## Trump Voters and the White Working Class \*

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## **Trump Voters and the White Working Class**

#### **Abstract**

To evaluate the claim that white, working-class voters were a crucial block of support for Trump in the 2016 presidential election, this article offers two sets of results. For the first, self-reports of presidential vote in 2012 and 2016 from the American National Election Studies (ANES) show that Obama-to-Trump voters and 2012 eligible non-voters composed a substantial share of Trump's 2016 voters. These voters were also more likely to be members of the white working class. Because the ANES has a somewhat coarse occupation-based measure of the working class, and has only a modest sample size, a complementary analysis is offered that merges county vote tallies in 2012 and 2016 with the public-use microdata samples of the 2012-2016 American Community Surveys. For this second piece of analysis, areal variation across 1,142 geographic units that sensibly partition the United States shows that Trump's gains in 2016 above Romney's performance in 2012 are strongly related to the proportion of the voting population in each area that is white and working class. This strong relationship holds in the six states that Trump flipped in his 2016 victory, and it varies little across other agglomerations of competitive and non-competitive states. Taken together, these results support the claim that Trump's appeal to the white working class was crucial for his victory.

## Introduction

How was Donald Trump able to break through the Democratic "blue wall" states of Pennsylvania, Michigan, and Wisconsin, while also flipping Florida, Iowa, and Ohio? A leading explanation is that he appealed directly to white, working-class voters, fusing trade protectionism with anti-immigrant rhetoric as part of his Make American Great Again agenda. Building directly on Morgan and Lee (2017) and related recent research (e.g., Hahl, Kim, and Zuckerman Sivan 2018; Lamont, Park, and Ayala-Hurtado 2017; McQuarrie 2017), in this article we evaluate two straightforward questions at the core of this white working-class narrative:

- 1. Were Obama voters in 2012 a substantial portion of Trump's voters in 2016, and, if so, were they disproportionately white and members of the working class?
- 2. Were eligible non-voters in 2012 a substantial portion of Trump's voters in 2016, and, if so, were they disproportionately white and members of the working class?

Although simple in structure, these two questions are difficult to answer because of the measurement limitations of available data sources.

Individual votes are private, and, as a result, individual-level data must be elicited in after-election polls and surveys, which are subject to both recall error and social desirability bias. In addition, at present, the American National Election Studies (ANES) 2016 Times-Series Study is the only available national survey that has elicited self-reports of 2012 and 2016 general election votes for president and has a direct measure of respondent's current or last occupation that can be plausibly coded as working class or not. And, while we will analyze this invaluable data source in this article, the ANES is nonetheless limited in size, preventing an informative spatial analysis of the distribution of types of Trump voters across the states that Trump carried, including the six states that he flipped.

An alternative but complementary approach to these questions is to develop an areal analysis of actual recorded votes across geographic units, comparing the 2016 vote distribution to the 2012 vote distribution. With this approach, other analysts have already considered how shifts in county-level vote totals from 2012 to 2016 can be related to county-level demographic estimates provided by the US Census Bureau (the most widely read being those produced by data journalists in the weeks following the election; e.g., Silver 2016b). Unfortunately, the county-level tables published by the US Census Bureau do not offer breakdowns of occupation that map onto any reasonable definition of the working class and that apply only to the electorate, rather than the full adult population of each county. A more powerful approach is to develop direct measures of the white working class using US census microdata, with samples restricted as best one can to the eligible voting population, and then relate these measures to aggregated vote tallies in a sensible fashion. We offer this type of analysis in this article, considering variation across 1,142 geographic units that partition the United States. We cannot overcome the most substantial weakness of an areal analysis: we cannot link 2012 votes directly to 2016 votes, nor to turnout decisions, and thus cannot separate 2016 Trump voters into Obama-to-Trump voters, Romney-to-Trump voters, 2012 non-voters, and other types of voters.

Nonetheless, with these two types of analysis, we are able to evaluate the plausibility of the core empirical claims of the white working-class narrative for Trump's victory. Neither set of results fully resolves the limitations of the other, but we aim to show that this is a case where the whole is greater than the sum of its parts.

In the next section, we provide key details on the data and measures used, after which we proceed directly to the analysis. For readers interested in additional background on the

white working-class narrative, see the discussion in Morgan and Lee (2017) as well as Bobo (2017), Lamont et al. (2017), McQuarrie (2017), Monnat and Brown (2017), and Pierson (2017). For a representative selection of the positions staked out by journalists who have developed and supported the narrative, see Cohn (2016), Fessenden (2016), Flegenheimer and Barbaro (2016), Ingold et al. (2016), Packer (2016), and Tankersley (2016). For pieces by opinion writers who minimize or oppose the narrative, see Coates (2017), Carnes and Lupu (2017), Devega (2017a, b), and Silver (2016a).

#### **Data and Measures**

The Online Supplement provides details of our analysis, which we summarize only briefly here. We draw data from three sources: (1) the ANES 2016 Time-Series Study (see American National Election Studies 2017), (2) the 2012-2016 public-use microdata sample of American Community Surveys (see American Community Survey Office 2018), and (3) official vote tallies from Dave Leip's Atlas of U.S. Presidential Elections (https://uselectionatlas.org).

The ANES analytic sample includes 2,713 respondents who voted in 2016 and were old enough to vote in 2012. The ACS analytic sample includes 11,241,230 US citizens, aged 18 or older, who were used to calculate race and class distributions of 1,142 geographic units, each of which is a census microdata area (or agglomeration thereof). Each ACS-based unit was then merged with corresponding county-based vote tallies. For 886 of these units, counties and census microdata areas could be perfectly aligned, making the allocation of county-vote tallies straightforward. For the remaining 256 units, adjacent county vote tallies were allocated across microdata-based areas using the 2010 decennial census, which provides a joint population

distribution of counties and census microdata areas. This vote allocation is not free of error, primarily because (1) we have no information on within-county variation in voting and (2) the proportionality weights are based on a joint population distribution of residents in 2010 rather than eligible voters, or actual voters, in 2012 and 2016. Nonetheless, we provide additional results in the Online Supplement that demonstrate that our core conclusions are insensitive to whether we base our analysis only on the 886 exactly aligned units, or whether we analyze all 1,142 units.

We are able to code white non-Hispanic and type of state (competitive states, flipped states, etc.) in the same way as for Morgan and Lee (2017), even though we are analyzing entirely different data sources. For class, we use the same strategy, with an alternative implementation based on data source. Finally, for the areal analysis of vote tallies, we use a measure of Trump's 2012-to-2016 gain for each geographic unit: the percentage of votes cast in 2016 for Trump minus the percentage of votes cast in 2012 for Romney. This measure of Trump's gain is the best we can do to link the distribution of 2012 votes to 2016 votes, enabling an analysis of Trump's appeal in comparison to a Republican candidate who towed the party line and lost four years prior.

#### Results

#### The 2012 Votes of Trump's 2016 Supporters

For the 2016 election, large majorities of voters supported the candidates nominated by their preferred party, but Trump's insurgent campaign generated enough enthusiasm among 2012 non-voters and 2012 Obama voters to secure the win in 2016. Were these two types of crucial

2016 voters, who just barely pushed Trump over the threshold of victory, more likely to be white and working-class?

Consistent with other analysis of the ANES (e.g., Skelley 2017), the first row of Table 1 shows that, among 2016 voters, 12.7 percent of Obama's 2012 voters supported Trump in 2016. In addition, of those who were eligible to vote in 2012 but did not vote in 2012, 46.1 percent voted for Trump.<sup>1</sup>

Table 1. Components of Trump's Voters in 2016

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	Among those who	Among those		
	voted in both 2012	who did not		
	and 2016, the	vote in 2012 but		
	percentage that	did vote in 2016,		
	voted for Obama	the percentage	Percentage of all	
	in 2012 and	that	WONH voters	
Voters in 2016	Trump in 2016	voted for Trump	in 2016	
All voters	12.7	46.1	N/A	
	(1.4)	(3.0)		
WONH voters only:				
Working class	27.2	58.5	25.8	
	(4.1)	(5.7)		
Not working class	13.1	62.0	74.2	
	(1.7)	(4.3)		
Working class (broad measure)	28.7	59.7	29.4	
	(4.6)	(5.5)		
Not working class (broad measure)	11.8	61.4	70.6	
	(1.4)	(4.5)		

Source: ANES 2016 Time-Series Study

For the remaining rows of Table 1, we restrict the analysis to respondents who selfidentify as white only and non-Hispanic (WONH) and compare to the baseline full-sample

<sup>&</sup>lt;sup>1</sup> The Online Supplement offers full tables on all rates presented in Table 1. To be conservative on the rate of Obamato-Trump switching and other results in Table 1, we include "other candidate," "don't know," and refusals in the denominator of the rate calculations. All numbers in Table 1 would be slightly higher otherwise.

results in the first row. In addition, we partition WONH voters for the remainder of the table into those who are in the working class or not, using two related measures.

We first present results using a narrow measure of the working class: those whose current or last occupation was in class IIIb (lower-grade service workers), class VI (skilled manual workers), or class VIIa (unskilled manual workers). With this measure of the working class, 27.2 percent of the 2012-and-2016 voters from the white working class voted for Obama in 2012 and Trump in 2016. In addition, 58.5 percent of the white working class that did not vote in 2012 but did vote in 2016 cast votes for Trump in 2016.

The third row presents the same two percentages for the non-working-class complement of WONH voters. A smaller, but still sizable 13.1 percent of these 2012 Obama voters cast votes for Trump in 2016. And, 62.0 of those who did not vote in 2012 but turned out to vote in 2016 decided to support Trump. Taken together, WONH voters were, as shown in abundant prior analysis, more likely to support Trump in 2016. But, importantly, Obama-to-Trump switchers were also substantially more prevalent among white, working-class voters.

For the final two rows, we broaden the working-class measure by including in the working class all respondents who did not report a current or last occupation but whose educational attainment was a high school diploma or less. These individuals, if employed, would be unlikely to secure a position outside of the working-class occupations in classes IIIb, VI, and, VIIa. In addition, we broaden this category to include agricultural laborers (class

VIIb).<sup>2</sup> With this measure, the patterns are very similar because only an additional 3.6 percent of WONH respondents are added to the working class.

Altogether, Obama voters in 2012 were a substantial portion of Trump's voters in 2016, and they were disproportionately white and members of the working class. Eligible non-voters in 2012 were also a substantial portion of Trump's voters in 2016, and they were disproportionately white. As we show in the Online Supplement, the ANES does not deliver a clear answer on whether 2012 non-voters who voted for Trump in 2016 were also disproportionately working class, above and beyond being disproportionately white.

## County Vote Tallies and the White Working Class

In this section, we model variation in Trump's 2016 gain relative to Romney's 2012 performance across 1,142 geographic units that encompass all fifty states and the District of Columbia and that are composed of single or contiguous groups of microdata areas defined by the US Census Bureau. These geographic units vary in size, but all have at least 100,000 residents (but fewer eligible voters). Most are counties, county-equivalents, or groups of small contiguous counties with similar demographic profiles.

Across four collections of states, Figure 1 presents scatterplots of Trump's gain in 2016 by the percentage of the voting population in each unit that is WONH and working class. For this figure, the voting population is operationalized as US citizens aged 18 or older, and the working class is defined as being currently employed or recently employed (with the ACS

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<sup>&</sup>lt;sup>2</sup> To better align this coding with our ACS analysis below, we would also include members of class IVc, who are farmers and ranchers. However, there are no such WONH respondents in the ANES sample we analyze, based on the codes that were released.

definition of recently as "within the past five years") in an occupation assigned to class IIIb, class VI, or class VIIa.<sup>3</sup> The units are plotted as circles proportional to the size of the voting population of each unit, as estimated by the ACS. Each scatterplot includes a best-fitting, least-squares-estimated linear regression line.

