0-6	80.3%	0.7%	0.5%	2.4%	16.1%	411
	7-10	69.6	10.9	2.3	1.4	15.9	138
Moderate Republican	0-6	62.5	5.9	0.7	2.2	28.7	136
	7-10	39.7	13.2	5.9	4.4	36.8	68
Conservative Nonpartisan	0-6	50.3	6.7	7.3	7.3	28.5	165
	7-10	46.7	5.0	8.3	1.7	38.3	60
Nonpartisan Low Interest	0-6	17.7	14.1	4.5	7.7	55.7	220
	7-10	13.0	32.0	9.0	3.0	43.0	100
Nonpartisan High Interest	0-6	31.5	23.5	4.1	3.1	37.8	98
	7-10	14.4	65.4	2.9	2.9	14.4	104
Liberal non-partisan	0-6	0.0	48.4	6.5	0.0	45.2	31
	7-10	3.6	71.4	3.6	1.8	19.6	56
Moderate Democrat	0-6	3.6	59.3	0.7	1.4	35.0	140
	7-10	0.8	66.9	0.0	1.7	30.5	118
Liberal Democrat	0-6	0.0	81.4	0.0	0.0	18.6	59
	7-10	0.0	87.6	0.0	0.0	12.4	217
All eligible voters	0-6	45.5	17.7	2.5	3.7	30.6	1,257
	7-10	21.1	50.6	3.0	1.7	23.5	861

Note: "Other" includes other candidates listed on the ballot or written in by a voter; "No say" includes voters who reported that they voted in the November election (and was verified by Catalist) but did not cast a vote for any presidential candidate; "No vote" indicates that Catalist found that the individual did not vote in the jurisdiction she or he reported in the survey or was not registered in that location.

Table 2. 2020 Presidential vote by ideological partisanship and coronavirus understanding

Source: LSAL. Own elaboration.

A higher level of understanding of the coronavirus influenced vote choice across the full spectrum of ideological partisanship. Among Conservative Republican voters with a high level of coronavirus understanding, 11% voted for Biden and 16% declined to vote in 2020. In contrast, fewer than 1% of Conservative Republican voters with a lower level of understanding of the coronavirus voted for Biden (see Table 2). The effect of understanding the virus displayed a similar impact among Moderate Republicans with 13% of those voters who understood the virus voting for Biden.

Among nonpartisans with high or low political interest, voters who supported the handling of the pandemic voted heavily for Trump and voters who were critical of the Trump Administration’s handling of the pandemic voted heavily for Biden (see Table 3). Virtually all Liberal Nonpartisans, Moderate Democrats, and Liberal Democrats were critical of the Trump Administration’s handling of the pandemic and voted heavily for Biden.

We also constructed a salience-weighted COVID attitude scale described above. The mean score on this zero-to-10 scale for all LSAL respondents was 1.8_(0.15) indicating a slightly critical assessment of the performance of the Trump Administration on their COVID response. The mean score on this index for Biden voters was 7.6_(0.15) reflecting a strong critique of the Trump Administration performance. The mean score on this index for Trump voters was -3.3_(0.17) which was a modest rejection of the criticism. Attitude toward the handling of the COVID pandemic by the Trump Administration had a moderately strong total effect on the vote for Biden (0.28) and a nearly equal effect on the vote for Trump (-0.24).

Ideological partisanship	Trump Assessment	2020 Presidential Verified Vote					N
		Trump	Biden	Other	No say	No vote	
Conservative Republican	Support	84.6%	0.4%	0.4%	1.5%	13.2%	273
	Neutral	77.9	2.3	1.8	2.3	15.8	222
	Critical	31.4	37.1	0.0	2.9	28.6	35
Moderate Republican	Support	75.8	0.0	0.0	3.2	21.0	62
	Neutral	49.1	6.4	3.6	2.7	38.2	110
	Critical	17.4	43.5	0.0	4.3	34.8	23
Conservative Nonpartisan	Support	70.7	0.0	1.2	0.0	28.0	82
	Neutral	45.5	1.0	10.1	12.1	31.3	99
	Critical	10.8	35.1	10.8	2.7	40.5	37
Nonpartisan Low Interest	Support	55.2	0.0	3.0	0.0	41.8	67
	Neutral	18.7	13.2	5.9	7.8	54.3	219
	Critical	6.7	58.1	4.3	2.9	28.1	210
Nonpartisan High Interest	Support	60.0	0.0	3.3	0.0	36.7	30
	Neutral	47.5	22.5	0.0	5.0	25.0	40
	Critical	6.6	65.6	4.9	1.6	21.3	122
Liberal non-partisan	Support	---	---	---	---	---	2
	Neutral	---	---	---	---	---	17
	Critical	3.0	74.2	3.0	0.0	19.7	66
Moderate Democrat	Support	---	---	---	---	---	6
	Neutral	4.7	48.8	0.0	7.0	39.5	43
	Critical	2.0	65.8	0.0	0.5	31.6	196
Liberal Democrat	Support	---	---	---	---	---	0
	Neutral	---	---	---	---	---	13
	Critical	0.0	86.1	0.0	0.0	13.9	259
All eligible voters	Support	76.0	0.8	0.8	1.2	21.1	492
	Neutral	43.7	10.9	4.6	5.5	35.3	723
	Critical	4.7	67.7	1.8	1.2	24.6	826

