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Class Inequality in the U.S.

Social Relations, Technical Divisions, and Class Stratification in the United States: An Empirical Test of the Death and Decomposition of Class Hypotheses

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Recent critiques of class analysis variously argue that aggregate class differences in life conditions and political attitudes have either declined to the point of irrelevance or decomposed into differences based on highly disaggregate occupations. This study empirically evaluates these arguments as they relate specifically to aggregate classes defined in terms of workplace ownership and authority relations, which are conceived to be distinct from both aggregate and disaggregate occupational classes based on the technical division of labor. A number of findings suggest that both the death and decomposition of class perspectives are in need of reconsideration or refinement. First, aggregate classes based on workplace ownership and authority cannot be conveniently disaggregated into smaller occupational classes based on the technical division of labor. Second, aggregate ownership-and-authority class differences in life conditions and political attitudes are statistically significant and substantively large across a wide variety of measures, and these differences are present even within disaggregate occupational classes. Third, aggregate ownership-and-authority class differences in life conditions and political attitudes show no evidence of declining since the 1970s. In fact, the only significant evidence of temporal change suggests a considerable increase in income inequality between positions in the workplace ownership and authority structure. The implications of these findings for class-analytic theory and research are discussed.

Aggregate class analysis is under attack on multiple fronts. On one side, it is flanked by the “death of class” perspective, which contends that aggregate classes are no longer important determinants of life conditions or political attitudes in modern societies (Clark and Lipset 1991; Kingston 2000; Nisbet 1959; Pakulski and Waters 1996). According to this perspective, the link between aggregate class membership and individual outcomes is in rapid decline, owing

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to a variety of technological, cultural, and political changes. At the same time, while aggregate class divisions have withered away, status group divisions based on a wide array of identities, value commitments, and cultural practices are thought to have emerged as the primary determinants of life conditions and political attitudes in contemporary stratification systems.

On another side, aggregate class analysis is flanked by the “decomposition of class” perspective, which also contends that the link between aggregate class membership and individual outcomes has weakened over time, but unlike the death of class perspective, it does not reject the importance of production-based groups altogether (Grusky and Sorensen 1998; Grusky and Weeden 2001; Weeden and Grusky 2005, 2012). Rather, this perspective holds that economic and political differences are now primarily influenced by membership in disaggregate occupational groups. Aggregate classes, which may have been important historically, are thought to have decomposed into small “functional niches” within the technical division of labor that not only better account for variation in individual outcomes but also engender real micro-communities with a significant level of material, cultural, and political homogeneity (Weeden and Grusky 2005, 142).

An important limitation of previous empirical tests of the death and decomposition of class perspectives is that they have focused on aggregate class typologies that are primarily based on occupational distinctions (e.g., Erikson and Goldthorpe 1992; Featherman and Hauser 1978) while largely ignoring aggregate conceptions of class based on workplace ownership and authority relations (e.g., Kalleberg and Griffin 1980; Wright 1985; Wodtke 2015, 2016). Aggregate classes based on workplace ownership and authority relations are conceptually, operationally, and empirically distinct from occupational classes—aggregate or otherwise—based on groups of functionally, technically, or contractually similar jobs within the technical division of labor (Kalleberg and Griffin 1980; Wright 1997; Wodtke 2016). Although the death and decomposition of class perspectives critique both social-relational and occupational approaches to aggregate class analysis, previous empirical tests have focused on aggregate class typologies that privilege occupational divisions or that inaccurately measure workplace ownership and authority relations.

For example, Weeden and Grusky (2005) evaluate the decomposition of class perspective by comparing a highly disaggregate occupational class typology to several different aggregate class typologies that are themselves based primarily on occupational distinctions, and they do not analyze alternative typologies that more directly capture differences in workplace ownership and authority. In these and other prior studies, aggregate classes are constructed simply by collapsing disaggregate occupations into a broader set of categories. Thus, it remains unclear whether economic and political differences between aggregate ownership-and-authority classes, which cannot be conveniently constructed by agglomerating occupations, have decomposed into differences based on occupational micro-classes.

Similarly, several studies that evaluate the death and decomposition of class perspectives attempt to account for workplace ownership relations by integrating

a measure of self-employment into their aggregate class models (e.g., Kingston 2000; Weeden and Grusky 2005), but the self-employed are a highly heterogeneous group composed of both extremely wealthy large proprietors and nominally self-employed contingent workers (Dale 1986; Kalleberg 2011). Failure to distinguish between these groups may have obscured large and persistent differences in life conditions and political attitudes across aggregate ownership-and-authority classes in prior empirical assessments.

Finally, although a large number of studies investigate aggregate class stratification using more accurate measures of workplace ownership and authority, they are based on relatively small samples from single cross-sections of the population (e.g., Halaby and Weakliem 1993; Kalleberg and Griffin 1980; Robinson and Kelley 1979; Wright 1985). The lack of time-series data and the reliance on samples that are not large enough to support disaggregate occupational analyses precludes a rigorous evaluation of theoretical arguments about declining or decomposing aggregate ownership-and-authority class differences over the past several decades.

