

Unions, Class Identification and Policy Attitudes

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Abstract

Compared to other Western democracies, in the U.S. fewer people subjectively identify as working class historically and many working class individuals think of themselves as middle class. This likely has important political implications. We argue, however, that union membership can strengthen identification with the working class, through communications from leaders and interactions among members. Using General Social Survey data from five decades, we develop an original multi-indicator IRT-based measure of objective class status and find that union membership makes it more likely that individuals identify as working class, across all objective class groups. Panel data analysis shows that union membership predicts future working class identification but that the opposite is not true, suggesting that these associations are causal. Finally, we show that identifying with the working rather than middle or upper class is associated with more support for redistribution and the welfare state.

Keywords: class, unions, identification, redistribution, working class

*Supplementary material for this article is available in the appendix in the online edition. Replication files are available in the JOP Data Archive on Dataverse (<https://dataverse.harvard.edu/dataverse/jop>). The empirical analysis has been successfully replicated by the *JOP* replication analyst.

Class awareness and class consciousness have been viewed as important for political attitudes and behavior at least since Marx (Eyerman 1981). Yet, compared to other affluent democracies, in the U.S., many working class individuals think of themselves as middle class and fewer people historically identify as working class (Adair 2001, Evans and Tilley 2017). Here, we ask what role union membership plays in the formation of subjective class identification, particularly identification with the working class.

In recent years the questions of how class shapes voting and other attitudes and why people identify with different economic groups has attracted a lot of attention in both the academic literature and popular press. For instance, Thomas Frank's "What's The Matter with Kansas," which asked why lower class voters support the Republican Party, spent 18 weeks on the New York Times best seller list. Scholars have documented the ways that objective class shapes voting and policy attitudes (Abramowitz and Teixeira 2009, Bartels et al. 2006, Carnes and Lupu 2021, Franko, Tolbert and Witko 2013), but subjective class identity also appears to shape these outcomes (McCall and Manza 2011, Sosnaud, Brady and Frenk 2013, Walsh, Jennings and Stoker 2004). Despite a growing interest in the construction and importance of identity in political science (Davenport, Franco and Iyengar 2021, Jardina 2019, Kuo, Malhotra and Mo 2017, Snyder 2012), few studies examine the construction of class identity (but see (Michener 2017)). Recent research shows that unions can have an important influence on the attitudes of their members (Ahlquist, Clayton and Levi 2014, Frymer and Grumbach 2021, Kim and Margalit 2017, Macdonald 2019), and thus we examine how union membership shapes class identity, especially the often-discussed working class identity.

Individuals learn about their class position through childhood socialization, formal education and daily activities as adults (Evans and Kelley 2004, Lynn and Ellerbach 2017). We argue that membership in organizations pursuing collective economic goals is one important factor shaping class identity in adulthood. People have multiple, competing identities (Davenport, Franco and Iyengar 2021, Junn and Masuoka 2008), and in order to induce individuals to contribute to organizational goals, group leaders attempt to highlight

and reinforce identities that create intergroup solidarity (Lacombe 2019, Minkoff 1997, Salisbury 1969). Union leaders can create solidarity by strengthening members' identities as workers or members of the working class (Eidlin 2018). Of course many unions now represent middle class professionals, but even within these unions leaders highlight economic cleavages over other social divisions (Frymer and Grumbach 2021, Brimeyer, Eaker and Clair 2004, Western and Rosenfeld 2011). Furthermore, unions provide a social environment where economic cleavages are more likely to be discussed and reinforced among members (Lipset, Trow and Coleman 1956, Macdonald 2019). We thus anticipate that membership in a union will generate a stronger identity as a member of the working class.

To examine how unions shape class identity we develop an original multi-indicator measure of objective social class using a latent item response theory (IRT) approach, which overcomes limitations of single indicator measures of class. Using General Social Survey (GSS) data from the 1970s to 2018, we find that union membership is associated with an increased probability that individuals identify as working class, across all objective class groups. Using data from the Youth-Parent Socialization Panel Study we find that joining a union leads to a greater likelihood of identification with the working class in the future, suggesting the associations in the GSS data are causal, which is further supported by a matching analysis using the GSS data. Finally, to demonstrate the importance of class identity for politics and policy, we show that identification with the working rather than middle or upper classes is associated with more favorable attitudes toward redistribution and the welfare state.¹ Given the growing interest in identity in political science, as well as attention to economic inequality, unions and the political behavior of the working class, these findings are important for a number of research programs.

¹Replication files are available in the JOP Data Archive on Dataverse (<https://dataverse.harvard.edu/dataverse/jop>). The empirical analysis has been successfully replicated by the JOP replication analyst.

Unions and Class Identification

Understanding the voting behavior of the (White) working class as it drifts away from traditional left or center-left parties, like the Democratic Party, has become something of a cottage industry (Abramowitz and Teixeira 2009, Bartels et al. 2006, Carnes and Lupu 2021), and not just in the U.S. (Evans and Tilley 2012, Hayes 1995). As this group becomes “up for grabs” U.S. candidates are making more explicit appeals to it. Donald Trump’s appeals to the working class were oft-noted and Biden is making even more.² What would make someone view themselves as working class and thus be responsive to these appeals? More generally, why do people identify with different class groups and what role do political organizations play in this process?

At least since Marx (Eyerman 1981), scholars have argued that class consciousness or class awareness is necessary for individuals to further their economic interests in the political realm. Class awareness refers to an understanding of one’s own class position and how different classes function in society (Vanneman and Cannon 1987). Thus, any gap between objective class status and subjective class identity is important for class awareness and, probably, political behavior and policy attitudes (McCall and Manza 2011, Miller, Gurin, Gurin and Malanchuk 1981, Sosnaud, Brady and Frenk 2013).

Class identity formation starts early in childhood (Lauer 1974, Lynn and Ellerbach 2017), but continues to evolve through everyday experiences as an adult (Evans and Kelley 2004, Hodge and Treiman 1968). Objective class status does not automatically translate into the “correct” corresponding subjective class identity because, like other identities, class identity is malleable (Eidlin 2014, Michener 2017, Snyder 2012). One contextual factor that can play a role in the formation and reinforcement of identification with different social groups is membership in political and economic organizations, through both leadership and membership-driven processes.

²Using data from the American presidency project (<https://www.presidency.ucsb.edu/advanced-search>), we examined presidential speeches for mentions of the term “working class”. George W. Bush never mentioned it in two terms, Obama did twice in eight years, Trump did 5 times four years and Biden had 23 times in less than two years.

Leaders try to strengthen group-based identities to create intergroup solidarity which, in turn, makes it more likely that members will contribute to collective group goals (Minkoff 1997, Salisbury 1969). For groups that pursue public goods, and thus experience the free-rider problem, this type of identity-based solidarity is probably especially important (Olson 1965). Campbell (2005) shows how the leaders of elderly advocacy groups attempted to foster a distinct political identity among older Americans and that this identity helped spur individual contributions to the achievement of group goals. Similarly, Lacombe (2019) shows how National Rifle Association leaders attempted to cultivate a strong identity as a “gun owner” among members, and that individuals with a stronger gun owner identity invested more of their resources in pursuit of NRA goals. In addition to these leadership-driven processes, interactions among group members can further strengthen particular identities through companionship, the sharing of information and feelings of mutual obligation (Green and Brock 2005). Strong ties with fellow members of voluntary associations can shape attitudes toward outgroups in society (Iglič 2010), and also potentially strengthen identification with the ingroup (but see Van der Meer (2016)). Thus, both leadership and membership-driven processes within organizations can clarify and reinforce particular identities for group members.

Eidlin (2018, 15) writes that it is “unions that do the work of organizing interests when it comes to creating something identifiable as ‘the working class’.” Union leaders do this work for the same reason leaders of other groups attempt to shape the identity of their members – it helps them achieve group goals.³ Because success in union political or collective bargaining campaigns requires the commitment of individual union members (Greenstone 1970, Lipset, Trow and Coleman 1956), a strong identity with one’s fellow workers – or identification with the working class – can facilitate union success in these campaigns. For example, Bruno (2000) finds that union members with a stronger working class identity are more likely to vote for union-backed candidates.

As with other groups, leadership efforts or interactions with fellow members can

³In addition, of course, historically many labor leaders are ideologically committed to increasing class consciousness among workers.

shape class identity for union members. Union leaders disseminate large amounts of information regarding politics and collective bargaining to their members (Stevens and Greer 2005, Western and Rosenfeld 2011), and many members pay attention to this information (Bruno 2000). Information from leaders can reinforce identification as a worker or member of the working class because it often highlights the economic and class position of union members. In collective bargaining fights unions attempt to present information to polarize or heighten conflict between workers and management by, for instance, contrasting worker pay and benefits with management (Brimeyer, Eaker and Clair 2004, Western and Rosenfeld 2011). Similarly, during political campaigns unions typically highlight which candidates are good or bad for the economic interests of “workers” in advertisements or campaign literature (Jacobson 1999).

Informal interactions among union members can also shape attitudes and behavior (Macdonald 2019). In their classic study, Lipset, Trow and Coleman (1956) find that individuals who interacted more with their fellow (International Typographical) union members also spent more time talking about union political activities. Of course, these informal member interactions can be shaped by union leaders to some degree. As one set of union leaders recently explained: “Unions need to make clear that our political and legislative decisions are based on what is in the best interest of members and other working people” . . . “downplay partisan rhetoric and stress their role as an independent voice for working people.”⁴ This advice underscores the desire for unions to make one’s role as a worker clear and salient relative to other competing identities (in this case partisan). Furthermore, unlike many voluntary associations, union members typically work together in close proximity, creating even more opportunities for interaction.

Since the 1970s, the percentage of workers represented by unions has declined considerably, weakening an important vehicle for the development of White working class consciousness (Bucci 2017, Gest 2016). We think this is probably also true for other racial and ethnic groups. In addition to their overall decline, U.S. unions have become more

⁴<http://23.ufcw.org/stewards/talking-to-members-about-politics/>

white collar and middle class in recent decades. Yet, there are still millions of workers in unions, and millions of working class union members. Indeed, there are about 25% (2 million) more non-professional union members compared to professionals in unions (BLS 2021).⁵ But even largely professional unions will highlight economic over other social cleavages, provide members with information about where they fit in the economic structure and about which economic groups it is normatively desirable to belong to (Western and Rosenfeld 2011). Despite the changing class composition of the unionized workforce, our own examination of recent speeches by national AFL-CIO leaders to union affiliates indicates that the terms “working class” and “worker” are used much more frequently than the term “middle class”.⁶

Thus, the focus on identity as “workers” within the union movement persists. A 1996 survey of 2,000 union members in Illinois, which included a class-heterogeneous group of workers in retail, public sector, construction, transportation and manufacturing, found that “working class” was an important identity when acting politically for 92% of those surveyed (Bruno 2000). Whether unions actually shape this working class identity remains largely an open question.

There is evidence, however, that unions shape political knowledge (Macdonald 2019), policy preferences (Ahlquist and Levi 2013, Ahlquist, Clayton and Levi 2014, Kim and Margalit 2017) and voting behavior (Francia and Bigelow 2010, Francia and Orr 2014, Leighley and Nagler 2007, Prysby 2020). Most relevant, Frymer and Grumbach (2021) find that White union members have lower racial resentment than other Whites, which is consistent with the idea that unions increase the salience of class identity and reduce the salience of other identities (race). In one of the only studies we could identify examining how unions are associated with class identity, Ikeler and Crocker (2018) conducted

⁵For a discussion see: <https://slate.com/business/2019/04/white-collar-professionals-labor-unions.html>

⁶We examined all 69 speeches by AFL-CIO President Richard Trumka and Secretary Treasurer Liz Shuler that were given to AFL-CIO affiliated unions from January 1st, 2018 through March 19th, 2020, which were posted on the AFL-CIO website. We searched for the terms “working class,” “worker” and “middle class.” In the typical speech the term “worker” or “working class” appeared over 12 times, while “middle class” appeared less than 0.15 times. For speeches see: <https://aflcio.org/speeches>

a survey of 177 workers in Nassau County, New York, in 2015-16 and found that service workers in labor unions were more likely to identify as working class than service workers who are not in labor unions. It remains unclear whether this relationship is more widespread.