Note: “Other” includes other candidates listed on the ballot or written in by a voter; “No say” includes voters who reported that they voted in the November election (and was verified by Catalyst) but did not cast a vote for any presidential candidate; “No vote” indicates that Catalyst found that the individual did not vote in the jurisdiction she or he reported in the survey or was not registered in that location.

Table 3. 2020 Presidential vote by ideological partisanship and assessment of Trump Administration handling of the COVID-19 pandemic

Source: LSAL. Own elaboration.

Viewed in the context of ideological partisanship, a critical assessment of the performance of the Trump Administration regarding the COVID-19 pandemic influenced the vote decision across the ideological partisanship spectrum (see Table 3). Conservative Republicans and Moderate Republicans who were critical of the Trump Administration's handling of the pandemic cast more votes for Biden than Trump and a significant proportion of these conflicted nonpartisans did not cast a ballot in 2020. A similar pattern occurred among Nonpartisan Conservatives.

In the context of the strong predictive power of ideological partisanship in the 2020 vote SEM, these moderately strong total effects mean that the COVID issue energized or amplified conservative support for Trump and liberal support for Biden (see Figure 2). It should be noted that a higher score on the index of COVID understanding produced an independent total effect of $0.21_{(0.03)}$ for a Biden vote and a smaller effect of $-0.04_{(0.01)}$ for a Trump vote. The combination of the level of COVID understanding and attitude toward the Trump Administration handling of the pandemic produced a substantial influence on the final vote decisions of the verified voters in 2020. The magnitude of this influence was substantially larger than the marginal influence of the gun control issue or concern about climate change (see Figure 2).

In addition to the direct influence of COVID understanding and the assessment of the Trump Administration handling of the pandemic, our SEM points to another related influence on the 2020 vote choice by LSAL young adults. The score on the index of COVID understanding was related to climate attitude (path = 0.22). An understanding of a coronavirus and climate change require some level of scientific literacy and a willingness to accept the judgements of scientists. President Trump often rejected scientific judgements and dismissed the seriousness of climate change and the coronavirus pandemic. This result points to voter wariness or dissatisfaction with these attacks on science, which has been held in high regard by most Americans since the Second World War (Miller, 1983; Miller and Inglehart, 2012). Adult scientific literacy is one of the benefits of cumulative advantage over several decades.

This view is reinforced by a consistent pattern of better-educated respondents reporting a greater likelihood of voting for Biden than Trump. A careful look at the total effects in our 2020 SEM vote model shows that young adults who scored higher on standardized achievement tests in high school were more likely to vote for Biden than Trump as were young adults with higher levels of educational attainment at midlife (see Figure 2). Although the magnitude of these effects is smaller than the influence of ideological partisanship, COVID understanding, or COVID attitudes, they display a cumulative effect that suggests that better-educated voters were uncomfortable with President Trump's frequent attacks on science.

The 2020 LSAL presidential vote SEM accounted for 67% of the covariance in the prediction of the Trump vote and 72% of the covariance in the prediction of the Biden vote. The fit statistics for the model indicate a good fit with the data.

4.2. The 2020 presidential election from a cross-sectional perspective

Although the data from the LSAL provide an important developmental perspective on the 2020 presidential election vote, it is important to recognize that the LSAL longitudinal sample excludes U.S. citizens who were not enrolled in a public school in 1987 or who immigrated to the United States during the 35 years of the LSAL. To provide an accurate portrait of eligible U.S. voters in 2020, we turn to our 2020 Ameri-Speak survey¹². The 2020 Ameri-Speak sample is based on a national listing of all occupied residences in the U.S. constructed and updated by the U.S. Post Office and represents a national probability sample of U.S. adults. The data from Ameri-Speak was verified by Catalist using official voter records from all 50 states¹³.