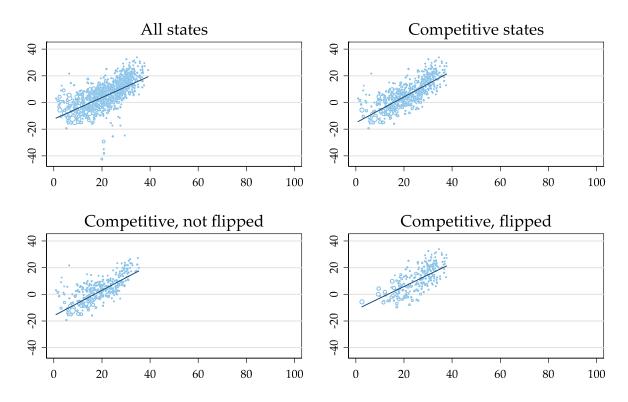


Figure 1. Trump's 2016 gain by the percentage of the voting population that is WONH and working class

The average Trump gain differs by state outcome, as expected. Units in competitive states that flipped (bottom right panel) have, on average, larger Trump gains than units in competitive states that did not flip (bottom left panel). When all competitive states are combined (upper right panel), they are not particularly dissimilar from the collection of all

hese are the same classes considered above for the ANES analysis, but for this ar

<sup>3</sup> These are the same classes considered above for the ANES analysis, but for this areal analysis the measure is more finely coded at the individual level, as explained in the Online Supplement.

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states (upper left panel). More important for our analysis, the shapes of the four scatterplots are remarkably similar. The correlation coefficient that corresponds to the straight line in each scatterplot, weighting appropriately by size of geographic unit, is 0.67 for all states, 0.77 for competitive states, 0.75 for competitive, but not flipped, states, and 0.73 for flipped states.<sup>4</sup>

Consider the distribution of the units along the horizontal axis of Figure 1, which we have specified for the entire 0-to-100 range in order to promote comparability for additional figures, including those offered in the Online Supplement. Although substantial variation exists across units, the units with the highest percentages of white, working-class voters do not, with this measure, constitute a majority of any unit. For Figure 2, we broaden the definition of the working class in two ways. First, we add WONH farmers (class IVc) and WONH agricultural laborers (class VIIb) to the white working class. These are very small classes, but these individuals are reasonable to consider as "working class" because of the manual nature of the work they perform. Second, we add to the working class WONH respondents who do not have occupation-based class positions, based on a current or recent occupation, and who have no more than a high school diploma. The most common respondents of this type are retirees, but they also include individuals not in the labor force and those who were persistently unemployed or on disability for the five years before their participation in the ACS.

With this broadening of the working class, the dispersion of the units along the horizontal axis increases, with some units approaching 60 percent white working class. The

<sup>&</sup>lt;sup>4</sup> The dip in the correlation coefficient for the all-state scatterplot is partly produced by areas with large negative Trump gains, which also results in a correlation of 0.57 for all non-competitive states (for a scatterplot not presented here). This is disproportionately a Utah effect, where Trump performed much worse than Romney.

underlying correlations that characterize the scatterplots increase slightly to 0.73 for all states, 0.83 for competitive states, 0.80 for competitive, but not flipped, states, and 0.80 for flipped states.

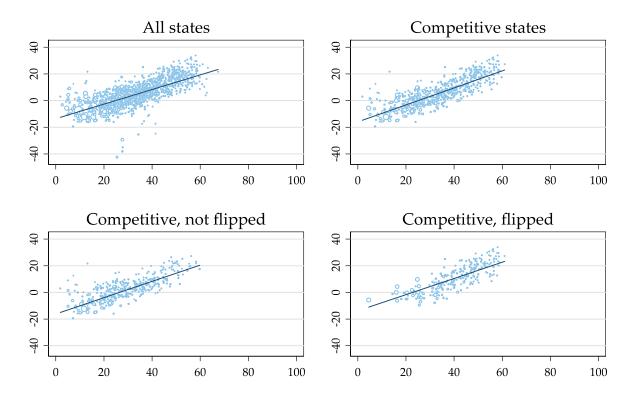


Figure 2. Trump's 2016 gain by percentage of the voting population that is WONH and working class (broad measure)

Regardless of whether one favors the rationale for the depicted relationships in Figure 1 or Figure 2, they both support a similar interpretation. Trump's gains in 2016, relative to Romney's more generic performance as a near-loss Republican candidate in 2012, were most substantial in areas with the largest percentages of eligible voters who can be identified as members of the white working class. In addition, the relationship is not confined to competitive states, or even more narrowly to competitive states that Trump flipped.

## **CONCLUSIONS**

The ANES analysis indicates that approximately 28 percent of Trump's 2016 voters were Obama voters in 2012 or non-voters in 2012 who turned out to vote for Trump in 2016. In comparison, only about 16 percent of Clinton's voters were Romney voters in 2012 or non-voters in 2012. The Obama-to-Trump voters were disproportionately white and working class while the 2012 non-voters who voted in 2016 were disproportionately white.

A complementary areal analysis of 1,142 geographic units shows that Trump's gains in 2016 above Romney's performance in 2012 are strongly related to the proportions of the voting population in each geographic unit that were white and working class. This strong relationship holds in the six states that Trump flipped, and it varies little across other types of states.

Because the areal analysis is indirect, based on associations between aggregated individual-level data, it cannot reveal whether Trump's gains were more likely to have been produced by Obama-to-Trump voters within the white working class, a relative turnout surge among members of the white working class, or other plausible alternatives. Nonetheless, the patterns revealed are consistent with the conclusions supported by the preceding individual-level analysis of the ANES data.

Altogether, the results of both pieces of our analysis support the claim that Trump's appeal to the white working class was crucial for his victory. In addition to retaining a core of support from Romney's 2012 voters, Trump appears to have claimed a narrow victory because of the support of the white, working-class voters that he targeted.

## **DISCUSSION**

The white working-class narrative is either a piece of settled conventional wisdom, with some evidentiary basis, or a myth in need of busting through further analysis. Its status as conventional wisdom was established in the days after the election, based on exit polling and then rough county-based analyses of vote tallies (see citations in the introduction). But, the narrative remains under debate, perhaps more so now than ever, for the following reasons.

First, some crucial empirical questions remain unresolved. Was Trump's success in "Trump counties" more likely the result of Obama-to-Trump switching or a relative turnout surge among white voters? The ANES results above suggest that both are likely important.

Still, with the ANES sample size at our disposal, we cannot offer a definitive answer, which would require sufficient state-level data to understand patterns in flipped states in comparison to non-flipped states.<sup>5</sup> It is possible that industrious analysis of voting records by others will eventually clarify the range of conclusions that support the surge variant of the white working-class narrative.

Second, the underlying specific motivations of white, working-class voters are unclear, and our prospects for revealing them are less promising than many analysts claim. Some

<sup>&</sup>lt;sup>5</sup> Morgan and Lee (2017) present evidence that, across all competitive states, there was a modest relative turnout surge among white, working-class voters. Pushing the Current Population Survey data further in order to examine state variation in turnout, the data provide suggestive evidence that the turnout surge was substantial only in 2 of the 6 states that Trump flipped: Florida and Pennsylvania. This result, although very uncertain because of sampling error, provides a bit of evidence that the Obama-to-Trump voters are comparatively more important. Still, this reasoning only makes sense if one assumes relatively little voting "churn" in the white working class, which would not be the case if turnout rates were stable even though different segments of white, working-class voters turned out in 2012 and 2016 (i.e., a meaningful decline in voting among traditional blue-collar supporters of the Democratic party counterbalanced by an increase in voting among blue-collar populists enamored of leaders attracted to nativist ideologies).

scholars, such as Sides, Tesler, and Vavreck (2017), have argued for the primacy of racial resentment among whites. Sides and his colleagues, for example, argue

Donald Trump's signature issue of immigration thus appeared well-positioned to reinforce the white flight from the Democratic Party that had taken place during Obama's presidency. The consequence was a historically large education divide among white voters that came down in large part to attitudes about race and ethnicity. The education divide among whites provided Trump with a narrow path to victory. (Sides et al. 2017:42)

We would be more persuaded by the power and relevance of this evidence if (1) a genuine measure of class were used, (2) it could be shown that the racial prejudice and anti-immigrant sentiment of the white working class increased during the 2016 election cycle, rather than remaining stable but distressingly prominent (see Morgan and Lee 2017), (3) the rate of Obamato-Trump voting was lower in the ANES and not disproportionately large within the white working class, and (4) claims such as "the educational divide in whites' support for Clinton against Trump disappeared after racial attitudes were taken into account" (Sides et al. 2017:40) had a stronger methodological foundation. Most importantly, we have seen no evidence that motivations for voting can be cleanly apportioned into parts that are grounded only in material interests, racial resentment, cultural anxiety, or any number of the other single-stranded motives that have been attributed to Trump's voters.

Partly for these reasons, the desire to bust the myth of the white working-class narrative remains palpable. And yet, the most common argument against it is even more puzzling to us – the simple claim that most of Trump's voters were not members of the working class. This argument began while the primaries were winding down (e.g., Silver 2016a), and the apparent persuasiveness of it appears to have grown since the end of 2016. A prominent piece, published

on the Monkey Cage blog at the *Washington Post* (Carnes and Lupu 2017), was picked up in many other outlets (e.g., Devega 2017a) and used to remind readers that Trump's voters were, on average, more affluent than the narrative supposedly claimed. While some opinion writers appear motivated to only render white, working-class voters no more responsible for the outcome than many others, the most prominent myth buster, Coates, offers more:

The focus on one subsector of Trump voters—the white working class—is puzzling, given the breadth of his white coalition. Indeed, there is a kind of theater at work in which Trump's presidency is pawned off as a product of the white working class as opposed to a product of an entire whiteness that includes the very authors doing the pawning. The motive is clear: escapism. (Coates 2017)

The unifying piece of evidence for this type of myth busting is, again, undeniable: too few white voters are in the working class to constitute a majority of Trump's voters, and thus many other voters are also responsible for Trump's victory.

As we have noted above, this is not a fact that can invalidate the narrative, and we are not the first to claim so (see, e.g., McQuarrie 2017). One cannot deny that Trump called explicitly for renegotiated trade deals and reductions in immigration as a way to promote working-class economic security, nor claim, we think, that such a call would fall on deaf ears among white, working-class voters. Trump also campaigned in support of many traditional Republican positions, such as conservative judicial appointments, reductions in regulations and taxes, and increases in spending on national defense. Campaigning in these two modalities, Trump secured enough of the Republican base in the general election so that an effective appeal to white, working-class voters could put him over the top. Neither McCain nor Romney could do so, and they lost. While it is important to continue to investigate why many white, working-class voters supported Trump, and one can expect additional evidence to accumulate, the very

fact that so many did should be regarded as compelling evidence in support of the white working-class narrative.

## **References Cited**

- American Community Survey Office. 2018. "American Community Survey 2012-2016 ACS 5-Year PUMS Files: Read Me." U.S. Census Bureau, Washington, DC https://www2.census.gov/programs-surveys/acs/tech\_docs/pums/ACS2012\_2016\_PUMS\_README.pdf.
- American National Election Studies. 2017. "User's Guide and Codebook for the ANES 2016
  Time Series Study." The University of Michigan and Stanford University, Ann Arbor, MI and Palo Alto, CA.
- Bobo, Lawrence D. 2017. "Racism in Trump's America: Reflections on Culture, Sociology, and the 2016 US Presidential Election." *The British Journal of Sociology* 68:S85-S104. doi: 10.1111/1468-4446.12324.
- Carnes, Nicholas and Noam Lupu. 2017, June 5. "It's Time to Bust the Myth: Most Trump Voters Were Not Working Class." in *Washington Post*. https://www.washingtonpost.com/news/monkey-cage/wp/2017/06/05/its-time-to-bust-the-myth-most-trump-voters-were-not-working-class/?utm\_term=.ba295fdfa93e.
- Coates, Ta-Nehisi. 2017, October. "The First White President: The Foundation of Donald Trump's Presidency Is the Negation of Barack Obama's Legacy." in *The Atlantic*. https://www.theatlantic.com/magazine/archive/2017/10/the-first-white-president-ta-nehisi-coates/537909/?utm\_source=twb.
- Cohn, Nate. 2016, November 9. "Why Trump Won: Working-Class Whites." in *New York Times*. https://www.nytimes.com/2016/11/10/upshot/why-trump-won-working-class-whites.html?\_r=0.
- Devega, Chauncey. 2017a, February 23. "Can We Finally Ditch the White Working-Class Myth? Obama-to-Trump Voters Weren't the Problem." in *Salon*. https://www.salon.com/2017/02/23/can-we-finally-ditch-the-white-working-class-myth-obama-to-trump-voters-werent-the-problem/.
- -----. 2017b, June 7. "Can We Finally Kill Off the Zombie Lie? Trump's Voters Mostly Weren't the "White Working Class"." in *Salon*. https://www.salon.com/2017/06/07/can-wefinally-kill-off-the-zombie-lie-trumps-voters-mostly-werent-the-white-working-class/.
- Fessenden, Ford. 2016, November 7. "Donald Trump's Big Bet on Less Educated Whites." in *New York Times*. https://www.nytimes.com/interactive/2016/11/07/us/how-trump-canwin.html.
- Flegenheimer, Matt and Michael Barbaro. 2016, November 9. "Donald Trump Is Elected President in Stunning Repudiation of the Establishment." in *New York Times*. https://www.nytimes.com/2016/11/09/us/politics/hillary-clinton-donald-trump-president.html?\_r=0.
- Hahl, Oliver, Minjae Kim and Ezra W. Zuckerman Sivan. 2018. "The Authentic Appeal of the