This study introduces a conceptual distinction between aggregate ownership-and-authority classes based on workplace social relations and occupational classes based on the technical division of labor, and then it investigates differences in quality of life and political attitudes between aggregate classes defined and measured in terms of workplace ownership and authority. Specifically, it first investigates whether aggregate ownership-and-authority class differences in these outcomes remain significant in contemporary society or whether they are now substantively trivial. Second, it investigates whether aggregate ownership-and-authority class differences have declined or otherwise changed in magnitude since the early 1970s, the point at which the death of class perspective posits a transformative shift in patterns of class stratification. Third, this study compares aggregate ownership-and-authority class differences in life conditions and political attitudes with disaggregate occupational class differences, and it investigates whether ownership-and-authority class differences in these outcomes merely reflect underlying occupational differences or whether they cut across the technical division of labor.

Results based on time-series data from the 1972 to 2010 waves of the General Social Survey (GSS) indicate that aggregate ownership-and-authority class differences in life conditions and political attitudes remain statistically significant and substantively large in contemporary society. In addition, these data provide no evidence that aggregate class differences based on workplace ownership and authority are in decline. In fact, the only evidence of a significant temporal change indicates that equivalized household income differences between aggregate ownership-and-authority classes increased substantially from the 1980s onward, consistent with prior research on class differences in personal market income (Wodtke 2016). Results also indicate that aggregate classes defined in terms of workplace ownership and authority cannot be conveniently disaggregated into occupational micro-classes—that is, even within highly disaggregate occupations, individuals vary widely in their level of ownership and control within production. Moreover, substantively large ownership-and-authority class

differences in life conditions and political attitudes are present within disaggregate occupations. Together, these findings suggest that the death and decomposition of class perspectives are in need of reconsideration.

Ownership, Authority, and Social Class

Positions within the system of production can be described from both a technical and a social-relational perspective. A technical description focuses on the division of production into industries, firms, and occupations, while a social-relational description focuses on the distribution of effective control over resources deployed within the production process (Wright 1997). Ownership refers to control over the physical resources, and authority refers to control over the human resources, deployed within production. Aggregate ownership-and-authority classes, therefore, refer to positions within the workplace ownership and authority structure, while occupational classes, whether defined in aggregate or disaggregate terms, refer to positions within the technical division of labor.

Specifically, aggregate ownership-and-authority classes consist of proprietors, who control the physical means of production and the activities of others within the production process; managers, who do not control the physical means of production but do control the activities of others; workers, who lack control over the physical means of production and labor under the direction of proprietors and managers; and finally, independent producers, who control the physical means of production within a self-operated enterprise but do not control the activities of others. Aggregate ownership-and-authority classes can also be subdivided internally based on gradational differences in ownership and authority, and these gradational subdivisions (e.g., between large versus small proprietors) are referred to as class strata. This aggregate typology is closely related to several different approaches to class analysis within the conflict theoretical framework (Dahrendorf 1959; Marx 1971; Proudhon 2011; Wright 1985; Wodtke 2016), and similar typologies have been widely used in prior empirical research (e.g., Halaby and Weakliem 1993; Kalleberg and Griffin 1980; Robinson and Kelley 1979; Wright and Perrone 1977; Wodtke 2015, 2016).

An important feature of this approach to class analysis is that it treats ownership-and-authority classes based on workplace social relations and occupational classes based on the technical division of labor as conceptually, operationally, and empirically distinct forms of stratification. Although ownership and authority relations are in part expressed through the technical division of labor, the distinction between social relations and technical divisions within production is consistent with a number of previous findings from class-analytic research. For example, prior studies show that variation in access to ownership and authority within occupations is common and that measures of aggregate ownership-and-authority class membership have significant partial effects on personal market income in analyses that also control for occupational position (Kalleberg and Griffin 1980; Wright and Perrone 1977; Wodtke 2016). This suggests that aggregate ownership-and-authority class differences in life conditions and political attitudes are unique and separable from occupational differences.

Aggregate ownership-and-authority classes are thought to differ in their quality of life and political orientation for several reasons. First, ownership and authority are directly linked with material rewards through the intersection of supply and demand for different factors of production and through economic rents that emerge from different types of market power (Wright 1985; Wodtke 2016). Second, ownership and authority are also linked to higher quality of life because they confer status and provide greater autonomy and self-determination at work (Karasek 1979). Finally, under certain conditions, aggregate classes based on workplace ownership and authority are thought to possess objectively antagonistic interests that may engender conflicting political attitudes (Wright 1985; Wodtke 2016). Absent a fundamental restructuring of workplace ownership and authority relations, approaches to class analysis within the conflict theoretical framework generally posit that aggregate class differences in life conditions and political attitudes will remain a persistent form of stratification.