We expect that due to leadership and membership driven processes union membership should increase the likelihood that individuals – of any objective class group – identify as working class. At the same time, many people who are not in unions also identify as working class and surely many people who identify as working class do not conceive of this identity in the same way as union leaders. Like other identities, class identity is complex and can mean different things to different people (Snyder 2012). Below we will see that a large proportion of people view themselves as working class and it is probably not the case that this many Americans actually think about politics primarily in class-conflict terms (DiMaggio 2015) because there is not widespread ideological thinking of any type in the mass public (Converse 1964, Kinder and Kalmoe 2017). At the same time, the idea of work or being a hard worker is presumably an important dimension of working class identification for many.⁷ Thus, when someone chooses to identify as working class rather than middle or upper class this is still likely to be politically consequential. Specifically, we think for many people it is a marker that they think more about politics and policy in terms of how it affects typical workers (as they see them), with consequences for political behavior and attitudes. For instance, we expect that compared to middle and upper class identifiers, on average working class identifiers prefer more egalitarian economic and social welfare policies thought to benefit average workers, which we explore below.

The analysis has three parts. First, we examine how union membership is associated with subjective identification with the working class (and other class groups) for members of different objective class groups using national samples over a long period of time. These results are important because we cover large, representative samples over many years. They cannot establish causality, however, so we also use panel data to explore

⁷In the online Appendix we show that people who are not working are about 14 percentage points less likely to identify as working class.

whether union membership precedes working class identity, or vice versa (we also present the results of a matching analysis that produces consistent findings in the Appendix). Finally, we demonstrate the importance of subjective class identity by analyzing how subjective class is associated with egalitarian economic policy attitudes, accounting for objective class, union membership and other factors that shape policy attitudes.

Analysis 1: Unions and Subjective Class Identification

First, to assess how unions shape the link between objective and subjective class we rely on data from the General Social Survey (GSS), which consistently asks about subjective class and union status, and includes indicators of objective class. Additionally, the GSS provides samples that are representative of the U.S. population and that cover multiple time periods (1973-2018).⁸

For our measure of *subjective class*, the main dependent variable used for our analyses, the GSS asks respondents if they see themselves belonging to “the lower class, the working class, the middle class, or the upper class.” This question straightforwardly taps into how respondents see their class status.

One of the main independent variables for our study is *union membership*. The measure we use is an indicator that is equal to one if the respondent belongs to a union and zero otherwise.⁹

Accounting for *objective class* is more complex. The three most commonly used measures of objective class are income, education, and occupation, all of which measure various aspects of class, but fail to capture others (McCall and Manza 2011). Therefore, rather than rely on a single measure of objective class or analyze several different measures of class separately, we estimate a latent measure of objective class based on the observed

⁸We use all available GSS surveys that include the measures we rely on for our analyses. This includes 1973, 1975, 1976, 1978, 1980, every year from 1983 to 1991, 1993, and all even years from 1994 to 2018.

⁹Specifically, the GSS asks “Do you (or your spouse) belong to a labor union?” Potential responses include “R belongs,” “spouse belongs,” “R and spouse belong,” and “neither belongs.” We code only those respondents answering that they themselves are members of a union as 1.

values of respondent income, education, and occupation.

Our measure of respondent income is a five category variable that approximates family income quintiles on a year-to-year basis. For education we rely on a five category measure where higher values indicate higher educational attainment. Finally, we use a five category version of the Erikson, Goldthorpe and Portocarero (1979), or EGP, occupation-based measure of class based on updates to the EGP scheme by Morgan (2017), which includes the following groups: upper class, upper-middle class, middle-class service, middle-class manual, and working class occupations.¹⁰

To estimate a latent measure of objective class, we develop a model based on item response theory (IRT). IRT has recently been used by scholars to measure complex concepts that are best accounted for using multiple observed variables (or items) (Caughey and Warshaw 2015, Treier and Jackman 2008, McGann 2014). This approach allows us to estimate an underlying measure of each individual's class position on a continuous scale as a function of the parameters for observable variables. A number of parameters can potentially be estimated for each variable but the most common approach, and the one we use, is to estimate discrimination and difficulty parameters for each observed item. Since our class variables are all measured on ordinal scales, we use the IRT graded response model (GRM) for estimation.¹¹ For the GRM, we are interested in the probability of observing category k or higher for variable i and respondent j using:

$$Pr(Y_{ij} \geq k | \theta_j) = \frac{\exp(a_i(\theta_j - b_{ik}))}{1 + \exp(a_i(\theta_j - b_{ik}))} \quad (1)$$

where θ_j is the latent likelihood of a respondent belonging to a higher objective class, a_i indicates how closely each variable is associated with the latent measure (also known as the discrimination parameter), and b_{ik} represents the cutpoints for each variable (which

¹⁰Additional details about the EGP measure can be found in the Appendix, which includes a discussion of how we arrived at our five-class version of the measure based on Morgan's more elaborate categorizations and descriptions of the occupations that fall into each class category. See Morgan (2017) for a thorough explanation of the coding decisions made to categorize occupations into the EGP groups.

¹¹The GRM is an extension of the two-parameter logit model, or 2PL. In fact, the GRM is equivalent to the 2PL when fitting it with items measured on a dichotomous scale.

are used to calculate the difficulty parameters). In addition to using the measures of income, education, and EGP class in the IRT models, we also include survey year indicators in the models.¹²

The results of the IRT models can be found in Appendix Table A3. They show that the discrimination parameter estimates for the measures of income, education, and EGP class are all statistically significant, providing evidence consistent with the idea that each observed class measure is associated with a common underlying objective class.

The final step we take to arrive at our measure of objective class is to group the results of our continuous latent class measures into discrete class categories. This is done for two reasons. First, analyzing class categories allows us to easily detect any potential nonlinear relationships between objective and subjective class. Second, the estimates of the latent objective class measures clearly displayed clustering around five points on the continuous scale. To determine the cutoff points for each category, we use k-means cluster analysis to estimate the minimum and maximum values for each group.¹³

Figure A2 in the online Appendix plots the histogram of the continuous latent objective class measure, as well as the minimums and maximums derived from the k-means cluster analysis, which demonstrates the clustering of the latent class measure and that the cluster analysis provides reasonable cutpoints for categorizing the measure into five class groups. Table 1 shows the five objective class categories and the average respondent values for income, education, and EGP for each. Note that we provide the following descriptive labels for each class group: lower class, working class, lower middle class, upper middle class, and upper class. Across our three observable measures of class, we can see that they take on lower values for income, education and EGP for lower class categories and higher values among the upper classes. This is true by construction, but

¹²Survey year indicators are included to account for potential heterogeneity in survey responses across survey time period as the class structure of the economy changes. As we discuss below, we also consider several alternative specifications.

¹³The basic goal of k-means analysis is to categorize data into a specified number of groups using an iterative algorithm. The process starts with a random selection of k group centroids (or centers). Observations are then assigned to their closest center and the mean is calculated for each cluster. This process is repeated until the group centers have stabilized and the assignment of observations to each group is the same as the previous iteration.

Table 1: Average Income, Education, and EGP by Latent Objective Class Categories

Latent objective class	Income	Education	EGP
Lower class	1.8	1.0	1.3
Working class	2.2	2.0	1.9
Lower middle class	2.8	3.0	2.5
Upper middle class	3.2	4.1	3.1
Upper class	4.0	5.0	4.5
Total	3.0	3.4	2.9

it nevertheless provides a level of face validity for our measure of objective class.

We also developed two alternative measures of objective class to compare with the primary measure we describe above, which are discussed in more detail in the Appendix. Because they are very closely associated with this measure (0.99 and 0.92 Pearson's correlation) we only present results using this measure.

We also adjust for several other factors that may shape an individuals' subjective class identity. These include a standard measure of party identification (7 point), employment status (working vs. not employed),¹⁴ the age of the respondent, the respondent's sex, indicators for region of the country where the respondent lives (Midwest, Northeast, South, and West), and self-reported race.¹⁵ We are somewhat limited in how we are able to account for race and ethnicity in our analyses. In all of our models we include an indicator for those who identify as Black and an indicator for all other races with White identifiers used as the reference category. However, because the GSS does not consistently ask about ethnicity across all survey years we are not able to control for those who identify as Hispanic in our models. Finally, since we are analyzing multiple years of survey data we use year dummy variables to account for potential heterogeneity over the time period we examine.

¹⁴A cross tabulation between the subjective class measure and employment status can be found in Appendix Table A4.

¹⁵Middle and upper class Blacks are less likely to identify as such (Hunt and Ray 2012, Speer 2016), perhaps out of a sense of shared fate with poorer Blacks (Dawson 2003). There is less research into other racial and ethnic minorities.

To simultaneously examine the influence of objective class and union membership on subjective class identity, and account for other factors associated with subjective class, we use multinomial logistic regression analysis. Although we could also model subjective class as an ordinal variable, analyzing subjective class using multinomial logit methods will allow us to focus on the likelihood of identifying with specific class categories without assuming that the effect of belonging to a union is the same for all subjective class identities. This is important given our interest in how union membership shapes working class identification.¹⁶

We estimate two separate models using the GSS survey data. The first is an additive model that allows us to examine the independent effects of each covariate included in the regression, and the second is a conditional model that includes interaction terms between the categories of objective class and the union membership variable. The latter model provides us with estimates that test whether the relationship between objective and subjective class differs between union members and non-members within a given class group, which is most relevant here. In both models the reference category used for the outcome variable is subjective working class, meaning all of the coefficient estimates are relative to this outcome.

Before examining the multivariate models, we first present the results of a bivariate cross tabulation between subjective class and our measure of objective class. Table 2 demonstrates that those who are categorized in the upper classes on our objective class measure are more likely to identify with the upper classes on the subjective class scales, and vice versa, though this relationship is far from perfect. Not surprisingly, we see a high degree of identification with middle class across all groups, and about one-third of the working class and lower classes view themselves as middle class. We actually observe a higher identification with working class than middle class for all but upper class indi-

¹⁶We recognize that when using multinomial regression it is not always possible to satisfy the independence of irrelevant alternatives (IIA) assumption and that tests for the assumption can be unreliable (Fry and Harris 1998, Cheng and Long 2007). As a robustness check, we also used standard logistic regression to model subjective class as a simple binary outcome measuring whether individuals identify as working class. The results are included in the Appendix and are consistent with our multinomial regression results.

Table 2: Cross Tabulation Between Subjective Class and Objective Class

Subjective class	Objective class				Upper class	Total
	Lower class	Working class	Lower middle class	Upper middle class		
Lower class	15.5	11.6	6.5	4.5	1.1	6.3
Working class	51.2	54.0	55.5	46.9	20.9	45.6
Middle class	31.2	32.2	36.5	46.1	70.1	44.9
Upper class	2.1	2.2	1.4	2.5	7.9	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Entries are column percentages.