- Lying Demagogue: Proclaiming the Deeper Truth About Political Illegitimacy." *American Sociological Review* 83:1-33. doi: 10.1177/0003122417749632.
- Ingold, David, Blacki Migliozzi, Michael Keller, Jeremy Scott Diamond, Hannah Recht and Julian Burgess. 2016, November 9. "The Voters Who Gave Trump the White House: How Donald Trump Is Winning over the White Working Class." in *Bloomberg Politics*. https://www.bloomberg.com/politics/graphics/2016-how-trump-won/.
- Lamont, Michèle, Bo Yun Park and Elena Ayala-Hurtado. 2017. "Trump's Electoral Speeches and His Appeal to the American White Working Class." *The British Journal of Sociology* 68:S153-S80. doi: 10.1111/1468-4446.12315.
- McQuarrie, Michael. 2017. "The Revolt of the Rust Belt: Place and Politics in the Age of Anger." *The British Journal of Sociology* 68:S120-S52. doi: 10.1111/1468-4446.12328.
- Monnat, Shannon M. and David L. Brown. 2017. "More Than a Rural Revolt: Landscapes of Despair and the 2016 Presidential Election." *Journal of Rural Studies* 55:227-36. doi: https://doi.org/10.1016/j.jrurstud.2017.08.010.
- Morgan, Stephen L. and Jiwon Lee. 2017. "The White Working Class and Voter Turnout in U.S. Presidential Elections, 2004 to 2016." *Sociological Science* 4:656-85. doi: 10.15195/v4.a27.
- Packer, George. 2016, May 16. "How Donald Trump Is Winning over the White Working Class." in *The New Yorker*. http://www.newyorker.com/magazine/2016/05/16/how-donald-trump-appeals-to-the-white-working-class.
- Pierson, Paul. 2017. "American Hybrid: Donald Trump and the Strange Merger of Populism and Plutocracy." *The British Journal of Sociology* 68:S105-S19. doi: 10.1111/1468-4446.12323.
- Sides, John, Michael Tesler, and Lynn Vavreck. 2017. "The 2016 U.S. Election: How Trump Lost and Won." *Journal of Democracy* 28:34-44. doi: doi:10.1353/jod.2017.0022.
- Silver, Nate. 2016a, May 3. "The Mythology of Trump's 'Working Class' Support." in FiveThirtyEight. https://fivethirtyeight.com/features/the-mythology-of-trumps-working-class-support/.
- -----. 2016b, November 22. "Education, Not Income, Predicted Who Would Vote for Trump." in *FiveThirtyEight*. http://fivethirtyeight.com/features/education-not-income-predicted-who-would-vote-for-trump/.
- Skelley, Geoffrey. 2017, June 1. "Just How Many Obama 2012-Trump 2016 Voters Were There? Using Different Surveys to Try to Answer an Oft-Asked Question." in *Sabato's Crystal Ball*. http://www.centerforpolitics.org/crystalball/articles/just-how-many-obama-2012-trump-2016-voters-were-there/.
- Tankersley, Jim. 2016, November 9. "How Trump Won: The Revenge of Working-Class Whites." in *Washington Post*. https://www.washingtonpost.com/news/wonk/wp/2016/11/09/how-trump-won-the-revenge-of-working-class-whites/?utm\_term=.0679918a4cbd.

# Online Supplement

## for

## Trump Voters and the White Working Class

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[ Note: Because the current article can be interpreted as a "coda" to Morgan and Lee (2017b), many methodological decisions, which are similar to those in the prior article, have been placed in this Online Supplement. Nonetheless, there is no overlap between the two articles in the data sources utilized, or the outcomes analyzed, and so all decisions and results conveyed in this Online Supplement are original and distinct from those of the prior article. ]

## **Common Details of the Analysis**

For this article, as in Morgan and Lee (2017b), we interpret the "white" in the "white working class" to be "white only and non-Hispanic" (hereafter, WONH). WONH respondents for both the ANES and ACS indicated that they do not have any Hispanic, Latin American, or Chicano ethnicity. In addition, they selected only "white" from among the options for race.

For "working class," we conform to the employment relations perspective that has been developed in cross-national work on social stratification and class voting (see Evans 1999; Erikson and Goldthorpe 1992). For our areal analysis using the ACS data, we use the specific coding of the 2010 US Census Occupational Classification explained in Morgan (2017). For the ANES, a perfectly aligned social class categorization cannot be implemented because respondents are categorized into fewer categories (the 97 "minor" occupational groups rather than the 478 detailed occupations available for the ACS and other data sources that adopt the

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<sup>&</sup>lt;sup>1</sup> See also Morgan and Lee (2017a, b) for prior usage with both the General Social Surveys and Current Population Surveys. Related versions of this class schema have been used with ANES data in the past (e.g., Hout, Brooks, and Manza 1995; Manza and Brooks 1999; Brady, Sosnaud, and Frenk 2009).

full census classification). However, a reasonably close measure proved feasible, and, as shown below, a robustness check using verbatim responses was reassuring.

## Additional Details of the ANES Analysis

The American National Election Studies have fielded surveys of the electorate since 1948. The ANES 2016 Time-Series Study (N=4,271) consists of two separate samples – both of which target a nationally representative sample of the eligible voters in the United States – but that differ in the mode of interview (and, very slightly, in population coverage).<sup>2</sup> One sample (N=1,181) consists of data from face-to-face interviews, and the second sample (N=3,090) consists of data from an internet-based survey. Although the target population and sampling methodologies are slightly different, both samples aim to represent English and Spanish speaking US citizens aged 18 or older (and, thus, likely eligible to vote).

Both samples include data from two waves: pre-election and post-election. The pre-election surveys were conducted for two months prior to the general election (between September 7 and November 7, 2016), and the post-election surveys were conducted between November 9, 2016 and January 8, 2017. Given our interest in analyzing the 2012 preferences of 2016 voters, we first restricted our analytic sample to the 3,649 respondents who completed both the pre- and post-election surveys, since the information on vote choice for the presidential election in 2016 could only be drawn from the post-election survey.<sup>3</sup>

<sup>&</sup>lt;sup>2</sup> For the ANES, we used the December 19, 2017 release, which is the first to include occupation codes, and which was not available to us when we wrote Morgan and Lee (2017b) in August and September of 2017.

<sup>&</sup>lt;sup>3</sup> Because of their incompatibility with the ANES panel weighting scheme, we excluded 23 respondents who did not complete post-election interviews but whose presidential vote in 2016 could be determined because they voted early. Our sample includes other early voters who completed the post-election survey, and these are weighted appropriately to account for all early voters.

We then further restricted the sample to respondents who were aged 23 or older at the time of the pre-election survey, thereby dropping an additional 188 respondents. The rationale for this exclusion is both substantive and methodological. First, almost none of these respondents voted in 2012 when they would have been less than 18 years old, and thus they could not be included in the core of our ANES analysis. Second, like most other surveys of the adult population, the ANES only samples individuals living at residential addresses. Hence, the ANES does not sample individuals in group quarters, such as traditional college dormitories. And, as a result, the ANES sample of 18-to-22-year-olds suffers from non-random under-coverage of the relevant population of eligible voters anyway. Third, given our interest in those in working-class occupations, we assume that the occupations reported by many respondents under the age of 23 do not reflect meaningful locations in the class structure, but rather transitory class locations.

We then excluded 742 respondents who reported that they did not vote in the 2016 general election and/or did not vote for president.<sup>4</sup> Finally, we excluded 6 respondents for whom no data were available on either current/past occupation or the highest level of completed education.<sup>5</sup> After these exclusions, our analytic sample included 2,713 ANES respondents (798 from the face-to-face interview sample and 1,915 from the internet-based sample).

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<sup>&</sup>lt;sup>4</sup> This group includes all ANES respondents who reported that (1) they were not registered to vote, (2) they were registered but did not turn out to vote in the election, and (3) they voted in the general election but chose not to cast a vote for president.

<sup>&</sup>lt;sup>5</sup> Among respondents who satisfied all other sample selection criteria, 17 respondents reported their highest level of completed education to be "other" (i.e., not one of the conventional educational categories offered). For 15 of these 17 respondents, a valid response for recent/last occupation was available. For these 15 respondents, we manually imputed education, based on occupation, when calculating education-based decompositions in this supplement. We dropped the 2 respondents whose education was coded as "other" and whose recent/last occupation was missing.

## Wording of the Questions for the ANES

The ANES typically asks respondents to recall and report past votes for president. In the 2016 pre-election survey, all respondents were asked:

In 2012 Barack Obama ran on the Democratic ticket against Mitt Romney for the Republicans. Do you remember for sure whether or not you voted in that election?

- 1. Yes, voted
- 2. No, didn't vote

If the respondent answer "Yes," they received the follow-up:

Which one did you vote for?

- 1. Barack Obama
- 2. Mitt Romney
- 5. Other (SPECIFY)

For each of these questions, respondents could refuse to answer, and in the face-to-face interview they could indicate that they "don't know."

For the post-election survey, all respondents<sup>6</sup> were asked:

In talking to people about elections, we often find that a lot of people were not able to vote because they weren't registered, they were sick, or they just didn't have time. Which of the following statements best describes you?

- 1. I did not vote (in the election this November)
- 2. I thought about voting this time, but didn't
- 3. I usually vote, but didn't this time
- 4. I am sure I voted

If the respondent indicated that they voted in the general election, they were then asked:

How about the election for President? Did you vote for a candidate for President?

1. Yes, voted for President

<sup>6</sup> More specifically: all respondents who were registered as of the day of the election.

#### 2. No, didn't vote for President

If the respondents voted for the president, then they were asked:

Who did you vote for [ Hillary Clinton, Donald Trump / Donald Trump, Hillary Clinton], Gary Johnson, Jill Stein, or someone else?<sup>7</sup>

- 1. Hillary Clinton
- 2. Donald Trump
- 3. Gary Johnson
- 4. Jill Stein
- 5. Other candidate (SPECIFY)

Respondents who reported voting for Gary Johnson, Jill Stein or another candidate were all grouped into the "other" category in the measures we constructed for this article (but only report in this supplement). As with the 2012 vote, respondents could refuse to answer these questions, and in the face-to-face interview they could indicate that they "don't know."

#### Coding of Class for the ANES

For the December 19, 2017 data distribution, the ANES released occupation codes for current or last occupation, collected for the pre-election survey. Current occupation was elicited from respondents who reported that they were currently employed or only temporarily laid off from work. Past/last occupation was elicited from respondents who were retired, disabled, or unemployed but who had worked for pay in the past. In addition, past/last occupation was elicited from current students and homemakers who worked for pay in the prior 6 months. Altogether, a current or last occupation was available for 93.5 percent of our analytic sample (i.e. 2,538 out of 2,713).

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<sup>&</sup>lt;sup>7</sup> For the survey instrument, the order of the Democratic and Republican presidential candidates' names – Hillary Clinton and Donald Trump – were randomized.

The ANES occupation codes are based on the 97-cateogry "minor group" occupation codes of the 2010 Standard Occupational Classifications (SOC). The 2010 SOC contains a total of 840 detailed occupations, which themselves are categorizations of more than 6,000 job titles. The 840 detailed occupations are categorized into 461 "broad" occupations (often referred to as "detailed" occupations in other contexts). These 461 broad/detailed occupations are categorized into 97 "minor group" occupations, which are then categorized into 23 "major group" occupations.