We construct a SEM using many of the same variables included in our LSAL SEM. The major omissions are variables collected by the LSAL from parents, teachers, and student participants during the middle school and high school years. All the election questions are identical in the two surveys, and all were collected in the same time frame (see Figure 3). There is one difference concerning the inclusion of salience weighted attitude variables. In the LSAL Generation X sample, the four relevant issue variables were the condition of the economy, climate

12 To see another analysis of the 2020 AmeriSpeak using some different variables and a modified SEM, see Miller, Woods, and Kalmbach (2022).

13 In this analysis, we use a combination of the self-reported electoral participation of a national probability sample of American adults whose participation was verified by Catalist.

policy, gun control, and the Trump Administration handling of the COVID-19 pandemic. In the 2020 Ameri-Speak study, the four relevant issues variables were the state of the economy, climate policy, immigration policy, and the Trump Administration handling of the COVID-19 pandemic. This variation reflects the different issue priorities of the Generation X sample and a national sample of all adults.

The SEM for the Ameri-Speak sample found modest total effects for age (TE = 0.10 for Trump and -0.10 for Biden) and for gender (TE = -0.11 for Trump and 0.10 for Biden)¹⁴. Reflecting the increasing Republican embrace of white supremacy, American-American voters were more likely to vote for Biden than Trump (TE = -0.15 for Trump and 0.15 for Biden), holding constant age and gender (see Figure 3). U.S. voters with higher levels of educational attainment were more likely to vote for Biden (TE = 0.34) than Trump (-0.34). This result reflects the movement of many less-educated Whites into the Republican Party in recent decades and the growth of Democratic Party support in universities and among college graduates.