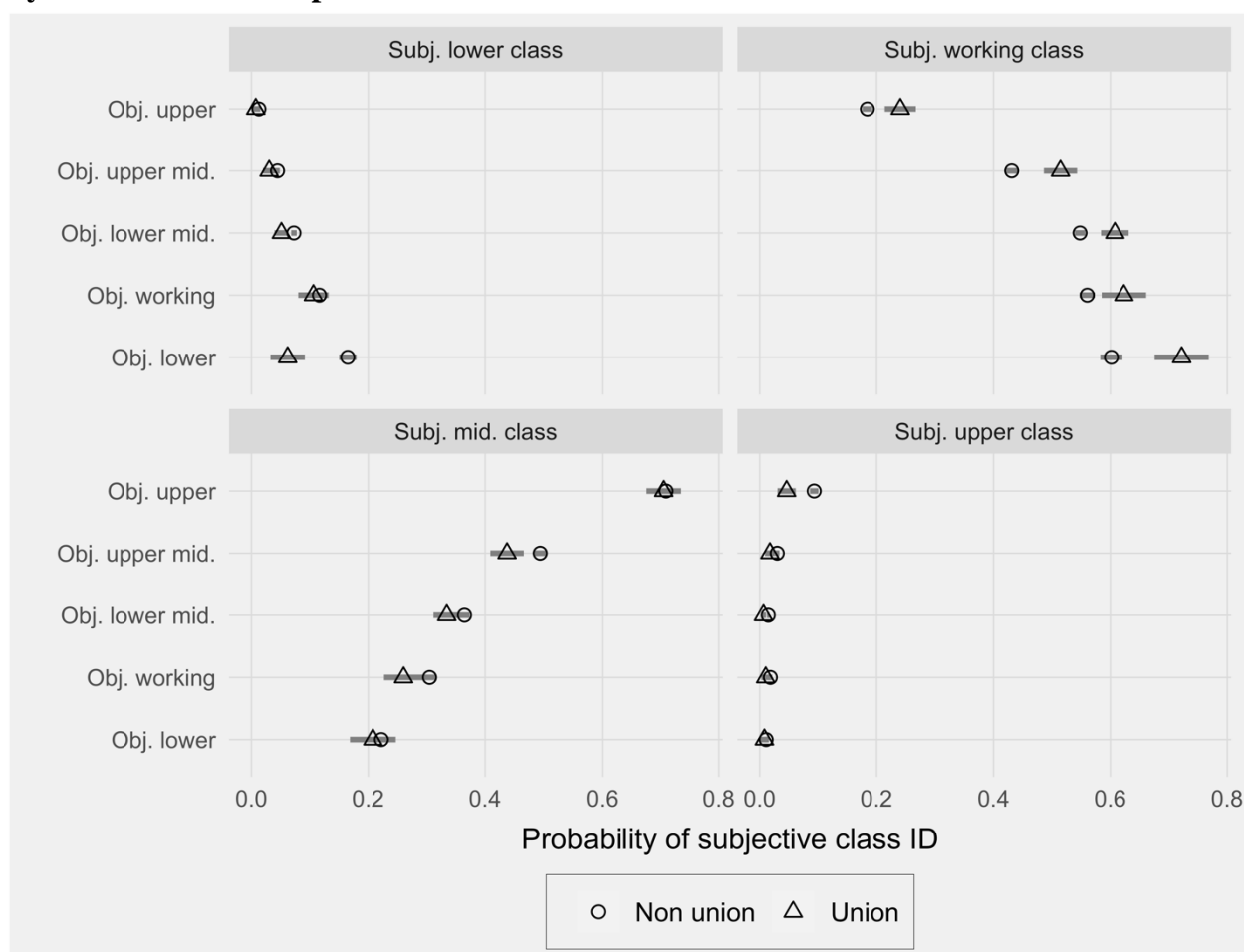
viduals. This may be surprising but confirms prior research finding that just more than half of Americans identify as working class, compared to about three-quarters of British samples (Vanneman and Cannon 1987). Our interest is whether union membership drives some of this subjective identification with the working class.

The full numerical results of our multivariate models are presented in Table A5 in the Appendix. To summarize, after controlling for objective class status, we see that union members are significantly less likely to identify as lower class, middle class or upper class than working class. Even after controlling for objective class, union members have about a 10 point higher probability of identifying as working class when compared with non-members. This can also be seen in Appendix Figure A3, where we present predicted probabilities by objective class group and union status for each of the subjective class categories.

Figure 1, presents the predicted probability of identifying with the different subjective class groups for each objective class group when conditioned by union status. We see that union members in all objective class groups are considerably more likely to identify as working class (top right) and less likely to identify as other class groups, though the latter differences are not always significant. Objectively lower class individuals are much more likely to identify as working class if they belong to a union, and they are also less likely

to identify as middle class. Objectively working class union members are also much more likely to identify as working class and considerably less likely to identify as middle class. Middle class union members are also less likely to identify as middle class and more likely to identify as working class. Even upper class union members are less likely to identify as upper class. Germane to debates about why members of the working class identify with middle and upper class groups, we find that individuals who are objectively working class are also more likely to identify as such if they are in a union.

Figure 1: Conditional Effects of Objective Class on Subjective Class Identification by Union Membership



Note: Bars represent 95% confidence intervals. Estimates are based on the interaction results presented in Table A5.

As we note above, one limitation of multinomial regression is that it is not always possible to satisfy the independence of irrelevant alternatives (IIA) assumption and that

tests for the assumption can be unreliable (Fry and Harris 1998, Cheng and Long 2007). Supplemental analyses show that if we use binary identification with the working class as the outcome variable results are substantively very similar (see Appendix Table A6 and Figure A4).

Union membership cannot be randomized and it is possible that individuals who view themselves as members of the working class would be drawn to jobs or companies that are likely to be unionized. If this is the case then these results do not show that unions cause class identification. This self-selection into unions is fairly unlikely on a larger scale simply because in many states for exogenous reasons (decisions by state governments and economic elites decades ago) there are no unions to speak of. Nevertheless, matched data has been shown to produce less model dependence and less statistical bias when compared with non-matched data (Iacus, King and Porro 2012) and thus we use this approach as a robustness check. We provide additional details on the matching procedure used in the Appendix and present the results of this analysis, which produced substantively similar results, in Appendix Table A7. Below, we also present the results of a panel data analysis that can speak to questions of causality.

Analysis 2: Untangling Causality with Panel Data

Our matching procedure gives us some confidence that the results using GSS data may be causal but a better approach is to examine whether becoming a union member leads individuals to be more likely to identify as working class in the future, or vice versa, or both, using a dynamic analysis. We do so with the Youth-Parent Socialization Panel Study (YSPSP).

The YSPSP began in 1965 with a national sample of high school seniors and reinterviewed participants in three subsequent waves: 1973, 1982, and 1997. Unfortunately, the 1965 survey does not ask students about their class identity or union status. All other waves, however, ask about both subjective class identity and union membership.

Therefore, we can use the study to track respondents at the approximate ages of 26, 35, and 50. This allows us to examine whether belonging to a union at a younger age leads to a higher likelihood of identifying as working class when older, or the opposite. Characteristics like class identity and union membership are unlikely to change over the short-run for most people, but the YSPS is ideal for our purposes in that it allows us to measure these items over a relatively long period of time. Looking at responses from 1973 to 1982, 27% of people changed their working class identity and 21% had a change in union status. Changes from 1982 to 1997, when respondents are further along in adulthood, are not quite as large but still 23% have a different class identity and 18% changed union membership.¹⁷

Our general approach to modeling the panel data is represented by the following equations:

$$workcls_{it} = \alpha + \beta_1 workcls_{it-1} + \beta_2 union_{it-1} + x\beta \quad (2)$$

$$union_{it} = a + \beta_1 union_{it-1} + \beta_2 workcls_{it-1} + x\beta \quad (3)$$

The variable *workcls* is a binary measure of working class identity (the question asks about belonging to the working class or middle class), *union* is a binary indicator of union membership, and *x* represents a series of control variables. The controls include an indicator for whether the respondent is employed, a four-point measure of educational attainment, family income in thousands of 1997 dollars, a seven-point scale of political ideology, an indicator for gender, an indicator for whether the respondent is White or not, and *t* represents the survey year. Note that the measures of gender and race do not vary over time and that we were unable to include occupation as a result of missing data.¹⁸ Also, age is not included as a covariate since we are using data from a cohort study. See the Appendix for a full description of the variables.

We first use straightforward analyses to model the data by examining responses from

¹⁷The percentage of middle class and working class identifiers for each wave can be found in Appendix Table A8.

¹⁸Specifically, information on occupation is missing for 22% of respondents in the 1973 wave.

the 1973 and 1982 waves and then responses from the 1982 and 1997 waves. For these models we use standard logistic regression. We then present models 3 and 4, which include all three waves in a single analysis and are less restrictive in the sense that they expand on equations 2 and 3 by testing for effects at time t and $t - 1$. Model 3 includes all of the variables mentioned above in their original form while model 4 uses mean-centered versions of each variable and includes variables representing the within respondent mean, \bar{x} . The latter analysis allows us to account for the possibility that there are different effects within respondents and between respondents. Using the within person mean-centered variables allows us to isolate the within respondent effects (Hamaker and Muthén 2020) while avoiding some of the potential problems with fixed effects in short panels (Vaisey and Miles 2017). Since the three-wave models include more than one observation per respondent, we expand the logit regressions to include random intercepts at the respondent level.

With the inclusion of lagged dependent variables in our models, we can interpret the estimated coefficients on our independent variables as the effect of each measure at time $t-1$ on changes in the dependent variable at time t (Finkel 1995). The first set of results examine working class identification as the dependent variable and are presented in Table 3.¹⁹ Across all four models the estimated effects demonstrate consistent evidence that belonging to a union leads to an increased likelihood of identifying as working class. The coefficients on union membership in the previous survey wave are all positive and statistically different from zero.

Since the estimated coefficients from our logit regression models can be difficult to interpret in their unaltered form, in Table 4 we provide the predicted probabilities of changing from a non-union member to a union member on changes in working class identity. The four estimates correspond to each model presented in Table 3. Considering the results across all of the models, the effects suggest that a change in union membership leads to an 8.4 point change in the likelihood of identifying as working class on the low

¹⁹The full set of results for Table 3 models 3 and 4 can be found in Appendix Table A9.

Table 3: Panel Data Estimates of the Effect of Union Membership on Subjective Class

	DV: Subj. working class _t			
	Waves 1973-1982 b/se	Waves 1982-1997 b/se	Waves 1973-1982-1997 b/se	Waves 1973-1982-1997 (mean centered) b/se
Subj. working class _{t-1}	1.311*** (0.197)	1.601*** (0.202)	1.429*** (0.149)	1.398*** (0.152)
Union member _{t-1}	0.512* (0.218)	0.662** (0.212)	0.555** (0.189)	0.715* (0.307)
Employed _{t-1}	0.078 (0.236)	0.557* (0.266)	0.222 (0.191)	0.300 (0.284)
Education _{t-1}	-0.910*** (0.134)	-0.715*** (0.104)	-0.179 (0.171)	0.031 (0.242)
Income _{t-1}	-0.009* (0.004)	-0.016*** (0.004)	-0.005+ (0.003)	0.000 (0.004)
Ideology _{t-1}	0.068 (0.091)	-0.063 (0.085)	0.091 (0.074)	-0.114 (0.111)
Female	-0.262 (0.207)	0.400+ (0.206)	0.069 (0.155)	0.018 (0.162)
White	-1.351*** (0.352)	0.094 (0.316)	-0.570* (0.242)	-0.587* (0.244)
Constant	0.718 (0.596)	-0.537 (0.604)	0.462 (0.507)	0.562 (0.582)
<i>N</i>	670	735	1351	1351

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Data: Youth-Parent Socialization Panel Study.

Note: Standard errors in parentheses. The first two columns are results from logit regression models. Columns 3 and 4 are logit regression models with random intercepts at the respondent level and also include variables at time *t* (not shown). All of the covariates from model 4 are mean-centered within respondent and the model includes variables representing the within respondent mean, \bar{x} (not shown).

end of our estimates to a 13.8 point change in probability for the largest effect we find.

Table 4: Estimated Effect of Changing from Non-Union to Union Member on Change in Probability of Identifying as Working Class

	Waves 1973-1982	Waves 1982-1997	Waves 1973-1982-1997	Waves 1973-1982-1997 (mean centered)
Change in predicted prob.	0.086	0.103	0.084	0.138
95% CI	[0.013, 0.160]	[0.037, 0.169]	[0.027, 0.141]	[0.023, 0.253]

Note: Estimates based on results from Table 3.

To this point, the evidence presented from the YSPS data supports our claim that

union membership shapes subjective class identity. It is still possible, however, that this relationship is reciprocal and that class identity also drives people to seek out union jobs. We present the results of analogous models testing this possibility in Table 5. The approach we use is similar to our analysis of working class identity, with the only difference being that the YSPSP is used to model union membership as a function of subjective class identity (rather than the inverse) and several covariates (see equation 3).

Table 5: Panel Data Estimates of the Effect of Subjective Class on Union Membership

	DV: Union member_t			
	Waves 1973-1982 b/se	Waves 1982-1997 b/se	Waves 1973-1982-1997 b/se	Waves 1973-1982-1997 (mean centered) b/se
Union member _{t-1}	2.126*** (0.202)	2.901*** (0.220)	2.627*** (0.170)	2.676*** (0.175)
Subj. working class _{t-1}	0.299 (0.215)	-0.197 (0.249)	-0.008 (0.189)	-0.423 (0.309)
Employed _{t-1}	0.314 (0.251)	0.412 (0.314)	0.360 (0.221)	0.454 (0.318)
Education _{t-1}	-0.118 (0.110)	0.025 (0.102)	-0.228 (0.166)	-0.268 (0.245)
Income _{t-1}	0.000 (0.004)	-0.003 (0.004)	-0.004 (0.003)	-0.006 (0.004)
Ideology _{t-1}	-0.208* (0.089)	-0.125 (0.089)	-0.144 ⁺ (0.078)	-0.352** (0.122)
Female	-0.439* (0.204)	0.298 (0.228)	-0.111 (0.171)	-0.103 (0.179)
White	-0.649* (0.307)	-0.436 (0.334)	-0.365 (0.258)	-0.378 (0.263)
Constant	-0.589 (0.557)	-1.636* (0.653)	-1.219* (0.554)	-1.904** (0.651)
<i>N</i>	762	736	1351	1351

⁺ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Data: Youth-Parent Socialization Panel Study.