Our coding of the working class in this article is based on an implementation of the EGP social class coding scheme developed in Morgan (2017) for usage with SOC and census occupations codes in the American Community Surveys and the General Social Surveys.

Because this coding is based primarily on the broad/detailed-occupation SOC codes (along with self-employment status), the 97 available occupation codes for the ANES data do not permit a completely aligned coding. In particular, we know from the ACS and GSS data that most of the 97 minor groups that compose the ANES occupations include broad/detailed occupations that are allocated to different social classes (see Table S1 below). And, because each minor group in the ANES cannot be subdivided, the ANES codes can only be assigned to one EGP class.

To make these coding decisions, we consulted the 2012-2015 ACS data file constructed and analyzed for Morgan (2017). For full-time workers between the ages of 25 and 64 in that data file, Table S1 presents a cross-tabulation of the SOC minor group codes by the 10 EGP social class categories based only on the coding of the broad/detailed occupations (i.e., EGP classes I, II, IIIa, IIIb, IVc, V, VI, VIIa, VIIb, and Military). We used this table to assign the minor group occupations to the largest proportional EGP class. For example, the first minor group,

Top Executives, when coded with broad/detailed occupations, places 52.3 percent of Top Executives in class I and 47.7 in class II (and thus, the minor group label is somewhat misleading, which can be seen by consulting the SOC direct match title file and other such sources). Nonetheless, we placed all ANES Top Executives in class I. This is an example, however, where this decision is inconsequential for this article; neither class I nor class II is included in our core working class category, which always includes classes IIIb, VI, and VIIa, and, when broadened also includes classes IVc and VIIb.

After a 10-category based social class was assigned in the ANES, we further separated out class IVab, the nonprofessional self-employed workers, from classes IIIa, IIIb, V, VI, and VIIa using information gathered in the pre-election study. The pre-election survey asked respondents whether they were self-employed, were working for someone else, or both. We considered respondents who were exclusively self-employed as self-employed (thus we coded 172 respondents who answered that they were working for "both self and someone else" to be not self-employed). In this step, respondents initially classified in classes IIIa, IIIb, V, VI, and VIIa and who were self-employed were reassigned to class IVab.

Finally, for a robustness check, we used the redacted verbatim responses for occupation also released with the ANES data in order to manually code the respondents most likely to be consequentially misplaced because of the coarse ANES coding of occupations. In particular, we coded respondents to specific EGP classes for rows of Table S1 that (1) mapped ANES occupation codes to more than one EGP class and (2) had such classes split across the crucial working-class boundary for our analysis. For example, we did not recode any incumbents of ANES occupation 1 (Top Executives) because these individuals were all members of either EGP

class I or II (see above), neither of which is in our definition of the working class. However, we did recode individuals in ANES occupation 63 (Material Recording, Scheduling, Dispatching, and Distributing Workers) because the ACS suggests that one third of these incumbents would be in class IIIa, which is not working-class occupation according to our two measures for Table 1 (either narrow or broad).

Implementing this refined coding for our narrow measure of the working class, 28 individuals were moved into the working class, and 24 were moved out. For our broad measure of the working class, 28 individuals were moved into the working class, and 23 were moved out. Recalculating analogous results for Table 1, the results were almost entirely unchanged, with these changes for each relevant row: 27.2 and 58.5 to 27.7 and 60.1 (row 2), 13.1 and 62.0 to 12.9 and 61.1 (row 3), 28.7 and 59.7 to 29.1 and 61.0 (row 4), and 11.8 and 61.4 to 11.6 and 60.4 (row 5). We decided to preserve the results in Table 1 in the main text so that they can be replicated by others, since doing so does not require access to our refined coding. If we had decided to use our refined coding, the results would be unchanged. (See also, below, additional results where we use education as a proxy for class.)

## Weights for the ANES

The ANES provides sampling weights for each combination sample type (i.e., face-to-face, internet, or combined full sample) and survey wave used. Each of the weights adjusts for probability of selection and nonresponse. Our analysis is based on the post-election survey sample, even though we use data from the pre-election survey. We therefore use the post-election survey weight, V160102. Finally, to adjust for the structure of the sample when

calculating standard errors, we used Taylor-series-based standard errors, specifying both strata and cluster variables as recommended by the ANES documentation.

## Additional Results for ANES Analysis

Table S2 presents a cross-classification of 2012 vote by 2016 vote, with the ANES sample limited as detailed above.<sup>8</sup> Each cell offers percentages by row and by column, as well as weighted and unweighted N's. This is the source table for row 1 of Table 2 in the main article.

As noted in the main article, the row percentages of Table S2 show that, among 2016 voters, 12.7 percent of Obama's 2012 voters supported Trump in 2016, in comparison to only 5.5 percent of Romney' 2012 voters supporting Clinton. Trump also captured more 2016 voters who were eligible to vote in 2012 but did not vote in 2012 – 46.1 percent versus 41.3 percent. These results are based on a sample of 2,713 respondents, and the standard errors in parentheses in the table suggest substantial uncertainty due to sampling alone. In addition, recalled votes are not necessarily actual votes.<sup>9</sup>

The column percentages of Table S2 clarify the composition of Trump's 2016 voters (again, but only among those who are old enough to have been eligible to vote in 2012). The largest share of his voters is the 68.8 percent who also voted for Romney in 2012. In addition to

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<sup>&</sup>lt;sup>8</sup> We therefore restricted the sample to ANES respondents aged 23 or older.

<sup>&</sup>lt;sup>9</sup> That being said, the ANES did very well with the popular vote, as shown in the final row of the first panel. Clinton won the popular vote in the ANES by 47.4 to 44.2 percent, which is very close to the actual popular vote totals of 48.0 to 45.9 percent. It is possible that the Trump vote is very slightly underestimated because of the age restriction of our sample (which we think is unlikely, and probably moves the numbers in the opposite direction). It is also possible that "Other" voters, "don't know," and "refused" include disproportionate numbers of "shy Trump voters." And, if we were to take the 1.2 percent who are coded as "don't know" and "refused," and instead apportion them across the three other options, the voting percentages for Trump and Clinton would move closer to the true popular vote totals.

these core Republican voters, 13.8 percent of Trump's voters supported Obama in 2012 while 14.5 percent chose not to vote in 2012 but then turned out to vote for Trump in 2016.

Tables S3 subsets the sample in Table S2 to include only non-WONH voters. The rate of Obama-to-Trump switching is only half as high as for the sample as a whole, at 6.1 percent rather than 12.7 percent. In addition, as shown in the final row, only 18.6 percent of non-WONH voters supported Trump.

Tables S4 and S5 provide full results on WONH voters, and they are the source tables from which the last four rows of Table 1 were extracted, based on our narrow and broad measures of the working class.

Tables S6 and S7 provide education-based proxy measures of class. Measures of occupation are ignored altogether, and the sample is partitioned instead by a measure of educational attainment in two ways: whether the respondent has more than a high school diploma (for Table S6) and whether the respondent has a bachelor's degree or higher (for Table S7). The last of these is used by many journalists, even though it yields a marginal distribution of working class membership that is hard to accept among those who know better (i.e., 57.5 of all WONH respondents are supposedly working class with this measure).

Nonetheless, the education proxies do reveal some interesting patterns (and thus, were, for the first submitted version of this article, included in Table 1). The high school diploma measure, as can be seen by examining Table S6, yields very similar results to the EGP-based definitions of the working class. The reason is simple: it produces a similar partitioning of respondents (27.6 percent of WONH respondents), which is midway between the percentages for our narrow and broad measures.

The proxy based on bachelor's degree yields a slightly different pattern. Table S7 shows that, when considering the rate of Obama-to-Trump switching, those with some postsecondary education but not a bachelor's degree are more like working-class voters than those with a bachelor's degree. In addition, this partition reveals a difference in the likelihood that 2012 non-voters supported Trump in 2016, with those with less than a bachelor's degree being substantially more likely to vote for Trump (65.4 vs. 46.0 with standard errors of 4.1 and 6.7, respectively).

We see two interpretations of this pattern. First, the some-postsecondary-education group includes many intermediate-class voters (e.g., classes IIIa, IVab and V) whose preferences are similar to working-class voters and who also turned out in greater numbers in 2016. Second, the ANES occupation codes do not capture enough working-class respondents who have had some experience in postsecondary education, and these working-class voters were also more likely to turn out to vote in 2016. We cannot separate these two explanations from each other using the ANES data, and so our fallback interpretation is that both are valid to some unknown relative degree, and both will deserve further scrutiny when data with both retrospective voting and finely coded occupations become available (e.g., when the 2018 General Social Survey data are released). It is possible, therefore, that our Table 1 understates how much higher the turnout surge may have been for WONH voters in the working-class.

## Additional Details of the Areal Analysis

The Individual-Level Analytic Sample for the ACS

The microdata file we analyze includes 11,241,230 ACS sample members selected from the full ACS sample. At the time that their household was sampled on a rolling basis between January 2012 and December 2016, the individuals in our analytic sample were (1) aged 18 or older, (2) living at residential addresses or in non-institutional group quarters, and (3) US citizens, either native born or naturalized. With this analytic sample definition, we are able to exclude from the full ACS sample the vast majority of ineligible voters (i.e., those under the age of 18 and those who are non-citizens), but we are unable to exclude all individuals who are ineligible to vote (e.g., those with a prior felony conviction and living in states where those with such convictions are ineligible to vote). The ACS also does not contain any measures of political behavior (e.g., voter registration or voting history) that could be used to proxy other forms of ineligibility.

Each of these ACS sample members can be located within a known census microdata area and, as a result, is uniquely in each of the 1,142 geographic units (as further explained below). These sample members cannot be located within all US counties, except when those counties are aligned with a census microdata area.

#### Coding of Class for the ACS

The coding of class for the areal analysis is more finely articulated in the individual-level file of the ACS than for the ANES. With the available microdata, we used a 478-category occupation classification (see Morgan 2017), rather than the 97 categories for the ANES (see Table S1). In addition, we included ACS sample members between the ages of 18 and 22, in addition to those aged 23 and older. However, using the school enrollment measures from the ACS, we excluded

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<sup>&</sup>lt;sup>10</sup> For the ACS, we used the January 2018 release of the 5-year 2016 PUMS sample.

current students from class membership, regardless of whether they reported a current or recent occupation. For example, students who might otherwise be categorized as members of the service-oriented working class (IIIb), based on a recent full or part-time job, were instead placed in their own student category based on level of education attending. These students are then placed in the denominator, but not numerator, for the calculation of the geographic unit's rate of percent white working class. Overall, the coding of class in the ACS analysis is closer to the coding of class for both the GSS and CPS analysis offered in Morgan and Lee (2017b).

## **Coding of Competitive and Noncompetitive States**

For the areal analysis, we consider 18 states to have been competitive states in 2012 and 2016, using the criterion that the margin of victory was ten percent or less in either the 2012 presidential election or the 2016 presidential election. These 18 states include 12 states that did not change party:

Arizona, Colorado, Georgia, Maine, Minnesota, Missouri, Nevada, New Hampshire, New Mexico, North Carolina, Texas, and Virginia

and six that Trump flipped to secure his victory:

Florida, Iowa, Michigan, Ohio, Pennsylvania, and Wisconsin.

Table S8 presents percentage WONH, working class, and both WONH and working class across for the full sample and across types of state.