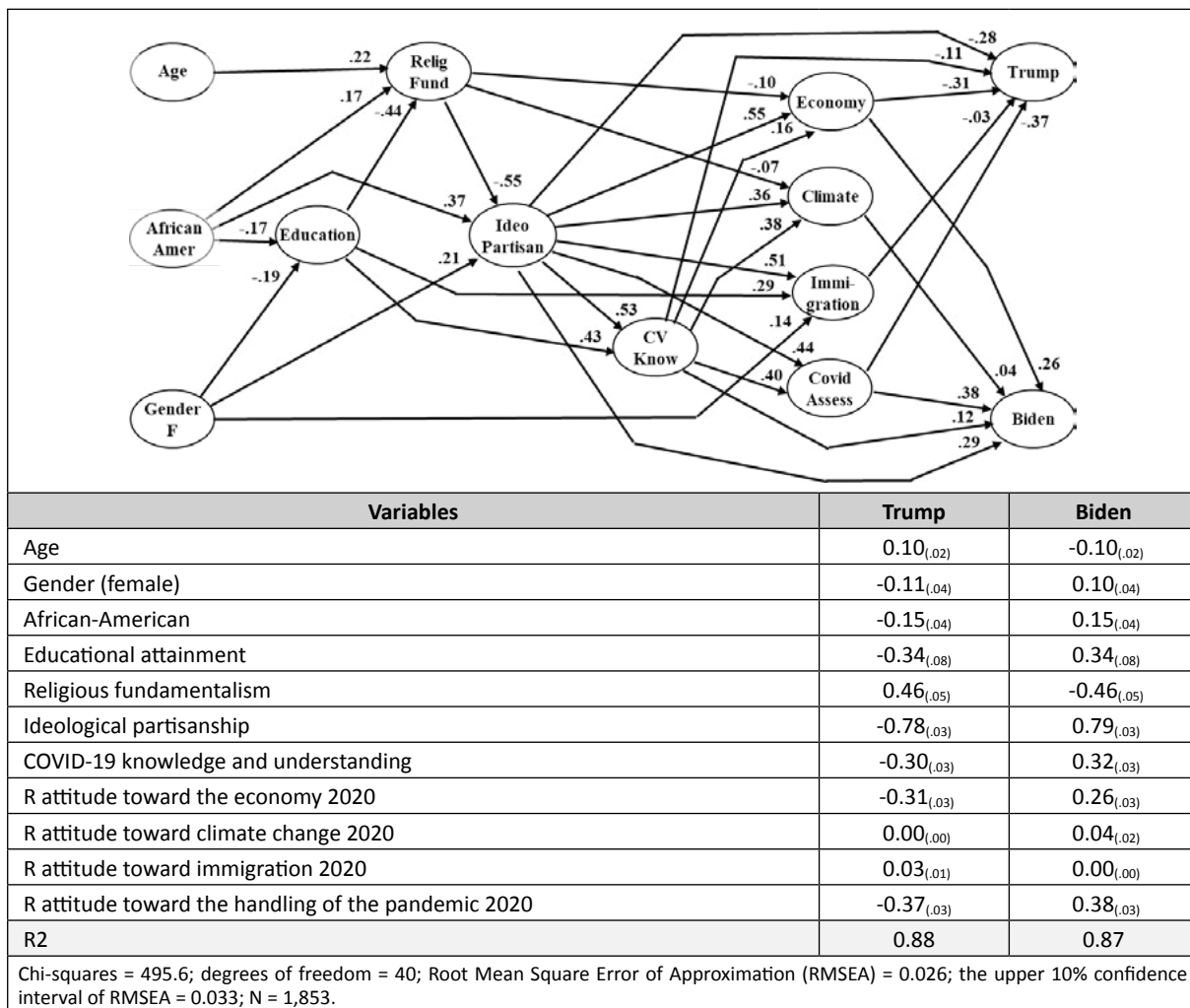


Figure 3. A model to predict 2020 presidential vote using a national adult sample

Source: Ameri-Speak. Miller, Woods, & Kalmbach (2022).

14 Gender is coded 1 for female and 0 for males in both data sets. This is a nominal identifier and not a value judgment. The positive value means that women were more likely to vote for that candidate and a negative value means that women were less likely to vote for that candidate. Similarly for age, a positive value means that older respondents were more likely to vote for that candidate and a negative value indicates that young voters were more likely to vote for that candidate.

Religious fundamentalism is an important part of partisan realignment and polarization in the U.S. In the 2020 Ameri-Speak sample, adults who scored high on our index of religious fundamentalism were significantly more likely to vote for Trump (TE = 0.46) than Biden (TE = -0.46). As observed in the LSAL SEM, educational attainment in the Ameri-Speak sample was negatively related to religious fundamentalism (path = -0.44) and religious fundamentalism was positively related to the Republican end of the ideological partisanship spectrum (path = -0.55).

The level of coronavirus understanding was predicted by respondents' educational attainment (path = 0.43) and ideological partisanship (path = 0.53), holding constant the preceding variables in this analysis. Despite the strong influence of ideological partisanship in this SEM, respondents' understanding of the coronavirus was a strong influence in both policy attitudes and vote choice. The level of coronavirus understanding was positively related to a critical assessment of the Trump Administration handling of the COVID-19 pandemic (path = 0.40). And respondents' assessment of the handling of the COVID-19 pandemic by the Trump Administration was positively associated with a vote for Biden (TE = 0.38) and negatively associated with a vote for Trump (TE = -0.37). These two total effects are approximately half as strong and the total effect of ideological partisanship and stronger than the marginal effect of economic performance, climate policy, or immigration policy. It is clear that the COVID-19 pandemic and the response of the Trump Administration were important factors in the determination of outcome of the 2020 presidential election.

This SEM—like its counterpart SEM for the LSAL study—suggests that information and understanding can play an important role in national elections even in a strongly polarized political system. Liberal and Moderate Democrats were more likely to understand the coronavirus than were Conservative and Moderate Republicans. This result reflects partisan filtering of information and information sources and partisan sorting by education. The level of coronavirus understanding had a significant impact on voters' salience-weighted attitude toward the Trump handling of the pandemic (path = 0.40) and a significant total effect on a vote for Trump (-0.30) or Biden (0.32), holding constant ideological partisanship and prior variables.

As discussed earlier in regard to our LSAL-based SEM, these paths and total effects document the aggregate effect of coronavirus understanding on COVID attitudes and vote choice, but an examination of the patterns within the categories of ideological partisanship tell a more detailed story. As in the LSAL SEM, within every category of ideological partisanship, voters who had a better understanding of the coronavirus were less likely to vote for Trump and more likely to vote for Biden than voters with less understanding of the coronavirus.