The Death of Class Perspective

The death of class perspective, as it relates to aggregate ownership-and-authority classes, contends that aggregate class membership is no longer an important determinant of life conditions and political attitudes in modern societies (Clark and Lipset 1991; Kingston 2000; Nisbet 1959; Pakulski and Waters 1996). More specifically, this perspective holds that the history of capitalist societies can be traced as a succession of three distinct systems of social stratification (Pakulski and Waters 1996). The first, characteristic of the nineteenth and early twentieth centuries, is the conventional class system, in which large proprietors controlled the state and workers engaged in direct action to dislodge them from power. The second, characteristic of the mid-twentieth century, is the organized class system, in which social class conflict was expressed through democratic politics and carefully regulated by a corporatist state. The third, characteristic of the period since the 1970s, is the status-conventional system, in which the predominant forms of social inequality and political conflict are thought to be organized around status groups rather than workplace ownership and authority.

According to the death of class perspective, the transition to the current system in which aggregate ownership-and-authority class divisions have been displaced by status group divisions was driven by a number of interrelated economic, political, and cultural changes. The most important of these changes is the “downward redistribution of property,” which has stymied the reproduction of aggregate class boundaries and attenuated class differences in life conditions (Pakulski and Waters 1993, 672). This “reduction in the saliency of property in structuring...patterns of economic allocation” is purportedly due to technological and regulatory changes that have transformed production from a system based on large, privately held, and competitively insulated businesses into a system in which scale economies are less important, small firms flourish within highly competitive markets, and expanding forms of indirect ownership soften class divisions (Pakulski and Waters 1996, 75). Although income and wealth disparities have actually widened during this period, growth in economic

inequality has not occurred along aggregate class lines because “the emerging and critical form of capital is not physical capital but human capital,” the development of which “is having a decomposing effect on material capital” and its role in structuring life conditions (Pakulski and Waters 1993, 673).

In addition to these economic changes, a series of political transformations are also thought to have undermined aggregate ownership-and-authority class divisions since the 1970s. According to the death of class perspective, the most important political changes during this period were the collapse of corporatist deals between employers, labor unions, and the state; the fragmentation of class-aligned political parties; and the emergence of new partisan alignments based on status group identities and value commitments. For example, as new value commitments based on civil rights have become more prevalent, political parties are thought to have abandoned more traditional class issues like progressive taxation and economic regulation. As a result, “the significance of class as a basis for political identification and behavior and as a force for change has been declining” (Pakulski and Waters 1996, 132).

The death of class perspective also contends that changes in organizational culture have spawned a new corporate environment in which the well-being of workers is considered as important as profitability. According to this perspective, modern corporations “are no longer exclusively committed to profitability and now pay much more attention to quality of working life and employee loyalty” (Pakulski and Waters 1996, 74). Because of the increasing importance of human capital to the viability of firms, large proprietors and high-level managers are thought to have reoriented their enterprises to take greater responsibility for the material and psychosocial welfare of workers. Consequently, this transformation of organizational culture may have narrowed differences in life conditions and further undermined the basis for political antagonism between classes defined in terms of workplace ownership and authority.

As aggregate class divisions have withered away, “non-economic, non-class” differences based on “ethnicity, gender, value-commitment, lifestyle, and consumption” are thought to have become the primary determinants of inequality and political conflict (Pakulski and Waters 1993, 683). In status-conventional systems, stratification is highly fluid, but where significant group-based inequalities and political differences do exist, they are structured around a complex array of status group identities rather than workplace ownership and authority. In sum, the death of class perspective implies that aggregate ownership-and-authority class differences in life conditions and political attitudes have declined since the 1970s, if not to the point of complete irrelevance, then at least to the point of being overshadowed by “non-class” differences.

The Decomposition of Class Perspective

The decomposition of class perspective, as it relates to aggregate ownership-and-authority classes, argues that increasing occupational fractionalization has attenuated the link between aggregate class membership and individual outcomes over time and that these outcomes are now shaped primarily by disaggregate

occupations within the technical division of labor (Grusky and Sorensen 1998; Grusky and Weeden 2001; Weeden and Grusky 2005, 2012). Aggregate class differences in individual outcomes are thought to have been progressively displaced by disaggregate occupational differences because the mechanisms that generate these associations now “operate more directly and decisively at the level of detailed occupations” (Weeden and Grusky 2005, 154).

According to the decomposition of class perspective, occupational differentiation has eroded the commonality of life conditions and interests among aggregate classes defined in terms of workplace ownership and authority while simultaneously facilitating the emergence of real localized communities at the level of disaggregate occupations (Grusky and Sorensen 1998). Aggregate ownership-and-authority class differences in individual outcomes may be linked somewhat tenuously to the forces of supply and demand, to various forms of market closure, and to the pursuit of conflicting interests, but disaggregate occupational differences, by contrast, are firmly linked to these mechanisms and are amplified by “the additional sociological forces of self-selection, differential recruitment, socialization, and interactional closure” (Weeden and Grusky 2005, 142). As a result, “the forces of structuration” are thought to “operate principally at the disaggregate [occupational] level” (Grusky and Weeden 2001, 206–7).