## Geographic Units for the Areal Analysis

The 1,142 geographic units in our areal analysis were constructed using a population-weighted crosswalk for US counties (and county equivalents) and the 2010 US Census Public Use

Microdata Areas (PUMAs).<sup>11</sup> The 1,142 units are of 5 types (with examples from Ohio provided below):

- 1. 196 single-county units that correspond exactly to a single PUMA
  - Examples in Ohio:
    - Ashtabula County, Ohio (2010 population: 101,497)
    - Miami County, Ohio (2010 population: 102,506)
    - Portage County, Ohio (2010 population: 161,419)
- 234 single-county units (as well as the District of Columbia and Alaska) that are composed of multiple PUMAs
  - o Examples in Ohio:
    - Butler County, Ohio (2010 population: 368,130)
    - Cuyahoga County, Ohio (2010 population: 1,280,122)
    - Franklin County, Ohio (2010 population: 1,163,414)
- 3. 456 multiple-county units that are aggregated to a single PUMA
  - o Examples in Ohio:
    - Auglaize, Mercer & Van Wert Counties, Ohio (2010 population: 115,507)
    - Highland, Clinton & Adams Counties, Ohio (2010 population: 114,179)
    - Holmes, Guernsey & Coshocton Counties, Ohio (2010 population: 119,354)
- 4. 168 single-PUMA units that include at least one partial county and contain residents from at least two counties
  - o Examples in Ohio:
    - Wood (South), Fulton & Lucas (Southwest) Counties Bowling Green
       City (2010 population: 113,113)
    - Stark County (East) & Carroll County Alliance City (2010 population: 127,668)
    - Trumbull (Outside Warren City) & Mahoning (Outside Youngstown City) Counties (2010 population: 134,096)

<sup>&</sup>lt;sup>11</sup> We arrange our analysis so that DC and the entire state of Alaska are treated as 2 single units, included in our list of "county equivalents." Alaska is treated this way (unlike other small states) because of changes in voting districts between 2012 and 2016 that are not aligned in our data source.

- 5. 88 PUMA-based units (either single PUMAs or aggregations of multiple PUMAs), in which all PUMAs are contained within a part of a single county (i.e., without constituting the whole county, in which case they would be single-county units, composed of one or more PUMAS; see above)
  - o Examples in Ohio:
    - Within Lucas County, Ohio (2010 population: 280,271), composed of:
      - Toledo City (West) (2010 population: 133,507)
      - Toledo City (East) (2010 population: 146,764)
    - Within Trumbull County, Ohio (2010 population: 117,838), composed of:
      - Trumbull County (South Central) Warren & Niles Cities (2010 population: 117,838)
    - Within Stark County, Ohio (2010 population: 276,754), composed of:
      - Stark County (West)--Massillon City (2010 population: 139,197)
      - Stark County (Central)--Canton & North Canton Cities (2010 population: 137,557)

The ACS can be analyzed within each of these 1,142 units in straightforward fashion because each ACS respondent is resident in one and only one of these units. Vote tallies, however, are measured (for our data source) only at the county level.

#### **Vote Tallies for the Geographic Units**

For 886 of our 1,142 geographic units (i.e., types 1, 2, and 3 in the last section), vote tallies can be perfectly aligned with the geographic units. For the remaining 256 geographic units, we allocated county vote totals across the units proportional to shares of population, using the county-to-puma and puma-to-county crosswalks produced by the Missouri Population Center for its Geographic Correspondence Engine based on the 2010 decennial census (see <a href="http://mcdc.missouri.edu/websas/geocorr14.html">http://mcdc.missouri.edu/websas/geocorr14.html</a>). 12

<sup>&</sup>lt;sup>12</sup> For the vote data, we used Leip's version 1.4 for the 2012 election (released October 20, 2016) and version 1.0 for the 2016 election (released June 26, 2017).

## Additional Results for the Areal Analysis

For Figures S1-S6, we offer a broader range of results than in the main body of the paper, all of which are consistent with the conclusion reported there. Figures S1 and S2 are analogous to Figures 1 and 2, but without the 256 geographic units that have allocated vote tallies. The relationships and conclusions are nearly indistinguishable in these alternative results (because the allocation procedure is simply a type of spatial smoothing).

Figures S3 and S4 use education-based codings as proxies for the working class, extending the approach taken for the ANES above in Tables S6 and S7. The results imply that, at the aggregate level, using "less than a bachelor's degree" yields weaker relationships, while using "high school diploma or less" yields similarly strong relationships. Thus, at an aggregate level, it may not matter much whether EGP-based classes are used or whether the lower level of education measure is used.

Figures S5 and S6 present a best-possible-aligned analysis to Figures 1 and 2 but using all 3,113 county and county equivalents in the US (and thus where no allocations of vote tallies are needed).<sup>13</sup> Substantively, this county-based analysis shows similarly strong relationships, albeit only with a rough proxy measure of the county proportion of eligible voters who are WONH and working class.

Table S8 shows that the flipped states have the highest percentage of eligible voters who are WONH (77.7 percent vs. 70.0 percent for all states) and both WONH and working class (21.4

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<sup>&</sup>lt;sup>13</sup> As far as we can determine, the ACS Summary File does not include count-level cross-tabulations of race-ethnicity by educational attainment or occupation that are restricted to US citizens.

percent vs. 17.6 percent for all states, using our narrow measure of the working class; 34.8 vs. 28.5 percent for all states, using our broad measure of the working class).

Table S9 shows that the "Trump's gain" measure used in the main body of the article is performing as intended, and that the "working class" portion of the percentage "white working class" is a crucial component above and beyond simply percentage "white." In particular, the association between Trump's gain and percentage white working class seems very likely to be attributable to stronger associations between both "white" and "working class" for Trump relative to Romney. Thus, as best one can tell with an areal analysis of this type, the ACS and county vote tally patterns are consistent with the ANES results, suggesting that Trump was favored even more by whites than Romney and also even more by working class whites than by whites as a whole.

### **Additional References Cited**

- Brady, David, Benjamin Sosnaud and Steven M. Frenk. 2009. "The Shifting and Diverging White Working Class in U.S. Presidential Elections, 1972–2004." *Social Science Research* 38:118-33. doi: https://doi.org/10.1016/j.ssresearch.2008.07.002.
- Erikson, Robert and John H. Goldthorpe. 1992. *The Constant Flux: A Study of Class Mobility in Industrial Societies*. Oxford: Oxford University Press.
- Evans, Geoffrey, ed. 1999. *The End of Class Politics? Class Voting in Comparative Context*. Oxford: Oxford University Press.
- Hout, Michael, Clem Brooks and Jeff Manza. 1995. "The Democratic Class Struggle in the United States, 1948-1992." *American Sociological Review* 60:805-28. doi: 10.2307/2096428.
- Manza, Jeff and Clem Brooks. 1999. *Social Cleavages and Political Change: Voter Alignments and US Party Coalitions*. New York: Oxford University Press.
- Morgan, Stephen L. 2017. "A Coding of Social Class for the General Social Survey." Chicago, Illinois: GSS Methodological Report No. 125, National Opinion Research Center. doi: 10.17605/OSF.IO/9NKRW
- Morgan, Stephen L. and Jiwon Lee. 2017a. "Social Class and Party Identification During the Clinton, Bush, and Obama Presidencies." *Sociological Science* 4:394-423. doi: 10.15195/v4.a16.
- Morgan, Stephen L. and Jiwon Lee. 2017b. "The White Working Class and Voter Turnout in U.S. Presidential Elections, 2004 to 2016." *Sociological Science* 4:656-85. doi: 10.15195/v4.a27.

Table S1. ANES codes for social class, based on a cross-tabulation of SOC minor-group occupations by EGP social classes from Morgan (2017)

		Distribution of EGP					
		class in ACS for each					
			"minor group"				
				cupation			
	ANES			Percentage of	Coding decision		
	code	"minor group" occupation label	Class	occupation	for the ANES		
111	1	Top Executives	I	52.3	I		
			II	47.7			
112	2	Advertising, Marketing, Promotions, Public Relations, and Sales Managers	II	100.0	II		
113	3	Operations Specialties Managers	I	19.2	II		
			II	68.4			
			IIIa	4.6			
			V	7.8			
119	4	Other Management Occupations	I	19.6	II		
			II	49.6			
			IIIa	1.5			
			IIIb	10.2			
			IVc	6.0			
			V	13.3			
131	5	Business Operations Specialists	I	19.7	II		
		•	II	40.4			
			IIIa	31.3			
			IIIb	4.9			
			V	3.8			
132	6	Financial Specialists	I	65.2	I		
		•	II	16.3			
			IIIa	18.5			
151	7	Computer Occupations	I	29.6	II		
		1	II	51.0			
			IIIa	19.3			
152	8	Mathematical Science Occupations	I	100.0	I		
171	9	Architects, Surveyors, and Cartographers	I	82.1	I		
	*		II	17.9			
172	10	Engineers	I	100.0	I		
173	11	Drafters, Engineering Technicians, and	V	100.0	V		
1/3	11	Mapping Technicians	v	100.0	V		

191	12	Life Scientists	I	100.0	I
192	13	Physical Scientists	I	100.0	I
193	14	Social Scientists and Related Workers	I	81.7	I
			II	18.4	
194	15	Life, Physical, and Social Science Technicians	V	100.0	V
211	16	Counselors, Social Workers, and Other	II	86.6	II
		Community and Social Services Specialists	IIIa	8.0	
			V	5.5	
212	17	Religious Workers	II	89.5	II
			IIIb	10.6	
231	18	Lawyers, Judges, and related Workers	I	100.0	I
232	19	Legal Support Workers	IIIa	100.0	IIIa
251	20	Postsecondary Teachers	I	100.0	I
252	21	Preschool, Primary, Secondary, and Special Education School Teachers	II	90.8	II
		•	IIIb	9.2	
253	22	Other Teachers and Instructors	IIIa	100.0	IIIa
254	23	Librarians, Curators, and Archivists	II	89.6	II
			IIIa	10.4	
259	24	Other Education, Training, and	II	12.9	IIIa
		Library Occupations	IIIa	87.1	
271	25	Art and Design Workers	V	100.0	V
272	26	Entertainers and Performers, Sports and	II	33.7	V
		Related Works	V	66.3	
273	27	Media and Communication Workers	II	84.3	II
			V	15.8	V
274	28	Media and Communication Equipment Workers	V	100.0	
291	29	Health Diagnosing and Treating	I	27.4	II
		Practitioners	II	70.2	
			IIIa	2.4	
292	30	Health Technologists and Technicians	IIIa	35.4	V
			V	64.6	
299	31	Other Healthcare Practitioners and Technical Occupations	II	100.0	II
311	32	Nursing, Psychiatric, and Home Health Aides	IIIb	100.0	IIIb
312	33	Occupational Therapy and Physical Therapist Assistants and Aides	IIIb	100.0	IIIb

319	34	Other Healthcare Support Occupations	IIIb	100.0	IIIb
331	35	Supervisors of Protective Service Workers	V	100.0	V
332	36	Fire Fighting and Prevention Workers	V	100.0	V
333	37	Law Enforcement Workers	V	100.0	V
339	38	Other Protective Service Workers	IIIb	89.3	IIIb
			V	8.2	
			VIIa	2.5	
351	39	Supervisors of Food Preparation and	IIIb	52.2	IIIb
		Service Workers	V	47.8	
352	40	Cooks and Food Preparation Workers	VIIa	100.0	VIIa
353	41	Food and Beverage Serving Workers	IIIb	100.0	IIIb
359	42	Other Food Preparation and	IIIb	53.8	IIIb
		Serving Related Works	VIIa	46.3	
371	43	Supervisors of Building and Grounds	IIIb	59.8	IIIb
		Cleaning and Maintenance Workers	V	40.2	
372	44	Building Cleaning and Pest Control Workers	IIIb	2.1	VIIa
			VIIa	98.0	
373	45	Grounds Maintenance Workers	VIIa	100.0	VIIa
391	46	Supervisor of Personal Care and Service	IIIb	100.0	IIIb
392	47	Animal Care and Service Workers	IIIb	80.6	IIIb
			VIIb	19.4	
393	48	Entertainment Attendants and Relate	IIIb	100.0	IIIb
394	49	Funeral Service Workers	IIIb	100.0	IIIb
395	50	Personal Appearance Workers	IIIb	100.0	IIIb
396	51	Baggage Porters, Bellhops, and Concierges	IIIb	100.0	IIIb
397	52	Tour and Travel Guides	IIIa	100.0	IIIa
399	53	Other Personal Care and Service Workers	IIIb	100.0	IIIb
411	54	Supervisors of Sales Workers	IIIb	71.5	IIIb
			V	28.5	
412	55	Retail Sales Workers	IIIb	100.0	IIIb
413	56	Sales Representatives, Services	II	16.0	IIIa
			IIIa	84.0	
414	57	Sales Representatives, Wholesale and Manufacturing	IIIa	100.0	IIIa
419	58	Other Sales and Related Workers	II	3.2	IIIa
			IIIa	78.0	
			IIIb	18.9	
431	59	Supervisors of Office and Administrative Support Workers	IIIa	100.0	IIIa
432	60	Communications Equipment Operators	IIIa	100.0	IIIa