Note: Standard errors in parentheses. The first two columns are results from logit regression models. Columns 3 and 4 are logit regression models with random intercepts at the respondent level and also include variables at time *t* (not shown). All of the covariates from model 4 are mean-centered within respondent and the model includes variables representing the within respondent mean, \bar{x} (not shown).

Across all four models, none of the coefficients for subjective class identity presented in Table 5 are statistically different from zero.²⁰ This suggests that there is no relationship

²⁰The full set of results for Table 5 models 3 and 4 can be found in Appendix Table A10.

between class identity in earlier waves of the survey and union membership in later waves. In other words, we find no evidence supporting the claim that people's subjective class identity draws them to unionized jobs. This analysis also suggests that it is unlikely that a third variable simultaneously causing both union membership and class identity is driving the results because if this were the case we would not expect to see any association between prior union membership and current class identity once we control for prior class identity (because the third variable would have already affected class identity at the same time it shapes union membership in the prior round).

In addition to modeling working class identity and union membership as separate equations, we also analyzed equations 2 and 3 simultaneously using a generalized structural equation model. The results from this model, often referred to as a cross-lagged effects model (Finkel 1995), can be found in Appendix Table A11 and are consistent with those we present in the main text.

Another way to nail down causality is by showing the micro-level mechanisms that cause union members to identify more strongly with the working class. Though a full analysis of these mechanisms is beyond the scope and space limitations of this paper, in the online Appendix (see "Testing the Mechanisms") we include an analysis of Comparative National Elections Project Data which shows that union members are both more likely to receive information about politics from their union leaders than members of other types of groups and to discuss politics with their coworkers more than individuals who are not members of unions. We cannot say for certain what percentage of these communications or discussions included explicit mentions of economic cleavages, highlighted worker identity and so forth, but based on other research we can be certain that a decent share of them did (Jacobson 1999, Lipset, Trow and Coleman 1956). And these avenues of communication are consistent with other research examining the mechanisms of union influence over their members (Kim and Margalit 2017, Macdonald 2019). In short, communication patterns from leaders to members, and among members, provide ample opportunity for unions to causally increase identity as a member of the working

class.

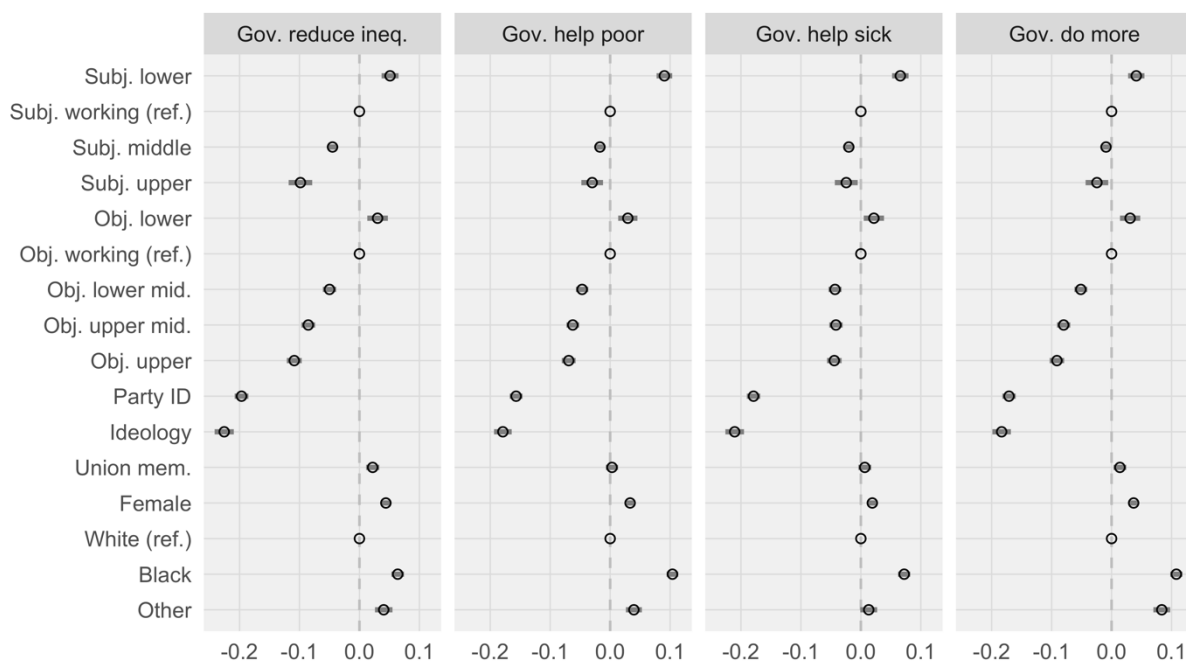
Analysis 3: Subjective Class and Policy Attitudes

So far we have shown that union membership is associated with working class identity and that this relationship is likely to be causal. This is interesting in itself from an organizational politics and identity formation perspective, but on top of this, thinkers since Marx have argued that class identity shapes important political and policy attitudes (DiMaggio 2015). A number of political scientists have argued that lower class Americans – specifically those with lower incomes – are more supportive of redistribution and expansive social welfare policies (Franko and Witko 2018, Gilens 2012, Page, Bartels and Seawright 2013), a result consistent with findings in affluent democracies (Hayes 1995). There is less research into how subjective class identification shapes political and policy attitudes but sociologists have shown that subjective class identity is associated with redistributive policy preferences in at least a few years (McCall and Manza 2011) and that inflation or deflation of one's objective class position in one's subjective identity matters for presidential vote choice (Sosnaud, Brady and Frenk 2013). All of this research suggests that members of the working and lower classes, and those that identify with these classes, have more pro-redistribution and pro-welfare state policy attitudes.

Here, we examine how subjective class identity shapes these policy attitudes while controlling for objective class status using the GSS. The questions we use ask whether the government should: reduce the income differences between the rich and the poor (7-point scale); improve the standard of living of poor Americans (5-point scale); help pay for medical care (5-point scale); and do more to solve the country's problems (5-point scale), which taps into general government interventionism (Hayes 1995). The responses to each question are coded so that higher values represent more support for redistribution and the welfare state and are rescaled to range between 0 and 1. These measures of policy attitudes serve as our dependent variables. Our measures of subjective

and objective class, as well as the control variables, are the same as those used in the earlier GSS models and are discussed above (see Analysis 1). For both subjective and objective class, the variables are included as a series of dummy indicators with “working class” used as the reference category. To aid in the interpretation of the results, we rescale all other control variables to range from 0 to 1.²¹ The models are estimated using OLS regression and include year dummy variables to account for potential heterogeneity over the time period under analysis. To preserve space, we graphically present the estimated coefficients and 95% confidence intervals for select variables in Figure 2 and provide the full set of numeric results in Appendix Table A12.

Figure 2: Effects of Subjective Class on Policy Attitudes



Note: Estimated coefficients with bars representing 95% confidence intervals. Dependent variables are coded so that higher values represent more liberal responses. All variables are rescaled to range between 0 and 1. Estimates are based on the results presented in Appendix Table A12.

For all four models, those identifying as belonging to a higher social class are less likely than those in the working class to support the government’s involvement in efforts like reducing inequality and helping those in need. For instance, we see that identifying

²¹The only exceptions are age and age², which are kept in their original form.

as middle class rather than working class would make someone on average about 5% less likely to support the government reducing income differences between rich and poor. For the other outcome variables the differences are smaller, but still significant.

Interestingly, we also see that lower class identifiers are more supportive of redistribution and the welfare state than working class identifiers, which is important since union membership also appears to make some lower class individuals more likely to identify as working class. The fact that lower class identifiers have more egalitarian policy attitudes than working class identifiers possibly reflects that hard work is an important part of working class identity and the poor are often viewed as lazy in the U.S. (Aarøe and Petersen 2014). Future research should examine this possibility more fully. However, given that unions increase identification with the working class among objective upper and middle class individuals and decrease identification with the middle classes among lower class individuals (as shown above), on balance more Americans being in unions would most likely produce more pro-redistributive policy attitudes in aggregate via greater identification with the working class. And of course stronger unions could shape policy attitudes by other methods, as well.

When looking at the relative size of the estimates, we see that for the question of whether government should reduce the gap between the rich and poor, class identification has about the same effect size as objective class. This effect size on an increasingly salient question about whether the government should take steps to actively reduce inequality is impressive given that our measure of objective class is based on income, education, and occupation. For the other outcome variables the shift from, say, working class to middle class identification is smaller than the objective class shift in the same categories, but is still significant and when multiplied across millions of union members, substantively meaningful. We also see that partisanship and ideology tend to have the largest estimated effects in our models, which is not too surprising. But it should be noted that these effect sizes reflect changing from the most Democratic and liberal to the most Republican and conservative categories. The fact that we are controlling for objective class and numerous

other factors and finding significant effects for subjective class identity is noteworthy. Overall, subjective class identification, which is shaped by union membership, can explain modest but meaningful variation in policy attitudes.

Of course, subjective class identity cannot easily be randomized and we lack good panel data to examine dynamics. Thus, though we control for the “usual suspects” and then some, we cannot be certain these results are causal. As a robustness check, however, we used a matching procedure (discussed in the Appendix) prior to modeling the effect of subjective class on policy attitudes using the GSS, as we did in Analysis 1. The results, which are consistent with those in Table A12, are presented in Appendix Table A13.

Taken together with our findings from the previous sections, these results suggest that unions have important political consequences through the way that they shape subjective class identity. That is, unions foster a working class identity that leads to more left economic policy attitudes, on average.

Conclusion

How individuals form their class identity is an important question with critical implications for how they pursue their economic interests in the political and policy processes. Objective class status does not automatically translate into congruent class identity because identities are malleable and identity formation is a social process. Union leaders want to strengthen identities that will contribute to intergroup solidarity. While contemporary unions in the U.S. are diverse in terms of class, strengthening identity as a worker or member of the working class can increase solidarity within most unions. Unions also create social spaces where such an identity may be reinforced. Thus, we argued that union membership should strengthen a working class identity.

Examining GSS data since the 1970s, and developing a new IRT-based multi-indicator measure of objective class status, we found that members of any objective class group that belong to unions are more likely to identify working class. Thus, for working class

individuals, being a member of a union increases the correspondence between objective and subjective class. For other class groups, being a member of a union can actually decrease the correspondence between objective class status and subjective class identity. The cross-sectional survey results are useful because they cover many decades, but cannot establish causality. We, of course, cannot randomly assign people to unions. However, our analysis of panel data indicated that union membership precedes working class identity, while working class identity does not predict future union membership, suggesting that union membership causes class identity, but not vice versa. A matching analysis provided in the Appendix provides further support for our causal claims.

Next, we showed that subjective class identification matters for policy attitudes beyond variation explained by objective class status and standard controls in theoretically anticipated ways. Specifically, individuals with a working class identification are more likely to support redistribution and welfare state policies that assist the poor and sick than otherwise similar individuals who identify with the middle or upper class. This had been demonstrated in other research by McCall and Manza (2011), but our results confirm these findings with a larger number of survey waves.

While our results are important, they also have some limitations and raise several questions for future research. First, more research should examine how the meaning of working class identity varies across different types of individuals. Because many people identify with the working class who are not objectively working class it is certainly not always the type of class consciousness envisioned by Marx or left-wing union activists. How childhood experiences and current experiences combine to shape subjective class identity in the contemporary U.S. is an important question. Second, given the relatively high levels of identification with the working class (albeit lower than many affluent democracies), many other organizations in addition to unions likely shape class identity. Future research should examine how both economic organizations and non-economic groups (e.g. churches, social movements) shape class identity. As some Republican elites attempt to rebrand their party as a vehicle for the (White) working class, the role of political parties

in the formation of class identification in the U.S. is an especially important area for future research. Third, more research should examine how subjective class identity shapes political and policy attitudes.

Finally, many have considered why Americans seem to often embrace policies that do not benefit them economically. One answer based on our findings is that unions are increasingly weak. More than one-third of the non-agricultural U.S. workforce was unionized in the mid-1950s, and 25% of the workforce was unionized as late as the early 1980s, but now just over 10% of non-agricultural workers are unionized (Darmofal, Kelly, Witko and Young 2019). This decline of unions has likely led to a shift in class identification, and probably policy preferences and voting behavior, in the U.S. and perhaps other countries that have had major declines in union membership. Future research should more directly examine these aggregate implications of our micro-level results.