The patterns of selection, socialization, and interactional closure associated with disaggregate occupations may promote the formation of distinctive subcultures with different interests, attitudes, and lifestyle preferences, which undermines the prospects for interest and attitude formation along aggregate class lines (Grusky and Sorensen 1998). In addition, because the forces of supply and demand, as well as different forms of market closure, operate more directly at the level of disaggregate occupations, the rewards of economic activity are thought to vary primarily across positions within the technical division of labor rather than across positions within the workplace ownership and authority structure (Weeden and Grusky 2005). Thus, according to the decomposition of class perspective, the most important “forces of structuration” in modern society work to fractionalize aggregate ownership-and-authority classes and homogenize disaggregate occupational classes.

The extent of occupational fractionalization is thought to have increased substantially since the 1970s (Weeden and Grusky 2005, 2012). Specifically, because of long-term growth in the professional sector of the economy, rapid technological change, and the spread of licensure, registration, and certification, the breadth of occupational divisions has become more pronounced over time. For example, the introduction of computers has spawned a variety of new occupations in the latter half of the twentieth century, such as programmers, network engineers, and systems analysts, which may each have their own distinctive work conditions, subcultures, and political interests. Over time, growing occupational fractionalization is thought to attenuate aggregate class differences based on workplace ownership and authority and to accentuate disaggregate occupational class differences in individual outcomes. In sum, the decomposition of class perspective contends that aggregate ownership-and-authority class differences in life conditions and political attitudes have become less pronounced

over time, and that the more modest differences still present in contemporary society are now overshadowed or explained by disaggregate occupational differences.

Methods

Data

This study uses data from the 1972 to 2010 waves of the GSS (Smith et al. 2011). The GSS is based on a series of nationally representative surveys of non-institutionalized adults that were fielded annually from 1972 to 1994—except in 1979, 1981, and 1992—and biennially thereafter. The cumulative analytic sample consists of 31,752 respondents who were 18 to 65 years old and worked full- or part-time; however, because the GSS uses a split-ballot design, sample sizes vary by outcome and are smaller in some cases.

Measures of Social Class and Occupation

The GSS asks respondents whether they are self-employed or work for someone else. It also asks whether they are responsible for supervising others at work. Together, these items are used to sort respondents into the following ownership-and-authority class categories: proprietors, who are self-employed and supervise others; independent producers, who are self-employed and do not supervise others; managers, who work for someone else and supervise others; and workers, who work for someone else and do not supervise others. In addition, proprietors and managers are further subdivided into higher versus lower strata using a survey item that asks respondents whether any of their subordinates are themselves responsible for supervising others. Specifically, large versus small proprietors and high- versus low-level managers are differentiated according to whether their subordinates also supervise others. This additional subdivision provides an approximate indicator of whether managers are closer to the top or bottom of workplace authority hierarchies and whether proprietors are in control of larger or smaller firms.

Disaggregate occupational classes are measured using the Weeden and Grusky (2005) typology. This typology was designed to capture “unit occupations,” which reflect “institutionalized boundaries as revealed by the distribution of occupational associations, unions, and licensing arrangements, as well as the technical features of the work itself” (Weeden and Grusky 2005, 155–56). To construct this typology, codes from the 1970 Standard Occupational Classification (SOC) system are collapsed into 127 occupational groups.¹ Part A of the online supplement documents the precise coding of each disaggregate occupation based on the 1970 SOC codes. The GSS used the 1970 SOC system from 1972 to 1990, but starting in 1991, it switched to the 1980 SOC system, which is not directly compatible with prior coding schemes. These different classification systems are reconciled by back-coding more recent data into the 1970 SOC scheme. Specifically, each observation from the 1991 to 2010 GSS waves is

first multiplied by the number of 1970 SOC codes that contribute to the 1980 SOC code. Then, weights are assigned to each record in the expanded dataset equal to the proportion of the 1980 SOC code drawn from the constituent 1970 SOC code. In all analyses, observations are appropriately weighted by these proportions, and standard errors are adjusted for the clustering of observations at the respondent level in the expanded dataset.

Measures of Life Conditions and Political Attitudes

The individual outcome variables used in this study are drawn from two different topical domains: quality of life and political attitudes. Within each domain, I focus on GSS items that have consistent coverage, use similar question wording, and provide sufficiently large samples across the entire period under consideration. The quality of life variables that satisfy these conditions are household income, subjective happiness, self-rated health, life satisfaction, and job satisfaction. The political attitude variables that satisfy these conditions are partisan identification, partisan voting, liberal-conservative ideology, and satisfaction with government spending on welfare programs.

The GSS measures household income from all sources using graduated response intervals. Dollar values are imputed based on interval midpoints, and for the last open-ended interval capturing the highest incomes, values are estimated as 1.3 times the interval's lower limit. Nominal incomes are adjusted for price inflation over time using the Consumer Price Index—Research Series, and adjusted values are expressed in 2010 dollars. These values are then rescaled by the square root of household size, which provides a measure of real equivalized household income. All analyses are based on the natural log transformation of this variable.