433	61	Financial Clerks	IIIa	99.6	IIIa
			IIIb	0.4	
434	62	Information and Record Clerks	IIIa	79.5	IIIa
			IIIb	20.5	
435	63	Material Recording Scheduling,	IIIa	27.6	VIIa
		Dispatching, and Distributing Workers	IIIb	6.0	
			VIIa	66.4	
436	64	Secretaries and Administrative Assistants	IIIa	100.0	IIIa
439	65	Other Office and Administrative	IIIa	97.4	IIIa
		Support Workers	VIIa	2.6	
451	66	Supervisors of Farming, Fishing, and Forestry Workers	VIIb	100.0	VIIb
452	67	Agricultural Workers	VIIb	100.0	VIIb
453	68	Fishing and Hunting Workers	VIIb	100.0	VIIb
454	69	Forest, Conservation, and Logging Workers	VI	17.7	VIIa
			VIIa	82.3	
471	70	Supervisors of Construction and Extraction Workers	V	100.0	V
472	71	Construction Trades Workers	VI	67.9	VI
			VIIa	32.1	
473	72	Helpers, Construction Trades	VIIa	100.0	VIIa
474	73	Other Construction and Related Workers	V	32.6	VIIa
			VI	9.9	
			VIIa	57.5	
475	74	Extraction Workers	VI	6.0	VIIa
			VIIa	94.0	
491	75	Supervisors of Installation, Maintenance, and Repair Workers	V	100.0	V
492	76	Electrical and Electronic Equipment	V	52.7	V
		Mechanics, Installers, and Repairers	VI	47.3	
493	77	Vehicle and Mobile Equipment Mechanics,	VI	87.2	VI
		Installers, and Repairers	VIIa	12.8	
499	78	Other Installation, Maintenance, and	IIIb	1.6	VI
		Repair Occupations	V	7.5	
			VI	89.5	
			VIIa	1.4	
511	79	Supervisors of Production Workers	V	100.0	V
512	80	Assemblers and Fabricators	VI	2.4	VIIa
			VIIa	97.6	
513	81	Food Processing Workers	VIIa	100.0	VIIa
514	82	Metal Workers and Plastic Workers	V	4.7	VIIa

			VI	26.1	
			VIIa	69.2	
515	83	Printing Workers	VI	90.7	VI
		-	VIIa	9.3	
516	84	Textile, Apparel, and Furnishing Workers	VI	10.2	VIIa
			VIIa	89.8	
517	85	Woodworkers	VI	55.5	VI
			VIIa	44.5	
518	86	Plant and System Operators	VI	100.0	VI
519	87	Other Production Occupations	VI	5.1	VIIa
			VIIa	94.9	
531	88	Supervisors of Transportation and Material Moving Workers	V	100.0	V
532	89	Air Transportation Workers	II	55.5	II
302	0)	7111 Transportation Workers	IIIa	44.5	11
533	90	Motor Vehicle Operators	IIIb	10.3	VIIa
000	,,	motor vende operators	VIIa	89.7	VIII
534	91	Rail Transportation Workers	V	43.9	VI
			VI	56.1	
535	92	Water Transportation Workers	V	59.3	V
			VI	40.8	
536	93	Other Transportation Workers	IIIb	77.8	IIIb
		•	V	22.2	
537	94	Material Moving Workers	VI	2.0	VIIa
		<u> </u>	VIIa	98.0	
551	95	Military Officer Special and Tactical Operations Leaders	Military	100.0	Military
552	96	First-Line Enlisted Military Supervisors	Military	100.0	Military
553	97	Military Enlisted Tactical Operations and	Military	100.0	Military
		Air/Weapons Specialists and Crew Members	3		- 7

Note: No ANES respondents had occupations coded as 52 or 96.

Table S2. Presidential vote in 2012 by 2016 [ Source table for the first row of Table 1 ]

	2016 Election					
2012 Election	Clinton	Trump	Other	DK/Ref	Total	
Obama		_				
Weighted N	987.0	154.2	66.0	6.8	1,214.0	
Raw N	1,064	152	72	9	1,297	
Row percentage	81.3	12.7	5.4	0.6	100.0	
Standard error	1.5	1.4	0.7	0.2		
Column percentage	82.0	13.8	36.1	21.9	47.8	
Standard error	1.4	1.4	3.9	8.4	1.1	
Romney						
Weighted N	48.9	770.9	54.6	9.6	884.0	
Raw N	55	854	63	9	981	
Row percentage	5.5	87.2	6.2	1.1	100.0	
Standard error	0.9	1.4	1.0	0.4		
Column percentage	4.1	68.8	29.8	30.9	34.8	
Standard error	0.7	1.5	4.0	10.5	1.0	
Other						
Weighted N	6.8	18.1	14.1	1.3	40.4	
Raw N	9	19	16	2	46	
Row percentage	16.9	44.9	34.9	3.3	100.0	
Standard error	5.7	8.4	8.1	2.5		
Column percentage	0.6	1.6	7.7	4.3	1.6	
Standard error	0.2	0.4	2.3	3.2	0.3	
Did not vote						
Weighted N	145.8	162.6	40.3	4.2	352.9	
Raw N	142	157	35	4	338	
Row percentage	41.3	46.1	11.4	1.2	100.0	
Standard error	3.3	3.0	2.3	0.6		
Column percentage	12.1	14.5	22.0	13.4	13.9	
Standard error	1.2	1.2	3.8	6.7	0.8	
DK/Refused						
Weighted N	14.4	15.1	8.0	9.1	46.6	
Raw N	12	21	8	10	51	
Row percentage	30.9	32.3	17.2	19.6	100.0	
Standard error	8.2	7.0	7.1	6.4		
Column percentage	1.2	1.3	4.4	29.4	1.8	
Standard error	0.4	0.3	2.0	9.2	0.3	
Total						
Weighted N	1,203.0	1,121.0	183.0	31.0	2,537.9	
Raw N	1,282	1,203	194	34	2,713	
Row percentage	47.4	44.2	7.2	1.2	100.0	
Standard error	1.3	1.2	0.7	0.2		
Column percentage	100.0	100.0	100.0	100.0	100.0	

Table S3. Presidential vote in 2012 by 2016 among non-WONH voters

	2016 Election				
2012 Election	Clinton	Trump	Other	DK/Ref	Total
Obama		•		-	
Weighted N	409.1	28.2	21.0	5.5	463.7
Raw N	395	25	21	7	448
Row percentage	88.2	6.1	4.5	1.2	100.0
Standard error	1.8	1.5	1.2	0.6	
Column percentage	81.2	21.5	38.4	36.0	65.8
Standard error	2.3	4.5	8.0	14.3	2.2
Romney					
Weighted N	5.0	69.9	11.7	1.9	88.5
Raw N	5	74	10	2	91
Row percentage	5.6	79.0	13.2	2.1	100.0
Standard error	2.9	5.2	4.4	1.7	
Column percentage	1.0	53.2	21.4	12.4	12.5
Standard error	0.5	5.5	6.6	10.0	1.5
Other					
Weighted N	1.0	4.0	3.3	0.0	8.2
Raw N	1	4	2	0	7
Row percentage	11.9	48.2	39.9	0.0	100.0
Standard error	11.8	23.3	24.6		
Column percentage	0.2	3.0	6.0	0.0	1.2
Standard error	0.2	1.7	5.1		0.5
Did not vote					
Weighted N	83.9	27.6	17.6	1.2	130.3
Raw N	77	27	13	1	118
Row percentage	64.4	21.2	13.5	0.9	100.0
Standard error	5.7	4.6	4.2	0.9	
Column percentage	16.6	21.0	32.2	8.0	18.5
Standard error	2.2	4.4	9.1	7.6	1.8
DK/Refused					
Weighted N	5.0	1.7	1.1	6.6	14.4
Raw N	5	3	2	6	16
Row percentage	34.6	11.9	7.5	46.0	100.0
Standard error	13.6	7.2	5.6	14.3	
Column percentage	1.0	1.3	2.0	43.6	2.0
Standard error	0.5	0.8	1.5	14.3	0.6
Total					
Weighted N	503.9	131.4	54.6	15.2	705.1
Raw N	483	133	48	16	680
Row percentage	71.5	18.6	7.7	2.2	100.0
Standard error	2.1	1.9	1.3	0.6	
Column percentage	100.0	100.0	100.0	100.0	100.0

Table S4. Presidential vote in 2012 by 2016 among WONH voters in the working class (panel A) and WONH voters not in the working class (panel B) [ Source table for the second and third rows of Table 1 ]

Second and time rows of Table 1	2016 Election				
2012 Election	Clinton	Trump	Other	DK/Ref	Total
		A. WONH and	l in the worki	ing class	
Obama					
Weighted N	128.3	53.7	14.3	1.0	197.3
Raw N	133	45	15	1	194
Row percentage	65.0	27.2	7.3	0.5	100.0
Standard error	4.6	4.1	2.4	0.5	
Column percentage	79.3	19.6	43.0	25.1	41.7
Standard error	3.6	2.8	10.6	22.1	2.4
Romney					
Weighted N	9.7	164.9	4.7	0.0	179.4
Raw N	11	164	6	0	181
Row percentage	5.4	92.0	2.6	0.0	100.0
Standard error	1.7	2.2	1.2		
Column percentage	6.0	60.1	14.1	0.0	37.9
Standard error	1.8	3.0	6.3		2.2
Other					
Weighted N	1.7	2.9	0.3	0.0	4.9
Raw N	3	4	1	0	8
Row percentage	35.7	58.7	5.6	0.0	100.0
Standard error	17.7	18.2	5.7		
Column percentage	1.1	1.0	0.8	0.0	1.0
Standard error	0.6	0.6	0.8		0.4
Did not vote					
Weighted N	20.6	50.3	12.6	2.5	86.0
Raw N	17	42	8	2	69
Row percentage	23.9	58.5	14.7	2.9	100.0
Standard error	6.2	5.7	5.2	2.0	
Column percentage	12.7	18.3	37.9	61.8	18.2
Standard error	3.3	2.6	10.7	24.5	2.2
DK/Refused					
Weighted N	1.4	2.6	1.4	0.5	5.8
Raw N	1	5	2	1	9
Row percentage	23.7	43.9	23.4	8.9	100.0
Standard error	19.4	18.6	15.1	8.8	
Column percentage	0.9	0.9	4.1	13.1	1.2
Standard error	0.9	0.5	2.9	13.2	0.5
Total					
Weighted N	161.7	274.4	33.3	4.0	473.4
Raw N	165	260	32	4	461
Row percentage	34.2	58.0	7.0	0.8	100.0
Standard error	2.8	2.8	1.6	0.4	
Column percentage	100.0	100.0	100.0	100.0	100.0

Table S4 continued

Table 54 continued	B. WONH and not in the working class						
Obama				O			
Weighted N	449.7	72.3	30.7	0.3	553.0		
Raw N	536	82	36	1	655		
Row percentage	81.3	13.1	5.6	0.1	100.0		
Standard error	1.9	1.7	1.0	0.1			
Column percentage	83.7	10.1	32.3	2.8	40.7		
Standard error	1.9	1.4	4.7	2.9	1.4		
Romney							
Weighted N	34.2	536.1	38.2	7.7	616.2		
Raw N	39	616	47	7	709		
Row percentage	5.5	87.0	6.2	1.2	100.0		
Standard error	1.2	1.5	1.0	0.6			
Column percentage	6.4	75.0	40.2	65.1	45.3		
Standard error	1.3	1.7	5.5	15.3	1.5		
Other							
Weighted N	4.1	11.3	10.6	1.3	27.3		
Raw N	5	11	13	2	31		
Row percentage	15.0	41.4	38.7	4.9	100.0		
Standard error	7.2	10.0	9.9	3.7			
Column percentage	0.8	1.6	11.1	11.4	2.0		
Standard error	0.4	0.5	3.2	8.7	0.4		
Did not vote							
Weighted N	41.3	84.7	10.1	0.5	136.6		
Raw N	48	88	14	1	151		
Row percentage	30.3	62.0	7.4	0.4	100.0		
Standard error	4.0	4.3	2.1	0.4			
Column percentage	7.7	11.8	10.6	4.1	10.0		
Standard error	1.2	1.2	2.9	4.2	0.8		
DK/Refused							
Weighted N	8.1	10.8	5.6	2.0	26.4		
Raw N	6	13	4	3	26		
Row percentage	30.5	40.9	21.1	7.5	100.0		
Standard error	11.5	11.2	11.5	5.7			
Column percentage	1.5	1.5	5.9	16.7	1.9		
Standard error	0.7	0.5	3.5	12.2	0.5		
Total							
Weighted N	537.3	715.1	95.1	11.8	1,359.4		
Raw N	634	810	114	14	1,572		
Row percentage	39.5	52.6	7.0	0.9	100.0		
Standard error	1.5	1.5	0.8	0.3			
Column percentage	100.0	100.0	100.0	100.0	100.0		