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Unions, Class Identification and Policy Attitudes

Online Appendix

March 30, 2022

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1 The EGP Social Class Measures

To create measures of occupation-based social class, we rely on Erikson, Goldthorpe, and Portocarero's (1979), or EGP, class categorization to account for class groupings among respondents from the General Social Survey (GSS). Class categories are based on updates to the EGP scheme by Morgan (2017), which uses the more current (i.e., the 2012 American Community Survey) Census occupation titles (539 distinct occupations) to classify individuals into several class groupings. In addition to Morgan's update making the EGP measure more compatible with current Census occupations, it also offers some modest changes to how some occupations are categorized. Most of the changes were made to occupations from the more heterogeneous classes IIIa and V to make the measure more reflective of the U.S. labor market that has emerged over the past few decades. The EGP measure was originally developed at a time when the industrial economy prevailed, so Morgan's work provides a welcome update to the measure. As part of the the project that updates the EGP class measure, Morgan (2017) provides a crosswalk to create the EGP measure for GSS respondents (see <https://osf.io/9nkrw/>), which we use in our research.

For respondents who were not working at the time of the interview, the GSS asks about the work they normally do or work they did at their past occupation. This means that all respondents with a previous employment history have the opportunity to identify their occupation regardless of their work status when they are interviewed.

While our study uses a version of the EGP that consists of five categories, described in Table A1, the updated EGP scheme specifies 10-class, 11-class, and 12-class versions of the measure. We initially created the 10-class version of the EGP measure, and then further reduce the number of class groupings for a couple of reasons. The first is that very few respondents from the survey samples belong to two of the class categories. Very few respondents (0.78%) are classified into class IVc. Also, less than 1% of GSS respondents belong to the military class. Since there is no comparable class to include those in class

Table A1: EGP Social Class Categories and Occupation Descriptions

EGP label	Description	Occupation examples
Upper Class	Higher-grade professionals, administrators, managers, and officials	Chief executives, financial analysts, architects, lawyers, physicians, human resources managers, financial advisors, computer programmers
Upper Middle Class	Higher-grade routine non-manual and service employees	Tax preparers, travel agents, sales representatives, office and administrative support workers
Middle-Class Service	Lower-grade routine non-manual and service employees	Waiters and waitresses, barbers, cashiers, childcare workers, bus drivers
Middle-Class Manual	Higher-grade technicians and repairers, public safety workers, performers, and supervisors of manual workers	Construction managers, dental hygienists, firefighters, police officers
Working Class	Manual workers, lower-grade technicians, installers, and repairers	Carpenters, electricians, home appliance repairers, dishwashers, roofers, metal workers, taxi drivers

Note: Class categories and descriptions are based on Morgan's (2017) social class coding methodological report, which is an update of the original Erikson, Goldthorpe, and Portocarero (1979) social class measure. We combine some original class categories that included relatively few respondents to make our analyses more manageable, which is discussed in the Appendix. See Morgan (2017) for full details on the EGP classification schema.

IVc or members of the armed forces, we drop these categories from the analysis when using the EGP measure.

With the remaining eight categories we then combined several EGP classes into larger class groupings to arrive at our final five categories. The mapping between the 10-class version of the EGP and our five-class version can be found in Table A2. We reduced the number of class categories to five as a way to make sure we had enough respondents in each group for our analyses. We determined which groups would be combined based on the similarities of the occupations included in each group and following the approaches used by previous researchers (Morgan 2017).

Table A2: Mapping between Morgan's (2017) 10-Class Version of the EGP Measure and the Five Category Version

Five category version	Original EGP categories	Descriptions
Upper Class	Class I	Higher-grade professionals, administrators, managers, and officials
Upper Class	Class II	Lower-grade professionals, administrators, managers, and officials
Upper Middle Class	Class IIIa	Routine non-manual and service employees, higher-grade
Middle-Class Service (Not included)	Class IIIb	Routine non-manual and service employees, lower-grade
	Class IVc	Owners and managers of agricultural establishments
Middle-Class Manual	Class V	Higher-grade technicians and repairers, public safety workers, performers, and supervisors of manual workers
Working Class	Class VI	Skilled manual workers, lower-grade technicians, installers, and repairers
Working Class	Class VIIa	Semiskilled and unskilled manual workers, not in agriculture
Working Class	Class VIIb	Agricultural workers and their first-line supervisors, and other workers in primary production
(Not included)	Military	All members of the armed forces

Figure A1: Distribution of Income and Education by EGP Social Class Categories



Note: Occupation-based class categories are derived from the EGP class categorizations found in Morgan (2017). See the text for measure details. Distributions (weighted) are based on GSS respondents from 2006 to 2016 survey years.

We can see in Figure A1 that the occupation-based measure of class is not simply measuring income and education in another way. There are people from a variety of income and education groups in every class category, suggesting that our occupation-based class measure accounts for an aspect of social class not captured by the more common income and education indicators.¹

¹We chose this set of surveys to give a contemporary look at these relationships. Surveys are pooled going back to 2006 so that each class category has a reasonable number of respondents to examine. Changing the time period of observation does not change the general conclusion that the class groupings are not simply proxies for income or education.

2 IRT Results and Alternative Measures of Class

Table A3: Results for IRT Graded Response Model of Latent Objective Class

	(1)	
	b	se
<hr/>		
Income		
Discrim	0.947***	(0.011)
<hr/>		
Cut 1	-1.606***	(0.012)
Cut 2	-0.475***	(0.010)
Cut 3	0.483***	(0.010)
Cut 4	1.643***	(0.013)
<hr/>		
Education		
Discrim	4.050***	(0.127)
<hr/>		
Cut 1	-5.922***	(0.160)
Cut 2	-3.346***	(0.093)
Cut 3	0.244***	(0.022)
Cut 4	3.159***	(0.084)
<hr/>		
EGP		
Discrim	1.620***	(0.021)
<hr/>		
Cut 1	-1.094***	(0.013)
Cut 2	-0.564***	(0.012)
Cut 3	0.494***	(0.012)
Cut 4	1.886***	(0.018)
<hr/>		
<i>N</i>	64824	

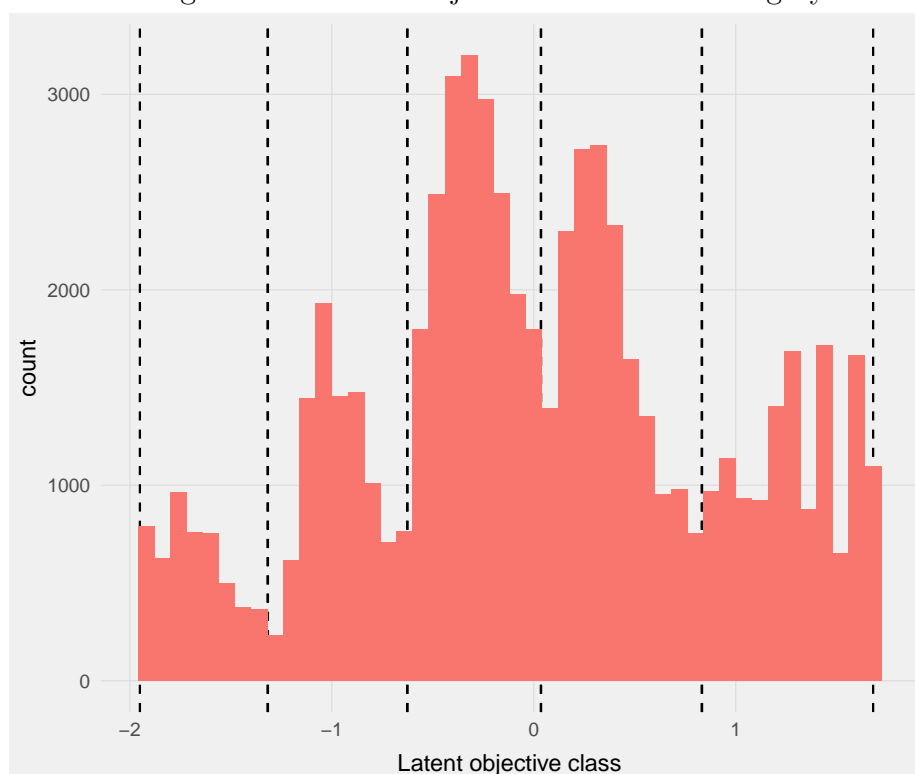
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Model includes survey year indicators, which are not presented in the table.

Figure A2 demonstrates the clustering of the latent class measure and that the cluster analysis appears to provide reasonable cutpoints for categorizing the measure into five class groups.

We also developed two alternative measures of objective class to compare with the primary measure examined in the main paper. For the first alternative measure we estimate the same IRT model used for our primary objective class variable with the exception that survey year indicators are not included. Second, we estimate a straightforward additive measure of objective class, which we create by summing standardized versions of

Figure A2: Histograms of Latent Objective Class with Category Boundaries



Note: Dashed lines are the minimum and maximum values for each grouping estimated by k-means cluster analysis.

our three observed class indicators (i.e., income, education, and occupation) and then dividing the sum by three. All of the objective class measures are closely related. The Pearson's correlation between our primary measure and the alternative IRT measure is 0.99 and the correlation between the primary class measure and the additive measure is 0.92.

3 Supplementary Information for Analysis 1: Unions and Subjective Class Identification

3.1 Working Class Identification and Employment Status

One concern with measuring working class is that it may not mean much beyond being a worker, i.e. employed. While being a worker is no doubt a core part of a working class identity, we can see in the table below that a high percentage of people who are not currently working also consider themselves to be working class. So working class identity is not only measuring whether one is actually a worker.

Table A4: Cross Tabulation Between Subjective Class and Employment Status

	Not working	Working	Total
Lower class	11.0	3.2	6.3
Working class	37.0	51.4	45.6
Middle class	48.2	42.6	44.9
Upper class	3.8	2.8	3.2
Total	100.0	100.0	100.0

Note: Entries are column percentages.

3.2 Full Statistical Results for Analysis 1

Table A5: The Effect of Objective Class and Union Membership on Subjective Class

	Subj. class additive model			Subj. class interaction model		
	(working class is ref. category)			(working class is ref. category)		
	Lower cls. b / se	Middle cls. b / se	Upper cls. b / se	Lower cls. b / se	Middle cls. b / se	Upper cls. b / se
Obj. lower (ref.)						
Obj. working	-0.244*** (0.073)	0.418*** (0.055)	0.618*** (0.169)	-0.306*** (0.076)	0.418*** (0.058)	0.626*** (0.176)
Obj. lower mid.	-0.738*** (0.072)	0.643*** (0.051)	0.422* (0.164)	-0.785*** (0.074)	0.634*** (0.054)	0.441** (0.170)
Obj. upper mid.	-1.007*** (0.081)	1.222*** (0.053)	1.460*** (0.160)	-1.043*** (0.083)	1.226*** (0.056)	1.473*** (0.166)
Obj. upper	-1.429*** (0.124)	2.522*** (0.057)	3.555*** (0.157)	-1.448*** (0.128)	2.524*** (0.060)	3.583*** (0.163)
Union mem.	-0.539*** (0.087)	-0.268*** (0.037)	-0.878*** (0.130)	-1.247*** (0.278)	-0.270+ (0.139)	-0.529 (0.528)
Employed	-1.476*** (0.050)	-0.483*** (0.027)	-0.699*** (0.073)	-1.478*** (0.050)	-0.483*** (0.027)	-0.698*** (0.073)
Female	-0.029 (0.046)	-0.057* (0.023)	-0.221*** (0.061)	-0.029 (0.046)	-0.056* (0.024)	-0.216*** (0.062)
Age	0.024*** (0.007)	-0.031*** (0.004)	-0.007 (0.010)	0.024*** (0.007)	-0.031*** (0.004)	-0.007 (0.010)
Age ²	-0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	-0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
White (ref.)						
Black	0.438*** (0.056)	-0.332*** (0.037)	0.378*** (0.094)	0.437*** (0.056)	-0.331*** (0.037)	0.378*** (0.094)
Other	-0.013 (0.088)	-0.201*** (0.053)	-0.516** (0.172)	-0.017 (0.088)	-0.201*** (0.053)	-0.517** (0.172)
Party ID	-0.048*** (0.012)	0.071*** (0.006)	0.145*** (0.015)	-0.048*** (0.012)	0.071*** (0.006)	0.145*** (0.015)
Northeast (ref.)						
Midwest	0.094 (0.068)	-0.067+ (0.034)	-0.419*** (0.095)	0.094 (0.068)	-0.067* (0.034)	-0.421*** (0.095)
South	-0.120+ (0.064)	-0.105** (0.033)	-0.011 (0.082)	-0.121+ (0.064)	-0.106** (0.033)	-0.011 (0.082)
West	0.253*** (0.072)	-0.073* (0.037)	-0.072 (0.093)	0.254*** (0.072)	-0.073* (0.037)	-0.072 (0.093)
Obj. working × union				1.033** (0.319)	-0.017 (0.172)	-0.190 (0.659)
Obj. lower mid. × union				0.772* (0.308)	0.063 (0.151)	-0.410 (0.630)
Obj. upper mid. × union				0.665+ (0.308)	-0.054 (0.151)	-0.228 (0.630)

				(0.341)	(0.154)	(0.589)
Obj. upper × union				0.425 (0.510)	-0.022 (0.162)	-0.480 (0.563)
Constant	-1.884*** (0.282)	-0.371** (0.130)	-4.302*** (0.374)	-1.835*** (0.282)	-0.370** (0.131)	-4.324*** (0.377)
N	40287			40287		

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Data: General Social Survey.