As in our longitudinal study, the influence of coronavirus understanding was particularly strong in the nonpartisan middle group with a high level of interest in the presidential election, representing approximately 13% of the eligible electorate. Among this group, 71% of voters with a higher level of coronavirus understanding voted for Biden, compared to 9% who voted for Trump. In contrast, Trump received the vote of 37% of high-interest nonpartisans with a lower level of coronavirus understanding compared to 25% who voted for Biden, but 32% of this group did not vote in the 2020 presidential election (see Tables 3 and 4 in Miller *et al.* 2022 for more detail).

A similar pattern emerged among nonpartisan non-ideological voters with a lower level of interest in the 2020 presidential election. Within this group, 26% of voters with a higher level of coronavirus understanding voted for Biden compared to 17% who voted for Trump. Forty-two percent of this group did not cast a vote in the 2020 election.

Our national adult SEM indicates that the salience-weighted attitude toward the Trump handling of the COVID-19 pandemic had a significant marginal effect on the 2020 vote decision, holding constant ideological partisanship. Voters who disagreed with the statement that the Trump Administration handling of the COVID-19 pandemic caused increased deaths and damage were more likely to vote for Trump than would have been predicted by ideological partisanship alone (total effect = -0.37) and voters who agreed with the statement were more likely to vote for Biden (total effect = 0.38). These effects are roughly half of the influence of ideological partisanship (see Figure 3).

As we found in our longitudinal model, voter assessment of the Trump Administration handling of the COVID pandemic was influential on vote choice, demonstrating the pervasive effect of the Covid issue and its effect on non-partisan voters in the middle of the ideological partisanship spectrum. In our national cross-sectional adult sample,

voters in every category of ideological partisanship except Conservative Republicans were critical of the Trump Administration's handling of the COVID-19 pandemic and were significantly more likely to support Biden than Trump.

Among our adult sample of nonpartisan non-ideological voters with a high level of interest in the 2020 presidential election, the influence of their assessment of the Trump Administration handling of the COVID-19 pandemic was significantly related to both their vote choice and the decision to vote at all. Seventy-seven percent of these individuals voted for Biden compared to 3% who voted for Trump.

Among our adult nonpartisan non-ideological voters with a lower level of interest in the 2020 presidential election (13% of eligible voters), a similar pattern occurred, but the general level of awareness and concern was lower. Parallel to our longitudinal analysis, this segment of the adult electorate, 58% of respondents expressed a neutral view about the performance of the Trump Administration in handling the COVID-19 pandemic and 60% of these individuals did not vote in the 2020 presidential election. Of the 24% of this group who were critical of the Trump Administration's handling of the pandemic, 44% voted for Biden and 6% voted for Trump. Conversely, among the 18% of these individuals who were supportive of the Trump Administration's handling of the pandemic, 43% voted for Trump and 6% voted for Biden.

These results from our national adult cross-sectional study indicate that both the level of understanding of a coronavirus and the general assessment of the Trump Administration handling of the pandemic influenced both the decision to vote in 2020 and the choice of the candidate to support in that election (see Miller, Woods, and Kalmbach, 2022 for an extended discussion of adult vote choices in 2020).

5. DISCUSSION

Using our longitudinal data on members of Generation X, as well as a nationally-representative sample of the American population in 2020, we have attempted to examine the question of whether the 2020 presidential election was primarily an extension of our deeply polarized political system or whether the COVID-19 pandemic and its economic aftermath influenced that direction and magnitude of the presidential vote. We find that the driving force in the 2020 presidential election was the continuing influence of a deeply polarized ideological partisanship in both our samples.

Our evidence also shows the importance of scientific knowledge and understanding in determining vote choice, particularly when science-related policies (such as those related to a pandemic) can become polarized along existing political cleavages. In this context, as discussed further in Miller *et al.* (2022), the importance of the nonpartisan middle who may be persuadable, or at least responsive to salient issues, is evident. In addition, our analysis of longitudinal data confirms our earlier findings in Miller *et al.* 2022 that some voters may have been turned off by Trump's attacks on science, and voted accordingly. Having accurate knowledge about the COVID-19 pandemic had an effect on vote choice, even accounting for ideological partisanship.

Beliefs about COVID were partially (but not entirely) subsumed by existing political identities and beliefs. Our longitudinal data allows us to more fully examine how those pre-existing beliefs formed, and the long-term factors that shaped those beliefs. The importance of parental politics in influencing one's own political beliefs is a vital part of fully understanding how that person responds to political events. The cumulative advantage, measured by educational attainment and shown in our LSAL data, shapes how voters understand COVID—and subsequently, how they voted in 2020.

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