Table S5. Presidential vote in 2012 by 2016 among WONH voters in the broadly measured working class (panel A) and WONH voters not in the working class (panel B) [ Source table for the third and fourth rows of Table 1 ]

	2016 Election				
2012 Election	Clinton	Trump	Other	DK/Ref	Total
	A. WONH	and in the wo	rking class (b	roadly measu	red)
Obama					
Weighted N	140.2	63.4	16.2	1.0	220.8
Raw N	142	49	16	1	208
Row percentage	63.5	28.7	7.3	0.5	100.0
Standard error	4.9	4.6	2.2	0.5	
Column percentage	78.7	19.9	42.2	25.1	41.0
Standard error	3.5	3.2	9.8	22.1	2.3
Romney					
Weighted N	9.7	190.0	4.7	0.0	204.4
Raw N	11	183	6	0	200
Row percentage	4.8	92.9	2.3	0.0	100.0
Standard error	1.5	1.9	1.0		
Column percentage	5.5	59.7	12.2	0.0	37.9
Standard error	1.7	3.0	5.5		2.1
Other					
Weighted N	1.7	2.9	0.3	0.0	4.9
Raw N	3	4	1	0	8
Row percentage	35.7	58.7	5.6	0.0	100.0
Standard error	17.7	18.2	5.7		
Column percentage	1.0	0.9	0.7	0.0	0.9
Standard error	0.6	0.5	0.7		0.4
Did not vote					
Weighted N	25.2	59.7	12.6	2.5	99.9
Raw N	20	47	8	2	77
Row percentage	25.2	59.7	12.6	2.5	100.0
Standard error	5.8	5.5	4.6	1.8	
Column percentage	14.1	18.7	32.8	61.8	18.5
Standard error	3.2	2.7	10.1	24.5	2.2
DK/Refused					
Weighted N	1.4	2.6	4.7	0.5	9.1
Raw N	1	5	3	1	10
Row percentage	15.2	28.0	51.1	5.7	100.0
Standard error	14.3	15.6	21.5	5.9	
Column percentage	0.8	0.8	12.1	13.1	1.7
Standard error	0.8	0.4	8.0	13.2	0.7
Total					
Weighted N	178.3	318.5	38.5	4.0	539.2
Raw N	177	288	34	4	503
Row percentage	33.1	59.1	7.1	0.7	100.0
Standard error	2.8	2.6	1.5	0.4	
Column percentage	100.0	100.0	100.0	100.0	100.0

Table S5 continued

lable 55 continued	B. WONH and not in the working class						
Obama		. , , , , , , , , , , , , , , , , , , ,					
Weighted N	437.7	62.6	28.8	0.3	529.5		
Raw N	527	78	35	1	641		
Row percentage	82.7	11.8	5.4	0.1	100.0		
Standard error	1.7	1.4	1.0	0.1			
Column percentage	84.1	9.3	32.0	2.8	40.9		
Standard error	1.9	1.1	4.7	2.9	1.5		
Romney							
Weighted N	34.2	511.0	38.2	7.7	591.1		
Raw N	39	597	47	7	690		
Row percentage	5.8	86.5	6.5	1.3	100.0		
Standard error	1.2	1.6	1.1	0.6			
Column percentage	6.6	76.2	42.5	65.1	45.7		
Standard error	1.4	1.6	5.4	15.3	1.5		
Other							
Weighted N	4.1	11.3	10.6	1.3	27.3		
Raw N	5	11	13	2	31		
Row percentage	15.0	41.4	38.7	4.9	100.0		
Standard error	7.2	10.0	9.9	3.7			
Column percentage	0.8	1.7	11.7	11.4	2.1		
Standard error	0.4	0.5	3.4	8.7	0.4		
Did not vote							
Weighted N	36.8	75.3	10.1	0.5	122.6		
Raw N	45	83	14	1	143		
Row percentage	30.0	61.4	8.2	0.4	100.0		
Standard error	4.2	4.5	2.4	0.4			
Column percentage	7.1	11.2	11.2	4.1	9.5		
Standard error	1.1	1.1	3.2	4.2	0.8		
DK/Refused							
Weighted N	8.1	10.8	2.3	2.0	23.1		
Raw N	6	13	3	3	25		
Row percentage	34.9	46.7	9.9	8.5	100.0		
Standard error	12.1	11.6	5.7	6.4			
Column percentage	1.5	1.6	2.5	16.7	1.8		
Standard error	0.7	0.5	1.5	12.2	0.4		
Total							
Weighted N	520.8	671.1	89.9	11.8	1,293.6		
Raw N	622	782	112	14	1530		
Row percentage	40.3	51.9	7.0	0.9	100.0		
Standard error	1.5	1.5	0.8	0.3			
Column percentage	100.0	100.0	100.0	100.0	100.0		

Table S6. Presidential vote in 2012 by 2016 among WONH voters with a high school diploma or less (panel A) and WONH voters with at least some college (panel B)

	2016 Election				
2012 Election	Clinton	Trump	Other	DK/Ref	Total
	A. WC	NH and a hig	gh school dip	oloma or less	
Obama					
Weighted N	116.3	56.6	11.5	0.0	184.4
Raw N	84	36	7	0	127
Row percentage	63.0	30.7	6.2	0.0	100.0
Standard error	5.6	5.1	2.6		
Column percentage	74.2	17.9	40.2	0.0	36.4
Standard error	4.3	3.3	13.8		2.9
Romney					
Weighted N	8.5	193.8	4.4	1.9	208.7
Raw N	7	144	3	1	155
Row percentage	4.1	92.9	2.1	0.9	100.0
Standard error	1.6	2.2	1.2	0.9	
Column percentage	5.4	61.3	15.4	42.5	41.2
Standard error	2.1	3.5	7.9	29.6	2.8
Other					
Weighted N	0.0	5.3	0.0	0.0	5.3
Raw N	0	5	0	0	5
Row percentage	0	100	0	0	100.0
Standard error					
Column percentage	0.0	1.7	0.0	0.0	1.1
Standard error		0.8			0.5
Did not vote					
Weighted N	29.0	56.4	9.4	2.5	97.3
Raw N	20	37	5	2	64
Row percentage	29.8	58.0	9.7	2.5	100.0
Standard error	6.1	6.0	4.6	1.8	
Column percentage	18.5	17.9	32.9	54.3	19.2
Standard error	3.8	2.5	12.6	29.3	2.1
DK/Refused					
Weighted N	2.8	4.0	3.3	0.1	10.2
Raw N	2	3	1	1	7
Row percentage	27.8	38.6	32.2	1.4	100.0
Standard error	18.0	20.6	24.0	1.5	
Column percentage	1.8	1.2	11.5	3.2	2.0
Standard error	1.3	0.8	10.4	3.6	0.9
Total					
Weighted N	156.6	316.2	28.7	4.5	506.0
Raw N	113	225	16	4	358
Row percentage	30.9	62.5	5.7	0.9	100.0
Standard error	2.9	2.8	1.7	0.5	
Column percentage	100.0	100.0	100.0	100.0	100.0

Table S6 continued

Table 30 continued	B. WONH and some college or more				
Obama					
Weighted N	461.7	69.4	33.5	1.3	565.9
Raw N	585	91	44	2	722
Row percentage	81.6	12.3	5.9	0.2	100.0
Standard error	1.6	1.4	1.0	0.2	
Column percentage	85.1	10.3	33.6	11.8	42.7
Standard error	1.6	1.2	4.6	8.9	1.4
Romney					
Weighted N	35.4	507.2	38.5	5.8	586.9
Raw N	43	636	50	6	735
Row percentage	6.0	86.4	6.6	1.0	100.0
Standard error	1.1	1.5	1.1	0.4	
Column percentage	6.5	75.3	38.6	51.2	44.2
Standard error	1.2	1.6	4.7	15.4	1.3
Other					
Weighted N	5.8	8.8	10.8	1.3	26.8
Raw N	8	10	14	2	34
Row percentage	21.7	32.9	40.4	5.0	100.0
Standard error	7.9	9.1	9.8	3.8	
Column percentage	1.1	1.3	10.9	11.9	2.0
Standard error	0.4	0.4	3.2	8.8	0.4
Did not vote					
Weighted N	33.0	78.6	13.2	0.5	125.3
Raw N	45	93	17	1	156
Row percentage	26.3	62.7	10.6	0.4	100.0
Standard error	4.0	4.3	2.6	0.4	
Column percentage	6.1	11.7	13.3	4.3	9.4
Standard error	1.0	1.2	3.2	4.3	0.8
DK/Refused					
Weighted N	6.6	9.4	3.6	2.3	22.0
Raw N	5	15	5	3	28
Row percentage	30.0	42.7	16.6	10.7	100.0
Standard error	11.8	10.1	7.2	7.0	
Column percentage	1.2	1.4	3.7	20.8	1.7
Standard error	0.6	0.3	1.7	12.8	0.4
Total					
Weighted N	542.5	673.3	99.8	11.3	1,326.9
Raw N	686	845	130	14	1,675
Row percentage	40.9	50.7	7.5	0.8	100.0
Standard error	1.5	1.5	0.8	0.3	
Column percentage	100.0	100.0	100.0	100.0	100.0

Table S7. Presidential vote in 2012 by 2016 among WONH voters with a less than bachelor's degree (panel A) and WONH voters a bachelor's degree or more (panel B)

	2016 Election					
2012 Election	Clinton	Trump	Other	DK/Ref	Total	
	A. WONH and less than a bachelor's degree					
Obama						
Weighted N	246.7	97.3	25.2	1.3	370.5	
Raw N	250	87	24	2	363	
Row percentage	66.6	26.3	6.8	0.4	100.0	
Standard error	3.6	3.3	1.7	0.3		
Column percentage	79.5	14.6	37.1	12.0	35.1	
Standard error	2.7	2.0	7.3	9.4	1.9	
Romney						
Weighted N	19.1	441.9	18.2	5.2	484.4	
Raw N	20	441	21	4	486	
Row percentage	4.0	91.2	3.8	1.1	100.0	
Standard error	0.8	1.3	0.8	0.7		
Column percentage	6.2	66.5	26.8	46.7	45.9	
Standard error	1.3	2.2	5.5	18.9	1.8	
Other						
Weighted N	1.7	8.5	1.9	1.0	13.1	
Raw N	3	9	3	1	16	
Row percentage	13.3	65.0	14.3	7.3	100.0	
Standard error	7.7	12.1	8.2	7.1		
Column percentage	0.6	1.3	2.8	8.7	1.2	
Standard error	0.3	0.5	1.6	8.5	0.3	
Did not vote						
Weighted N	37.2	109.9	18.0	2.9	168.0	
Raw N	29	98	16	3	146	
Row percentage	22.1	65.4	10.7	1.8	100.0	
Standard error	4.1	4.1	3.1	1.1		
Column percentage	12.0	16.5	26.5	26.6	15.9	
Standard error	2.2	1.6	6.4	15.1	1.3	
DK/Refused						
Weighted N	5.6	7.4	4.7	0.7	18.3	
Raw N	3	11	3	2	19	
Row percentage	30.5	40.3	25.5	3.7	100.0	
Standard error	14.9	14.0	15.3	3.1		
Column percentage	1.8	1.1	6.9	6.0	1.7	
Standard error	1.1	0.4	4.8	5.1	0.5	
Total						
Weighted N	310.3	665.0	67.9	11.1	1,054.3	
Raw N	305	646	67	12	1,030	
Row percentage	29.4	63.1	6.4	1.1	100.0	
Standard error	1.7	1.6	1.0	0.4		
Column percentage	100.0	100.0	100.0	100.0	100.0	