Subjective happiness is measured on a three-point ordinal scale with response categories for “very happy,” “pretty happy,” or “not too happy.” Self-rated health is measured on a four-point ordinal scale with response categories for “excellent,” “good,” “fair,” or “poor.” Life satisfaction is a three-level ordinal measure that asks respondents whether they find life “exciting,” “routine,” or “dull.” Job satisfaction is measured using a five-point ordinal scale ranging from “very satisfied” to “very dissatisfied.” All of these measures are recoded into binary variables equal to 1 if respondents selected the response category that reflects the highest quality of life, and 0 otherwise. Parallel analyses based on alternative dichotomizations or the full ordinal response scales yield similar results.

The GSS measures partisan identification with a seven-point ordinal scale ranging from “strong Democrat” to “strong Republican.” Similarly, it measures political ideology with a seven-point scale ranging from “extremely liberal” to “extremely conservative.” Satisfaction with welfare spending is based on a survey item that asks whether the government is spending “too little,” “about the right amount,” or “too much” on welfare programs. These measures are also recoded into binary variables equal to 1 if respondents selected a response category associated with political conservatism, and 0 otherwise. As before,

parallel analyses based on alternative dichotomizations or the full ordinal response scales yield similar results.

The measure of partisan voting is based on a series of questions about voting behavior in recent presidential elections. From these questions, I construct a binary variable that indicates whether a respondent voted for a conservative candidate. In most cases, voting for a conservative candidate reflects voting for the Republican presidential nominee, but voting for an alternative candidate with a politically conservative affiliation is also reflected in this coding scheme for elections with notable third-party candidates. Analyses based on other coding schemes, including polytomous indicators of voting behavior as well as alternative methods of handling third-party candidates, yield similar results. Because some GSS respondents are asked about their voting behavior in more than one recent election, these data have a hierarchical structure, where measures of voting behavior in several different elections may be nested within respondents.²

Part B of the online supplement provides the original question text and response categories for the different measures of life conditions and political attitudes employed in this analysis. It also documents the specific recodes described previously.

Measures of Status Group Identification

To assess the substantive significance of aggregate ownership-and-authority class differences in life conditions and political attitudes, I compare them to a set of status group differences that are widely held to be large in contemporary society (e.g., Pakulski 2005). Specifically, the analysis of status group differences in this study focuses on race and gender. To this end, gender is dummy coded, 1 for female and 0 for male, and race is expressed as a series of dummy variables for “white,” “black,” and “other” race respondents.

Analysis

To investigate differences in life conditions and political attitudes between aggregate ownership-and-authority classes, I first estimate a series of generalized linear models for the conditional expectation of each outcome given aggregate class membership. For the single continuous outcome in this analysis, equivalized household income, these models are conventional linear regressions with form

$$E(\ln(Y)|X_c) = \alpha_0 + \sum_{c=1}^C X_c \beta_c,$$

where α_0 is a constant term, X_c is a dummy variable representing membership in ownership-and-authority class c , and the β_c parameters are a set of class-specific coefficients identified under the constraint that one of them is set to zero. For the binary outcomes considered in this analysis, these models are logistic regressions with form

$$E(Y|X_c) = P(Y=1|X_c) = \exp\left(\alpha_0 + \sum_{c=1}^C X_c \beta_c\right) / \left(1 + \exp\left(\alpha_0 + \sum_{c=1}^C X_c \beta_c\right)\right),$$

where α_0 is a constant term, X_c is a dummy variable denoting ownership-and-authority class membership, and the β_c parameters are a set of log odds ratios identified under the constraint that one of them is set to zero.

Second, to compare the magnitude of aggregate ownership-and-authority class differences in life conditions and political attitudes with disaggregate occupational and status group differences, I also estimate a series of models analogous to those described previously, except that they include dummy variables representing disaggregate occupations, or racial and gender categories, instead of aggregate classes based on workplace ownership and authority. To avoid the complications that may arise when comparing coefficients from nonlinear probability models across different specifications or subpopulations (Mood 2010), I estimate and compare conditional probabilities. These estimates, together with conditional means computed from linear models of equivalized household income, are then plotted side by side to assess the relative magnitude of differences in life conditions and political attitudes across aggregate ownership-and-authority classes, disaggregate occupational classes, and status groups.