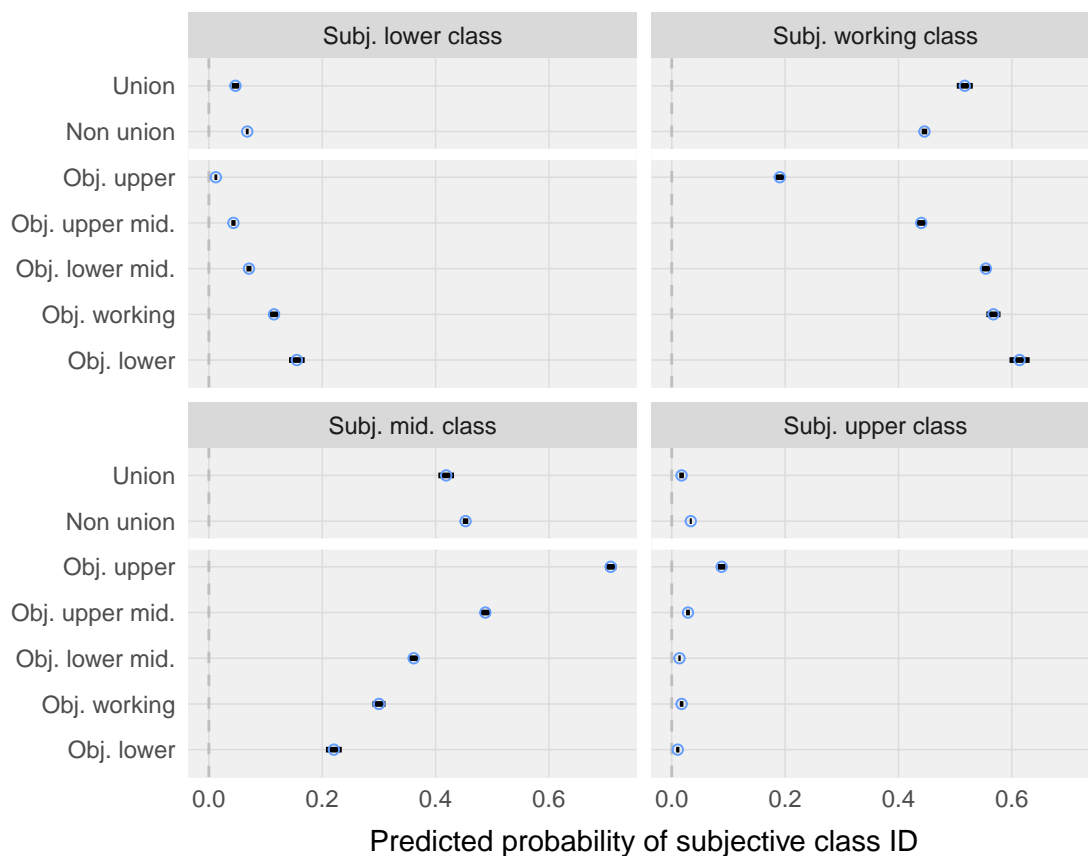
Note: Entries are multinomial logistic coefficients with standard errors in parentheses. Models include survey year indicators, which are not presented in the table.

3.3 Substantive Effects of Objective Class and Union Membership on Subjective Class

Because interpreting the coefficients of multinomial logit models requires many comparisons, we estimate the predicted probabilities of respondents identifying with each subjective class category for our measures of objective class and union membership. The estimates along with 95% confidence intervals are plotted in Figure A3 where all other covariates are set at their observed values.

The estimated effects across objective class groups are as expected. Those in lower classes are more likely to subjectively identify with the lower classes and those who are objectively upper class tend to select into higher class categories. When comparing union members and non-members, the findings suggest that union members are more likely to identify as working class relative to non-union members and less likely to identify with classes other than the working class, though there is little difference for subjective upper class identification.

Figure A3: The Effects of Objective Class and Union Membership on Subjective Class



Note: Bars represent 95% confidence intervals. Estimates are based on the additive results presented in Table A5.

3.4 Additional Results

Table A6: Modeling the Effect of Objective Class and Union Membership on Subjective Class Using a Binary Dependent Variable to Measure Working Class Identity

	Subj. class additive model	Subj. class interaction model
	b / (s.e.)	b / (s.e.)
Obj. lower (ref.)		
Obj. working	-0.276*** (0.048)	-0.254*** (0.051)
Obj. lower mid.	-0.325*** (0.045)	-0.293*** (0.048)
Obj. upper mid.	-0.809*** (0.047)	-0.789*** (0.050)
Obj. upper	-2.089*** (0.052)	-2.069*** (0.054)
Union mem.	0.334*** (0.035)	0.557*** (0.130)
Employed	0.670*** (0.026)	0.670*** (0.026)
Female	0.069** (0.022)	0.069** (0.022)
Age	0.019*** (0.004)	0.019*** (0.004)
Age ²	-0.000*** (0.000)	-0.000*** (0.000)
White (ref.)		
Black	0.125*** (0.033)	0.126*** (0.033)
Other	0.161*** (0.049)	0.162*** (0.049)
Party ID	-0.062*** (0.006)	-0.062*** (0.006)
Northeast (ref.)		
Midwest	0.060 ⁺ (0.033)	0.060 ⁺ (0.033)
South	0.108*** (0.031)	0.108*** (0.031)
West	0.024 (0.035)	0.024 (0.035)
Obj. working × union		-0.222 (0.159)
Obj. lower mid. × union		-0.296* (0.141)
Obj. upper mid. × union		-0.199 (0.145)

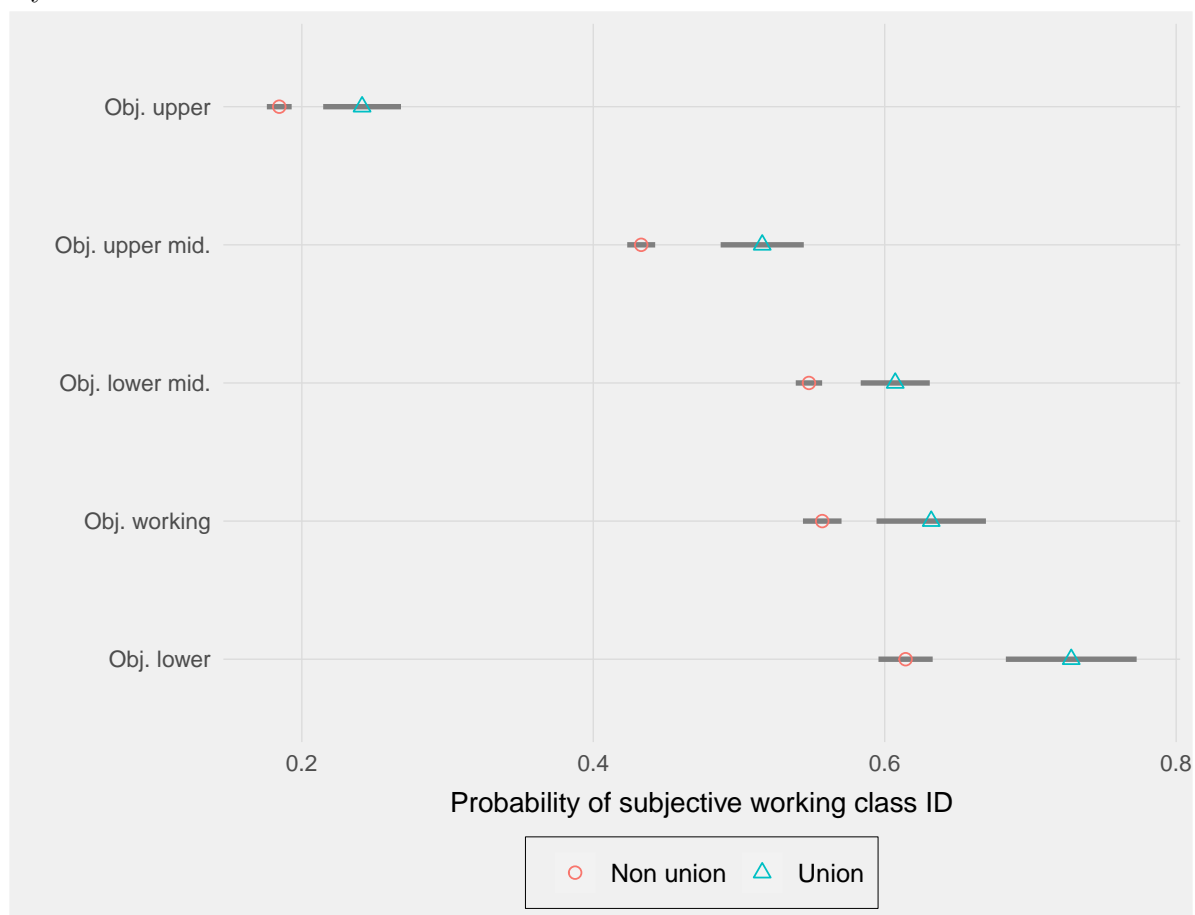
Obj. upper × union		-0.202 (0.154)
Constant	0.028 (0.123)	0.003 (0.124)
<hr/>		
N	40287	40287
<hr/>		

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Data: General Social Survey.

Note: Entries are logistic coefficients with standard errors in parentheses. The dependent variable in both models is a binary outcome where those who identify as working class are compared with all other classes. Models include survey year indicators, which are not presented in the table.

Figure A4: Conditional Effects of Objective Class on Working Class Identification by Union Membership Using a Binary Dependent Variable to Measure Working Class Identity



Note: Bars represent 95% confidence intervals. Estimates are based on the interaction results presented in Table A6.

3.5 Analysis Using Matched Data

Since union membership, our main independent variable in this analysis, cannot be randomized, we also use a matching procedure prior to modeling the effect of unions on subjective class using the GSS. Matched data has been shown to produce less model dependence and less statistical bias when compared with non-matched data (Iacus, King and Porro 2012). We use coarsened exact matching (Blackwell, Iacus, King and Porro 2009) to better balance the data between our treatment (belonging to a union) and control (non-union members) groups. Specifically, we match on education, gender, age, race, region, and survey year. We then use the matched data to replicate the models presented in Table A5 of the main text. The results, which are consistent with those in the main text, are shown in Table A7.