Table S7 continued

Table 37 continued	B. WONH and a bachelor' degree or more				
Obama					
Weighted N	331.3	28.7	19.8	0.0	379.8
Raw N	419	40	27	0	486
Row percentage	87.2	7.6	5.2	0.0	100.0
Standard error	1.8	1.4	1.1		
Column percentage	85.2	8.8	32.8	0.0	48.8
Standard error	1.8	1.5	5.3		1.9
Romney					
Weighted N	24.8	259.1	24.8	2.5	311.2
Raw N	30	339	32	3	404
Row percentage	8.0	83.3	8.0	0.8	100.0
Standard error	1.7	2.1	1.5	0.5	
Column percentage	6.4	79.8	40.9	53.2	40.0
Standard error	1.4	2.2	6.2	23.9	1.7
Other					
Weighted N	4.1	5.6	9.0	0.4	19.0
Raw N	5	6	11	1	23
Row percentage	21.4	29.5	47.0	2.0	100.0
Standard error	9.9	10.8	12.1	2.0	
Column percentage	1.1	1.7	14.8	8.1	2.4
Standard error	0.6	0.8	4.9	8.4	0.6
Did not vote					
Weighted N	24.8	25.1	4.7	0.0	54.6
Raw N	36	32	6	0	74
Row percentage	45.4	46.0	8.6	0.0	100.0
Standard error	6.5	6.7	3.8		
Column percentage	6.4	7.7	7.8	0.0	7.0
Standard error	1.1	1.3	3.5		0.8
DK/Refused					
Weighted N	3.9	6.0	2.3	1.8	14.0
Raw N	4	7	3	2	16
Row percentage	27.7	42.9	16.3	13.1	100.0
Standard error	12.4	13.0	9.0	10.1	
Column percentage	1.0	1.8	3.8	38.7	1.8
Standard error	0.5	0.7	2.2	24.1	0.5
Total					
Weighted N	388.8	324.5	60.5	4.7	778.6
Raw N	494	424	79	6	1,003
Row percentage	49.9	41.7	7.8	0.6	100.0
Standard error	2.1	1.8	1.0	0.3	
Column percentage	100.0	100.0	100.0	100.0	100.0

Table S8. Characteristics of the individual-level ACS sample

Tuble 50. Characteristics of the marviauar level free sample							
			Percentage		Percentage		
			WONH		WONH		
		Percentage working	and working	Percentage working	and working		
		class	class	class	class		
	Percentage	(narrow	(narrow	(broad	(broad	Weighted	
	WONH	measure)	measure)	measure)	measure)	N	
All states	69.92	27.63	17.57	43.75	28.45	11,241,230	
Competitive states	71.64	28.21	18.45	44.38	29.70	5,913,449.1	
Competitive, but							
not flipped states	66.90	27.71	16.19	42.74	25.75	2,993,966.7	
Flipped states	77.73	28.86	21.35	46.48	34.77	2,333,814.2	

*Notes*: The raw N is 11,241,230. All percentages are weighted, as are the N's in the final column.

Table S9. Areal correlations between percentage components of the white working class and underlying performance by Romney and Trump as well as Trump's gain relative to Romney

	With allocated vote tallies:		Without allocated vote tallies:				
	Percentage WONH	Percentage working class	Percentage WONH working class	Percentage WONH	Percentage working class	Percentage WONH working class	
	A. Correlation with Romney's 2012 performance (percent for Romney – percent for Obama)						
All states	0.60	0.35	0.64	0.62	0.36	0.65	
Competitive states Competitive, but	0.46	0.21	0.48	0.46	0.20	0.47	
not flipped states	0.49	0.31	0.58	0.51	0.28	0.57	
Flipped states	0.63	0.18	0.60	0.70	0.20	0.63	
	B. Correlation with Trump's 2016 performance (percent for Trump – percent for Clinton)						
All states	0.68	0.53	0.79	0.71	0.54	0.80	
Competitive states Competitive, but	0.61	0.46	0.72	0.61	0.45	0.71	
not flipped states	0.58	0.50	0.75	0.61	0.48	0.76	
Flipped states	0.73	0.44	0.81	0.78	0.45	0.82	
	B. Correlation with Trump's gain						
All states	0.46	0.73	0.73	0.46	0.73	0.73	
Competitive states Competitive, but	0.55	0.77	0.83	0.57	0.78	0.84	
not flipped states	0.49	0.74	0.80	0.52	0.77	0.81	
Flipped states	0.52	0.80	0.80	0.49	0.82	0.81	

*Notes*: For this table, the working class is defined using the broad measure (those in classes IIIb, VI, VIIa, IVc, and VIIb as well as those without a class who had no more than a high school diploma). The correlation coefficients are weighted by the ACS-estimated number of citizens aged 18 or older. The number of geographic units is 1,142 for the left panel and 886 for the right panel.

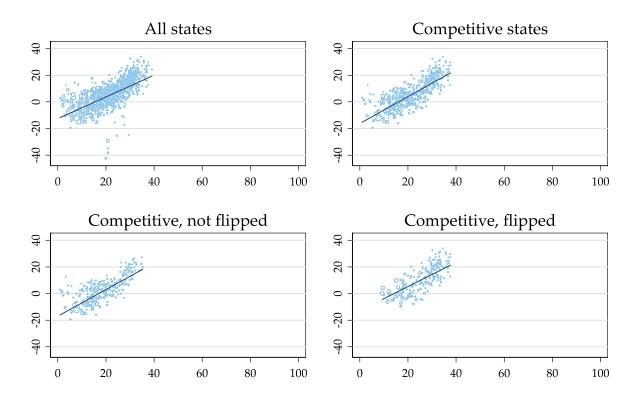


Figure S1 (for comparison with Figure 1). Trump's 2016 gain by percentage of the voting population that is WONH and working class (narrow measure), excluding geographic units with allocated vote tallies

0.67 for all states

0.78 for competitive states

0.57 for non-competitive states

0.77 for competitive, but not flipped, states

0.73 for flipped states

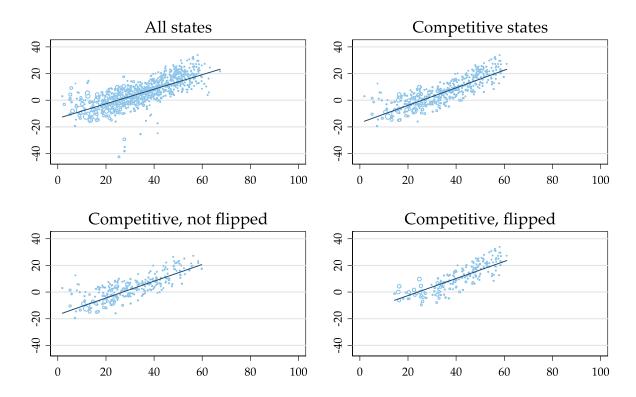


Figure S2 (for comparison with Figure 2). Trump's 2016 Gain by percentage of the voting population that is WONH and working class (broad measure), excluding geographic units with allocated vote tallies

0.73 for all states

0.84 for competitive states

0.64 for non-competitive states

0.81 for competitive, but not flipped, states

0.81 for flipped states

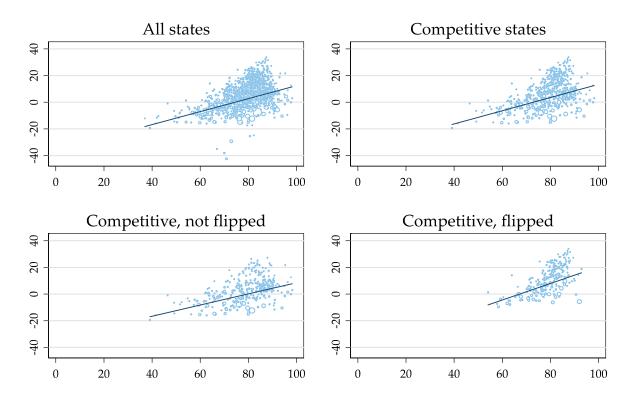


Figure S3. Trump's 2016 gain by percentage of the voting population that is WONH and does not have a bachelor's degree

- 0.42 for all states
- 0.42 for competitive states
- 0.42 for non-competitive states
- 0.42 for competitive, but not flipped, states
- 0.48 for flipped states

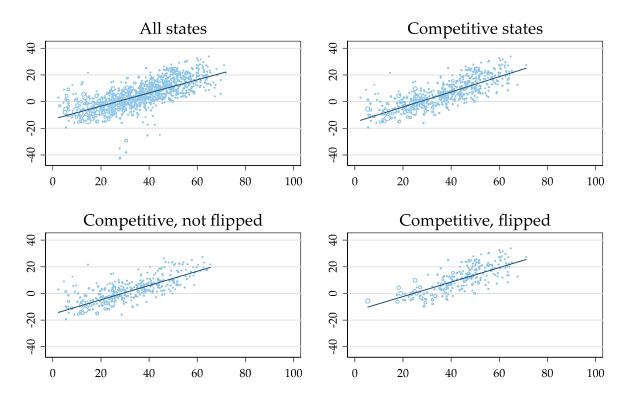


Figure S4. Trump's 2016 gain by percentage of the voting population that is WONH and has a high school diploma or less

0.72 for all states

0.80 for competitive states

0.64 for non-competitive states

0.78 for competitive, but not flipped, states

0.78 for flipped states

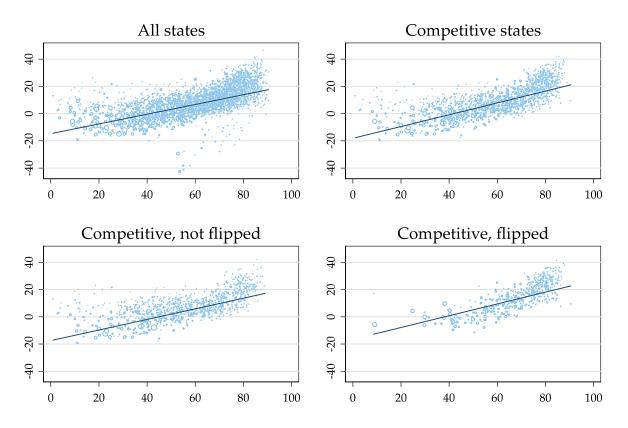


Figure S5. For all counties and county equivalents (N = 3,113), Trump's 2016 gain by an ACS-Summary-File estimate of the percentage of the voting population that is WONH and does not have a bachelor's degree

Note: The horizontal axis is the product of two rates, converted to a percentage: (1) the proportion of the county population of US citizens aged 18 or older that is WONH, and (2) the proportion of WONH residents aged 25 or older that does not have a bachelor's degree.

### Relevant correlations:

0.67 for all states

0.78 for competitive states

0.58 for non-competitive states

0.74 for competitive, but not flipped, states

0.77 for flipped states

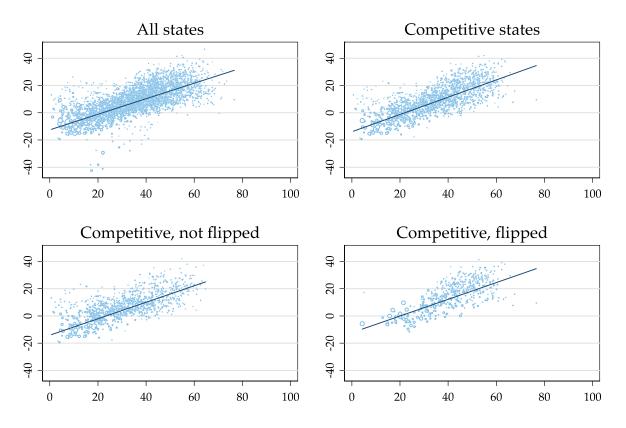


Figure S6. For all counties and county equivalents (N = 3,113), Trump's 2016 gain by an ACS-Summary-File estimate of the percentage of the voting population that is WONH and has a high school diploma or less

Note: The horizontal axis is the product of two rates, converted to a percentage: (1) the proportion of the county population of US citizens aged 18 or older that is WONH, and (2) the proportion of WONH residents aged 25 or older that has a high school diploma or less.

#### Relevant correlations:

0.75 for all states

0.81 for competitive states

0.68 for non-competitive states

0.78 for competitive, but not flipped, states

0.78 for flipped states