In addition, I estimate and compare a series of absolute kappa indices, which concisely summarize the magnitude of aggregate ownership-and-authority class, disaggregate occupational class, and status group differences in individual outcomes. The absolute kappa index is the standard deviation of a set of group means or probabilities associated with a specific outcome variable (Manza and Brooks 1999). Similar to the conventional standard deviation statistic, its lower bound is zero and indicates no differences between groups, while larger values reflect larger differences between groups. Specifically, to summarize ownership-and-authority class differences in the continuous measure of income, the absolute kappa index is expressed as $\kappa = \left((1/C) \sum_{c=1}^C (\beta_c - \bar{\beta}_c)^2\right)^{1/2}$, where the β_c are a set of class-specific coefficients from the linear regression model outlined previously and $\bar{\beta}_c$ is the mean of those coefficients. For binary outcomes, the absolute kappa index is expressed as $\kappa = \left((1/C) \sum_{c=1}^C (\pi_c - \bar{\pi}_c)^2\right)^{1/2}$, where the π_c are a set of class-specific probabilities computed from the logistic regression models outlined previously and $\bar{\pi}_c$ is the mean of those probabilities. Similar expressions are used to obtain kappa indices summarizing the magnitude of disaggregate occupational class and status group differences. Inferential statistics for the absolute kappa index are computed using the delta method.³

Third, to investigate trends in aggregate ownership-and-authority class differences over time, I estimate models similar to those outlined previously except that they include dummy variables for each aggregate class and for each decade along with a full set of class-by-decade interaction terms, and then based on these models, I compute decade-specific kappa indices.⁴ Plotting these indices over time provides a descriptive assessment of whether ownership-and-authority

class differences have been declining or otherwise changing since the early 1970s. In addition, I also formally evaluate whether aggregate class differences based on workplace ownership and authority have changed over time by conducting Wald tests of the null hypothesis that the average marginal effects of aggregate class membership are invariant across decades.

Finally, to assess whether aggregate class differences in quality of life and political attitudes have “decomposed” into disaggregate occupational differences, I estimate a series of hybrid models that incorporate both aggregate ownership-and-authority class and disaggregate occupational class effects on individual outcomes. For example, with a continuous outcome like equivalized household income, these models have the form

$$E(\ln(Y)|X_c, W_v) = \alpha_0 + \sum_{c=1}^C X_c \beta_c + \sum_{v=1}^V W_v \theta_v,$$

where α_0 is a constant term, X_c is a dummy variable denoting membership in ownership-and-authority class c , and W_v is a dummy variable denoting membership in disaggregate occupational class v . The β_c parameters capture aggregate ownership-and-authority class differences within disaggregate occupational classes, while the θ_v parameters capture disaggregate occupational class differences within aggregate ownership-and-authority classes. As before, both sets of parameters are identified under the constraint that the coefficient associated with a reference group is set to zero. Analogous models with appropriate modifications to functional form are estimated for the binary outcomes considered in this analysis.

To formally compare models that parameterize both disaggregate occupational class and aggregate ownership-and-authority class differences with alternative models that variously constrain the aggregate and/or disaggregate class differences to be zero, I use Wald tests of average marginal effects together with likelihood-based goodness-of-fit statistics, such as the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). Specifically, the Wald tests evaluate the null hypothesis that the average marginal effects of aggregate ownership-and-authority class membership are all equal to zero, while the AIC and BIC assess the relative quality of different models by comparing their fit to the observed data after incorporating a penalty term for the number of parameters in the model. The preferred model among a set of candidate models is the one that minimizes the AIC or BIC, indicating an optimal balance between goodness of fit and model parsimony. These tests and model comparisons evaluate whether aggregate ownership-and-authority class differences in life conditions and political attitudes are reducible to disaggregate occupational differences or whether aggregate class differences based on workplace ownership and authority persist across positions within the technical division of labor. Similarly, to evaluate whether temporal changes in aggregate ownership-and-authority class differences are due to potentially confounding patterns of occupational stratification, I also estimate and compare trend models that additionally include fixed effects for disaggregate occupations.