Table A7: The Effect of Objective Class and Union Membership on Subjective Class Using Matched Data

	Subj. class additive model			Subj. class interaction model		
	(working class is ref. category)			(working class is ref. category)		
	Lower cls. b / se	Middle cls. b / se	Upper cls. b / se	Lower cls. b / se	Middle cls. b / se	Upper cls. b / se
Obj. lower (ref.)						
Obj. working	0.304** (0.110)	0.523*** (0.075)	0.969*** (0.293)	0.245* (0.116)	0.554*** (0.082)	1.123*** (0.330)
Obj. lower mid.	-0.401*** (0.111)	0.882*** (0.069)	0.845** (0.282)	-0.446*** (0.116)	0.917*** (0.076)	1.029** (0.318)
Obj. upper mid.	-0.630*** (0.125)	1.517*** (0.074)	1.975*** (0.283)	-0.670*** (0.131)	1.573*** (0.080)	2.164*** (0.318)
Obj. upper	-1.276*** (0.185)	2.785*** (0.079)	4.135*** (0.281)	-1.308*** (0.195)	2.838*** (0.086)	4.357*** (0.316)
Union mem.	-0.525*** (0.091)	-0.242*** (0.038)	-0.771*** (0.137)	-0.983** (0.316)	-0.013 (0.152)	0.385 (0.585)
Female	-0.093 (0.064)	-0.023 (0.032)	-0.106 (0.089)	-0.093 (0.064)	-0.023 (0.032)	-0.105 (0.089)
Age	0.045*** (0.011)	-0.014* (0.006)	0.043* (0.018)	0.045*** (0.011)	-0.014* (0.006)	0.043* (0.018)
Age ²	-0.001*** (0.000)	0.000*** (0.000)	-0.000 (0.000)	-0.001*** (0.000)	0.000*** (0.000)	-0.000 (0.000)
White (ref.)						
Black	0.464*** (0.079)	-0.354*** (0.049)	0.255+ (0.141)	0.464*** (0.079)	-0.353*** (0.049)	0.258+ (0.142)
Other	0.128 (0.127)	-0.120+ (0.068)	-0.698** (0.231)	0.128 (0.127)	-0.122+ (0.068)	-0.708** (0.231)
Party ID	-0.049** (0.017)	0.082*** (0.008)	0.175*** (0.021)	-0.049** (0.017)	0.082*** (0.008)	0.175*** (0.021)
Employed	-1.641*** (0.067)	-0.325*** (0.036)	-0.629*** (0.100)	-1.643*** (0.067)	-0.325*** (0.036)	-0.627*** (0.100)
Northeast (ref.)						
Midwest	0.201* (0.079)	-0.030 (0.038)	-0.238* (0.112)	0.201* (0.079)	-0.030 (0.038)	-0.238* (0.112)
South	-0.188* (0.092)	-0.023 (0.042)	-0.026 (0.117)	-0.190* (0.092)	-0.022 (0.042)	-0.025 (0.117)
West	0.318*** (0.090)	-0.011 (0.043)	-0.017 (0.116)	0.317*** (0.090)	-0.011 (0.043)	-0.016 (0.116)
Obj. working × union				0.598+ (0.361)	-0.169 (0.190)	-0.805 (0.733)
Obj. lower mid. × union				0.495 (0.347)	-0.194 (0.165)	-1.076 (0.683)
Obj. upper mid. × union				0.481 (0.377)	-0.318+ (0.169)	-1.079+ (0.652)

Obj. upper × union				0.437 (0.545)	-0.287 (0.176)	-1.398* (0.619)
Constant	-2.262*** (0.348)	-1.365*** (0.167)	-6.138*** (0.557)	-2.224*** (0.349)	-1.407*** (0.169)	-6.331*** (0.575)
N	24549			24549		

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Data: General Social Survey.

Note: Entries are multinomial logistic coefficients with standard errors in parentheses. Models include survey year indicators, which are not presented in the table.

4 Supplementary Information for Analysis 2: Untangling Causality with Panel Data

Youth-Parent Socialization Panel Study question wording and variable description (ICPSR 4037, <https://doi.org/10.3886/ICPSR04037.v1>)

- Subj. working class (0/1): “There’s quite a bit of talk these days about different social classes. Most people say they belong either to the middle class or the working class. Do you ever think of yourself as being in one of these classes? Which one? If you had to make a choice, would you call yourself middle class or working class?”
- Union (0/1): “Does anyone in this household belong to a labor union?”
- Employed (0/1): “We’d like to know if you are working now, or are you temporarily laid off, unemployed, retired, (a housewife,) (a student,) or what?”
- Education: 0 = no college degree; 1 = associate’s degree; 2 = bachelor’s degree; 3 = graduate degree.
- Income: In thousands of 1997 dollars; based on using the midpoints for each income range and then adjusting the earlier waves to 1997 dollars.
- Ideology: 1 = extremely liberal; 2 = liberal; 3 = slightly liberal; 4 = moderate; 5 = slightly conservative; 6 = conservative; 7 = extremely conservative.
- Female (0/1; no change over time)
- White (0/1; no change over time)

Table A8: Subjective Class Identification by Wave in the Youth-Parent Socialization Panel Study

	Wave 1973	Wave 1982	Wave 1997
Middle class	61.8 (419)	62.7 (425)	63.1 (428)
Working class	38.2 (259)	37.3 (253)	36.9 (250)
Total	100.0 (678)	100.0 (678)	100.0 (678)

Note: Entries are percentages with number of observations in parentheses.

Table A9: Full Set of Results for Panel Data Estimates of the Effect of Union Membership on Subjective Class

	DV: Subj. working class _t			
	Waves 1973-1982-1997		Waves 1973-1982-1997 (mean centered)	
	b	se	b	se
Subj. working class _{t-1}	1.429***	(0.149)	1.398***	(0.152)
Union member _t	0.140	(0.189)	0.255	(0.312)
Union member _{t-1}	0.555**	(0.189)	0.715*	(0.307)
Education _t	-0.557***	(0.151)	-0.295	(0.247)
Education _{t-1}	-0.179	(0.171)	0.031	(0.242)
Income _t	-0.020***	(0.003)	-0.014***	(0.004)
Income _{t-1}	-0.005 ⁺	(0.003)	0.000	(0.004)
Employed _t	0.879***	(0.220)	0.999***	(0.300)
Employed _{t-1}	0.222	(0.191)	0.300	(0.284)
Ideology _t	-0.132 ⁺	(0.072)	-0.339**	(0.117)
Ideology _{t-1}	0.091	(0.074)	-0.114	(0.111)
Female	0.069	(0.155)	0.018	(0.162)
White	-0.570*	(0.242)	-0.587*	(0.244)
Union member _M			0.638**	(0.203)
Education _M			-0.735***	(0.089)
Income _M			-0.030***	(0.004)
Employed _M			1.010**	(0.321)
Ideology _M			0.026	(0.084)
Constant	0.462	(0.507)	0.562	(0.582)
<i>N</i>	1351		1351	

⁺ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Data: Youth-Parent Socialization Panel Study.

Note: Entries are logit regression estimates with random intercepts at the respondent level with standard errors in parentheses. All covariates in model 2 at times t and $t - 1$ are mean-centered and variables with the subscript M represent the within respondent mean.

Table A10: Full Set of Results for Panel Data Estimates of the Effect of Subjective Class on Union Membership

	DV: Union member _t			
	Waves 1973-1982-1997		Waves 1973-1982-1997 (mean centered)	
	b	se	b	se
Union member _{t-1}	2.627***	(0.170)	2.676***	(0.175)
Subj. working class _t	0.090	(0.195)	-0.385	(0.315)
Subj. working class _{t-1}	-0.008	(0.189)	-0.423	(0.309)
Education _t	0.174	(0.151)	0.093	(0.262)
Education _{t-1}	-0.228	(0.166)	-0.268	(0.245)
Income _t	0.002	(0.003)	0.001	(0.004)
Income _{t-1}	-0.004	(0.003)	-0.006	(0.004)
Employed _t	0.231	(0.240)	0.327	(0.335)
Employed _{t-1}	0.360	(0.221)	0.454	(0.318)
Ideology _t	-0.081	(0.076)	-0.329*	(0.128)
Ideology _{t-1}	-0.144 ⁺	(0.078)	-0.352**	(0.122)
Female	-0.111	(0.171)	-0.103	(0.179)
White	-0.365	(0.258)	-0.378	(0.263)
Subj. working class _M			0.312	(0.267)
Education _M			0.010	(0.096)
Income _M			0.001	(0.004)
Employed _M			0.586	(0.371)
Ideology _M			-0.133	(0.090)
Constant	-1.219*	(0.554)	-1.904**	(0.651)
<i>N</i>	1351		1351	

⁺ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Data: Youth-Parent Socialization Panel Study.

Note: Entries are logit regression estimates with random intercepts at the respondent level with standard errors in parentheses. All covariates in model 2 at times t and $t - 1$ are mean-centered and variables with the subscript M represent the within respondent mean.

Table A11: Panel Data Estimates of Cross-Lagged Effects between Union Membership and Subjective Class

	Subj. working class ₁₉₈₂ b/se	Union member ₁₉₈₂ b/se	Subj. working class ₁₉₉₇ b/se	Union member ₁₉₉₇ b/se
Subj. working class ₁₉₇₃	1.311*** (0.197)	0.299 (0.215)		
Union member ₁₉₇₃	0.512* (0.218)	2.126*** (0.202)		
Employed ₁₉₇₃	0.078 (0.236)	0.314 (0.251)		
Education ₁₉₇₃	-0.910*** (0.134)	-0.118 (0.110)		
Income ₁₉₇₃	-0.009* (0.004)	0.000 (0.004)		
Ideology ₁₉₇₃	0.068 (0.091)	-0.208* (0.089)		
Female	-0.262 (0.207)	-0.439* (0.204)		
White	-1.351*** (0.352)	-0.649* (0.307)		
Subj. working class ₁₉₈₂			1.601*** (0.202)	-0.197 (0.249)
Union member ₁₉₈₂			0.662** (0.212)	2.901*** (0.220)
Employed ₁₉₈₂			0.557* (0.266)	0.412 (0.314)
Education ₁₉₈₂			-0.715*** (0.104)	0.025 (0.102)
Income ₁₉₈₂			-0.016*** (0.004)	-0.003 (0.004)
Ideology ₁₉₈₂			-0.063 (0.085)	-0.125 (0.089)
Female			0.400+ (0.206)	0.298 (0.228)
White			0.094 (0.316)	-0.436 (0.334)
Constant	0.718 (0.596)	-0.589 (0.557)	-0.537 (0.604)	-1.636* (0.653)
<i>N</i>	860			

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001
Data: Youth-Parent Socialization Panel Study.

5 Supplementary Information for Analysis 3: Subjective Class and Policy Attitudes

5.1 Full Statistical Results for Analysis 3

Table A12: The Effect of Subjective Class on Policy Attitudes

	Gov. reduce ineq. b/se	Gov. help poor b/se	Gov. help sick b/se	Gov. do more b/se
Subj. lower	0.051*** (0.007)	0.090*** (0.007)	0.066*** (0.007)	0.041*** (0.007)
Subj. working (ref.)				
Subj. middle	-0.045*** (0.004)	-0.017*** (0.004)	-0.020*** (0.004)	-0.009* (0.004)
Subj. upper	-0.098*** (0.010)	-0.030** (0.009)	-0.024* (0.010)	-0.024* (0.010)
Obj. lower	0.030*** (0.009)	0.029*** (0.008)	0.022* (0.009)	0.031*** (0.009)
Obj. working (ref.)				
Obj. lower mid.	-0.050*** (0.006)	-0.047*** (0.005)	-0.043*** (0.006)	-0.051*** (0.006)
Obj. upper mid.	-0.085*** (0.006)	-0.062*** (0.005)	-0.042*** (0.006)	-0.080*** (0.006)
Obj. upper	-0.109*** (0.006)	-0.069*** (0.006)	-0.044*** (0.006)	-0.091*** (0.006)
Union mem.	0.022*** (0.006)	0.003 (0.005)	0.007 (0.005)	0.014* (0.005)
Female	0.044*** (0.003)	0.033*** (0.003)	0.019*** (0.003)	0.037*** (0.003)
Age	-0.003*** (0.001)	-0.000 (0.001)	-0.001 (0.001)	-0.004*** (0.001)
Age ²	0.000** (0.000)	-0.000** (0.000)	-0.000 (0.000)	0.000*** (0.000)
Black	0.064*** (0.005)	0.104*** (0.005)	0.072*** (0.005)	0.108*** (0.005)
Other	0.040*** (0.007)	0.040*** (0.007)	0.013+ (0.007)	0.084*** (0.007)
Party ID	-0.197*** (0.006)	-0.157*** (0.005)	-0.179*** (0.006)	-0.171*** (0.006)
Ideology	-0.226*** (0.008)	-0.179*** (0.008)	-0.210*** (0.008)	-0.183*** (0.008)
Northeast (ref.)				
Midwest	-0.012* (0.005)	-0.028*** (0.005)	-0.047*** (0.005)	-0.037*** (0.005)
South	-0.036*** (0.005)	-0.035*** (0.005)	-0.055*** (0.005)	-0.042*** (0.005)
West	-0.032*** (0.005)	-0.023*** (0.005)	-0.031*** (0.005)	-0.039*** (0.005)
Constant	0.895*** (0.018)	0.791*** (0.015)	0.895*** (0.016)	0.866*** (0.016)
<i>N</i>	30729	29614	29691	29078

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Note: Entries are OLS regression coefficients with standard errors in parentheses. Dependent variables are coded so that higher values represent more liberal responses. All variables are rescaled to range between 0 and 1. Models include survey year indicators, which are not presented in the table.