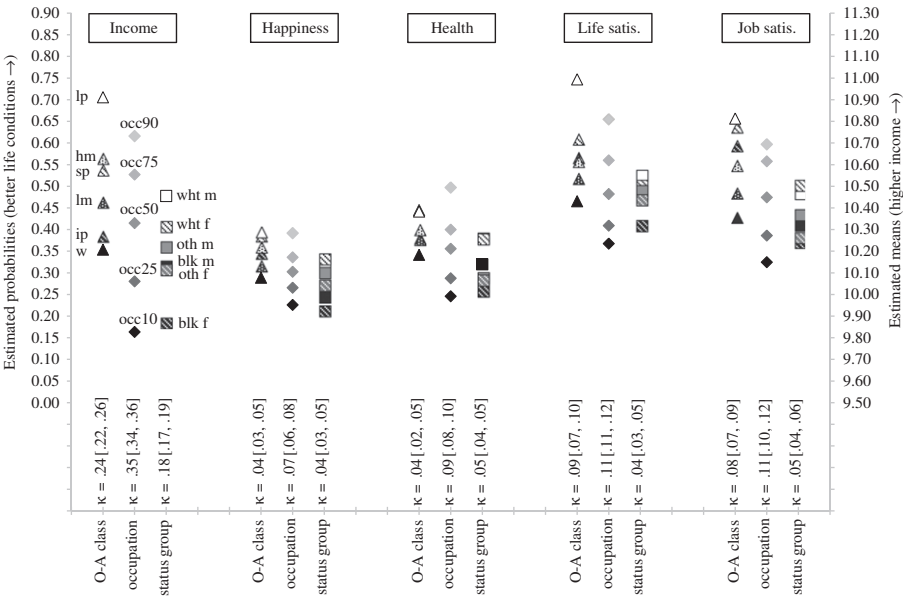
For all variables considered in this analysis, missing values are simulated using multiple imputation by chained equations with 100 replications.⁵ All point estimates are conventionally combined across imputations, and all test statistics are based on combined estimates of the appropriate variance-covariance matrices (Rubin 1987). Goodness-of-fit statistics are calculated by stacking the imputed datasets, fitting a single model to the stacked data with each observation additionally weighted by the inverse of the number of imputations, and then using the weighted pseudo-log-likelihood from this model in computations for the AIC and BIC. Specifically, the AIC is computed as $AIC = -2\left(\sum_i w_i \log f(y_i; \beta, \theta)\right) + 2k$, and the BIC is computed as $BIC = -2\left(\sum_i w_i \log f(y_i; \beta, \theta)\right) + k \ln(n)$, where k is the number of free parameters in the model, n is the size of the estimation sample, w_i is a composite weight scaled so that $\sum_i w_i = n$, and $\sum_i w_i \log f(y_i; \beta, \theta)$ is the weighted pseudo-log-likelihood.⁶ Versions of the AIC and BIC that have been formally validated for use with both complex survey data and multiple imputation are not currently available, and the computations employed here are an approximation based on pseudo-likelihood model selection criteria (Lumley and Scott 2015; Xu, Chen, and Mantel 2013) combined with stacking-and-weighting methods developed for conducting hypothesis tests on multiply imputed data (Wood, White, and Royston 2008). Because the present application of stacking-and-weighting methods is similar to but nevertheless distinct from the application for which it has been formally validated, results from statistical tests should be given priority in this analysis, owing to their more certain epistemic status. A parallel analysis of complete cases based on formally validated versions of the AIC and BIC yields results that are substantively similar.

Results

Aggregate Ownership-and-Authority Class Divisions in Comparative Perspective

Figure 1 displays differences in life conditions between aggregate ownership-and-authority classes, disaggregate occupational classes, and status groups (i.e., racial and gender categories). Specifically, the various markers in this figure represent conditional means or probabilities estimated from a series of generalized linear models of life conditions. Estimated conditional means for equivalized household income are plotted on the right vertical axis, while estimated conditional probabilities for the binary measures of life conditions are plotted on the left vertical axis. For aggregate ownership-and-authority classes and status groups, all point estimates are displayed, but for disaggregate occupational classes, only rank-ordered estimates at the 10th, 25th, 50th, 75th, and 90th percentiles are displayed to ease interpretation of the figure. Pairwise comparisons of estimates within columns represent group differences on either the log income or probability scale. In addition, the spread of estimates within columns roughly indicates the magnitude of between-group differences, while the lower panel of figure

Figure 1. Aggregate ownership-and-authority class, disaggregate occupational class, and status group differences in life conditions



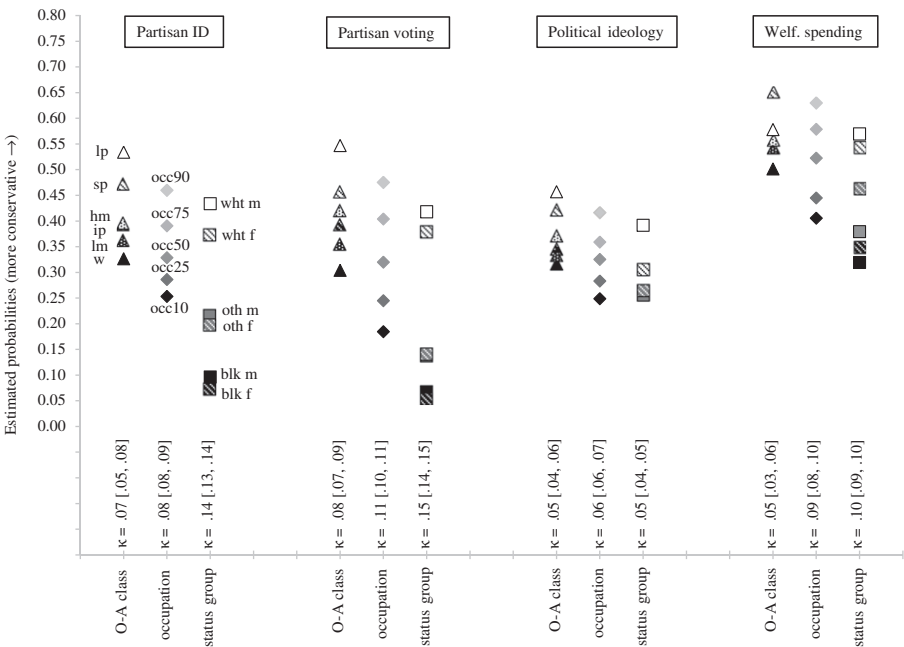
Note: Results are based on 100 multiple imputation datasets; 95 percent confidence intervals for the kappa statistics in brackets are based on the delta method. The estimated means (or probabilities) reported for disaggregate occupations are those at the 10th, 25th, 50th, 75th, and 90th percentiles.