5.2 Analysis Using Matched Data

Like union membership, subjective class identity cannot be randomized. Therefore we also use a matching procedure prior to modeling the effect of subjective class on policy attitudes using the GSS. Matched data has been shown to produce less model dependence and less statistical bias when compared with non-matched data (Iacus, King and Porro 2012). We use coarsened exact matching (Blackwell et al. 2009) to better balance the data between our treatment and control groups. In this case, to simplify the matching design we limit our analysis so that those identifying as working class are considered to be our treated group and those who identify as middle class are the control group (lower class and upper class identifiers are dropped from this analysis). We match on education, gender, age, race, region, and survey year. We then use the matched data to replicate the models from Table A12 and displayed in Figure 2 of the main text. The results, which are consistent with those discussed in the main text, are shown in Table A13.

Table A13: The Effect of Subjective Class on Policy Attitudes Using Matched Data

	Gov. reduce ineq. b/se	Gov. help poor b/se	Gov. help sick b/se	Gov. do more b/se
Subjective class	0.043*** (0.004)	0.022*** (0.004)	0.026*** (0.004)	0.008* (0.004)
Obj. lower	0.042*** (0.010)	0.030** (0.010)	0.031** (0.010)	0.035*** (0.010)
Obj. working (ref.)				
Obj. lower mid.	-0.058*** (0.006)	-0.050*** (0.006)	-0.044*** (0.006)	-0.057*** (0.006)
Obj. upper mid.	-0.088*** (0.006)	-0.069*** (0.006)	-0.045*** (0.006)	-0.084*** (0.006)
Obj. upper	-0.114*** (0.008)	-0.076*** (0.007)	-0.044*** (0.008)	-0.092*** (0.007)
Union mem.	0.027*** (0.006)	0.002 (0.006)	0.003 (0.006)	0.013* (0.006)
Female	0.044*** (0.004)	0.040*** (0.004)	0.023*** (0.004)	0.038*** (0.004)
Age	-0.002*** (0.001)	-0.001 (0.001)	-0.002** (0.001)	-0.004*** (0.001)
Age ²	0.000+ (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000** (0.000)
Black	0.071*** (0.006)	0.098*** (0.005)	0.081*** (0.006)	0.109*** (0.006)
Other	0.033*** (0.008)	0.049*** (0.008)	0.009 (0.008)	0.078*** (0.008)
Party ID	-0.194*** (0.007)	-0.144*** (0.006)	-0.167*** (0.006)	-0.159*** (0.006)
Ideology	-0.202*** (0.009)	-0.172*** (0.008)	-0.201*** (0.009)	-0.157*** (0.009)
Northeast (ref.)				
Midwest	-0.013* (0.006)	-0.024*** (0.006)	-0.045*** (0.006)	-0.029*** (0.006)
South	-0.041*** (0.006)	-0.026*** (0.005)	-0.053*** (0.006)	-0.033*** (0.005)
West	-0.039*** (0.006)	-0.024*** (0.006)	-0.035*** (0.006)	-0.036*** (0.006)
Constant	0.839*** (0.020)	0.769*** (0.017)	0.878*** (0.018)	0.839*** (0.018)
<i>N</i>	25291	24286	24394	23847

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Note: Entries are OLS regression coefficients with standard errors in parentheses. Dependent variables are coded so that higher values represent more liberal responses. All variables are rescaled to range between 0 and 1. Models include survey year indicators, which are not presented in the table.

6 Testing the Mechanisms

We argue that unions likely shape class identification directly through the information that leaders provide to members and indirectly via workplace discussions. Our goal in this section is to assess whether union members receive more political information from leaders than members of other types of organizations, and whether union members discuss matters that are relevant for social class at work more than other types of workers. While we are not aware of any survey that asks individuals explicitly about how much class-based information they obtain from group leaders or these types of discussions with coworkers, we show in the main text that political discussions and communications within unions often focus on identity as “workers.” Therefore, we are able to take advantage of surveys that ask about how people obtain political information and the nature of political discussions in the workplace to provide an indirect test of these mechanisms. Do union members receive more political information from leaders compared to members of other types of organizations? Are union members more likely than others to discuss politics with coworkers? If the answer to both of these questions is yes, this would provide some evidence for the mechanisms we posited.

We examine these questions using two U.S.-based, nationally representative surveys from the Comparative National Elections Project (CNEP) fielded in 2004 and 2012.² The CNEP asks respondents if they are members of any organizations and whether any of the organizations they belong to provided them with information about candidates or campaigns in the recent elections. We use these responses to measure our first dependent variable, which is coded as 1 for those who received political information from an organization and 0 if they did not.³ Our second dependent variable is based on a question asking how often respondents talk about political candidates, parties, or issues with their coworkers. Potential responses include never, rarely, sometimes, and often. These responses are coded so higher values indicate that respondents discuss politics

²CNEP data are available at: <https://u.osu.edu/cnep/surveys/surveys-through-2012/>

³The question wording and list of organizations provided to respondents can be found in Table A14.

Table A14: CNEP Questions Asking about Receiving Political Information from Organizations

2004 CNEP	2012 CNEP
<i>Question:</i> “Of the organizations you have named, which one(s) provided you with information about the recent presidential election campaign or its candidates”	<i>Question:</i> “Did you receive any information about the recent presidential election campaign from any of the organizations you belong to” [If yes] “Which of these types of organizations provided you with this information?”
<i>Organization list:</i> Trade Unions Professional or business associations Religious groups Political parties or groups Educational, artistic or cultural groups Environmental groups Youth, women’s or senior citizens’ social groups Sports clubs Feminist organization Neighborhood associations Parents’ organizations Ethnic associations Farmers’ organizations Veterans’ associations Fraternal and service organizations Other Don’t belong to any organizations	<i>Organization list:</i> Labor Unions Professional or business associations Religious groups Political parties or groups Educational, artistic or cultural groups Environmental groups Youth, women’s or senior citizens’ social groups Sports clubs Feminist organizations Neighborhood associations Parents’ organizations Ethnic associations Farmers’ organizations Veterans’ associations Fraternal and service organizations Charitable organizations Other Don’t belong to any organizations

more frequently at work.

The main independent variable of interest in this analysis is whether the respondent is a union member. Similar to the models we use in other analyses, we also include measures to account for common political and demographic characteristics. One difference is that because party identification is unlikely to be associated with group membership or political discussion, we instead use a measure of partisan strength. This variable is a “folded” version of the seven-point party identification scale where high values indicate strong partisans and low values indicate non-partisans (or independents).

Since our measure indicating whether respondents received political information from an organization is binary we use logistic regression to model the variable and we restrict this analysis only to respondents indicating that they were members of at least one organization so we are making comparisons among organization members only. Ordered logistic regression is used to model the measure of political discussion in the workplace since it consists of four ordered categories. The results of our models are presented in Table A15.

We see that union members are more likely to receive political information from their organization, compared to those who do not belong to unions, and that respondents are more likely to discuss politics with their coworkers when they belong to a union. Both of these results are statistically different from zero at the 0.001 level. In addition to the models we report in the main text, we also modeled our two dependent variables separately for each survey (see Table A16) and considered alternatives to ordered logistic regression when modeling workplace political discussion (see Table A17). All of the results are consistent with those in Table A15. Of course, it would be better to know directly whether union members receive more explicitly class-based information or have more class-focused discussions. But, given that union political information to members typically attempts to reinforce identity as a worker, and that members are instructed to highlight this identity in their own discussions with other workers, this evidence gives us some confidence in the plausibility of the mechanisms we suggest linking union membership to stronger working class identities.

Table A15: The Effect of Union Membership on Receiving Political Information and Discussing Politics at Work

	Received election info. b / (s.e.)	Discuss politics at work b / (s.e.)
Union mem.	2.005*** (0.170)	0.663*** (0.128)
Income	-0.020 (0.047)	0.081** (0.029)
Education	0.237*** (0.068)	0.211*** (0.040)
Partisan strength	0.457*** (0.073)	0.282*** (0.047)
Female	0.069 (0.119)	-0.228** (0.073)
Age	0.022 (0.021)	0.106*** (0.014)
Age ²	-0.000 (0.000)	-0.001*** (0.000)
Non-white (ref.)		
White	0.001 (0.146)	-0.013 (0.086)
South	-0.054 (0.126)	0.054 (0.077)
2004 survey (ref.)		
2012 survey	-0.528*** (0.124)	-1.060*** (0.077)
Constant	-2.737*** (0.556)	
Cut 1		2.015*** (0.334)
Cut 2		3.129*** (0.337)
Cut 3		4.632*** (0.342)
N	1445	2612

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Note: The “Received election info.” model entries are logistic coefficients with standard errors in parentheses. Entries in the “Discuss campaign at work” model are ordered logistic coefficients with standard errors in parentheses.

Table A16: The Effect of Union Membership on Receiving Political Information and Discussing Politics at Work, Separate Models by Survey Year

	Received election info.		Discuss politics at work	
	2004 survey	2012 survey	2004 survey	2012 survey
	b / (s.e.)	b / (s.e.)	b / (s.e.)	b / (s.e.)
Union mem.	2.101*** (0.246)	1.932*** (0.241)	0.499** (0.180)	0.834*** (0.179)
Income	0.015 (0.059)	-0.087 (0.080)	0.085* (0.039)	0.096* (0.044)
Education	0.240** (0.087)	0.252* (0.114)	0.216*** (0.054)	0.179** (0.063)
Partisan strength	0.438*** (0.090)	0.494*** (0.126)	0.345*** (0.063)	0.212** (0.071)
Female	0.144 (0.153)	-0.083 (0.193)	-0.030 (0.100)	-0.463*** (0.110)
Age	0.027 (0.027)	0.016 (0.034)	0.081*** (0.020)	0.137*** (0.020)
Age ²	-0.000 (0.000)	-0.000 (0.000)	-0.001*** (0.000)	-0.002*** (0.000)
Non-white (ref.)				
White	-0.026 (0.180)	0.025 (0.255)	-0.047 (0.116)	0.048 (0.134)
South	-0.077 (0.159)	-0.025 (0.207)	0.083 (0.105)	0.055 (0.117)
Constant	-2.845*** (0.729)	-3.160*** (0.904)		
Cut 1			1.580*** (0.470)	3.625*** (0.501)
Cut 2			2.789*** (0.474)	4.653*** (0.507)
Cut 3			4.367*** (0.482)	6.017*** (0.517)
N	850	595	1335	1277

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Note: The “Received election info.” model entries are logistic coefficients with standard errors in parentheses. Entries in the “Discuss campaign at work” models are ordered logistic coefficients with standard errors in parentheses.

Table A17: The Effect of Union Membership on Discussing Politics at Work, Alternative Models

	OLS model b / (s.e.)	Logit model b / (s.e.)
Union mem.	0.371*** (0.070)	0.730*** (0.152)
Income	0.045** (0.015)	0.065+ (0.034)
Education	0.108*** (0.021)	0.198*** (0.047)
Partisan strength	0.160*** (0.025)	0.312*** (0.054)
Female	-0.118** (0.039)	-0.192* (0.086)
Age	0.047*** (0.007)	0.086*** (0.016)
Age ²	-0.001*** (0.000)	-0.001*** (0.000)
Non-white (ref.)		
White	0.001 (0.046)	0.006 (0.101)
South	0.036 (0.041)	0.020 (0.090)
2004 survey (ref.)		
2012 survey	-0.572*** (0.041)	-1.039*** (0.089)
Constant	-0.071 (0.169)	-2.765*** (0.394)
N	2612	2612

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Note: The “OLS model” entries are OLS regression coefficients with standard errors in parentheses. The dependent variable measures how often respondents talk about candidates, parties, or issues with their coworkers. Potential responses include never, rarely, sometimes, and often, and is equivalent to the dependent variable used in Table A15. Entries in the “Logit model” are logistic coefficients with standard errors in parentheses. The dependent variable in this model is a collapsed version of the four category measure of discussion in the workplace with never and rarely responses coded as 0 and sometimes and often responses coded as 1.

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