1, which displays point estimates and 95 percent confidence intervals for the absolute kappa indices, precisely summarizes the magnitude of these differences.

Several patterns are evident in figure 1. First, aggregate ownership-and-authority class differences in life conditions are large in substantive terms. For example, the probability of being highly satisfied at work is about 25 percentage points and 15 percentage points greater for large proprietors and for high-level managers, respectively, than for workers. Although it is not explicitly indicated in figure 1, the global null hypothesis of no ownership-and-authority class differences is rejected at the $\alpha = 0.001$ level for every measure of life conditions considered in this analysis. Second, as indicated by both the range of the point estimates and the absolute kappa index, aggregate ownership-and-authority class differences in life conditions, while large in substantive terms, are somewhat less pronounced than disaggregate occupational differences. Third, although aggregate class differences based on workplace ownership and authority are somewhat smaller than disaggregate occupational differences, they are generally comparable to or larger than status group differences in life conditions.

Figure 2 displays differences in political attitudes between aggregate ownership-and-authority classes, disaggregate occupational classes, and status groups. As in figure 1, the markers represent conditional probabilities estimated from a series of logistic regression models, and the lower panel displays absolute kappa indices

Figure 2. Aggregate ownership-and-authority class, disaggregate occupational class, and status group differences in political attitudes



Note: Results are based on 100 multiple imputation datasets; 95 percent confidence intervals for the kappa statistics in brackets are based on the delta method. The estimated probabilities reported for disaggregate occupations are those at the 10th, 25th, 50th, 75th, and 90th percentiles.

summarizing the overall magnitude of aggregate class, disaggregate occupational class, and status group differences in these probabilities. Similar to the analysis of life conditions, aggregate ownership-and-authority class differences in political attitudes are substantively large. For example, the probability of voting for a conservative presidential candidate is about 25 percentage points and 15 percentage points greater for large proprietors and for high-level managers, respectively, than for workers. As before, the global null hypothesis of no ownership-and-authority class differences is rejected at the $\alpha = 0.001$ level for every political attitude considered in this analysis. In addition, results indicate that aggregate ownership-and-authority class differences in political attitudes are generally comparable in magnitude to disaggregate occupational differences but are smaller than status group differences in several noteworthy instances. Specifically, status group differences, and primarily racial differences, far exceed aggregate ownership-and-authority class differences in partisan identification and voting.

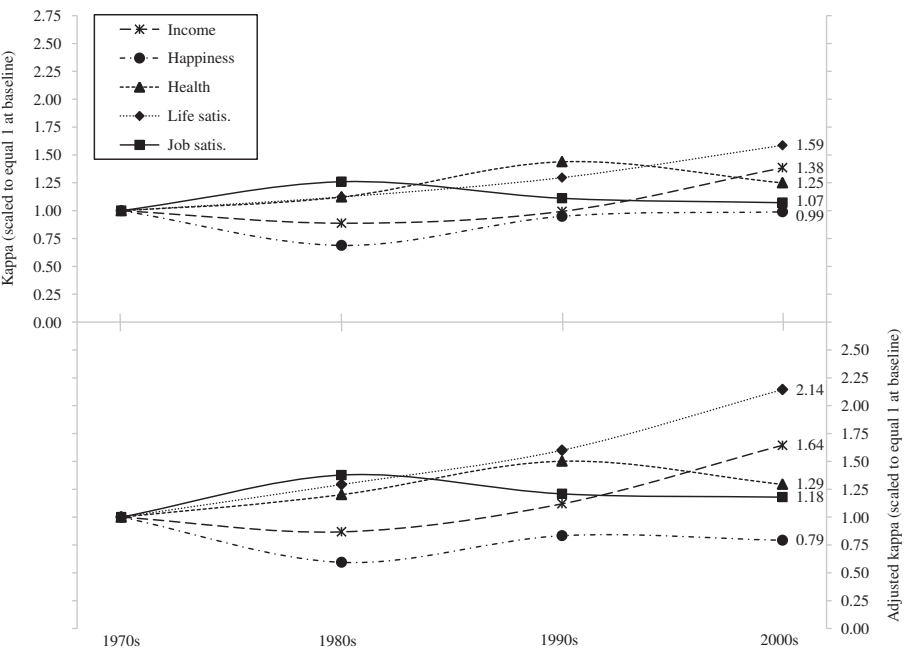
In sum, aggregate class differences based on workplace ownership and authority are statistically significant and substantively large across a wide range of individual outcomes. Moreover, these differences are comparable in magnitude to disaggregate occupational and status group differences in many, but not all, cases.

Aggregate Ownership-and-Authority Class Divisions in Temporal Perspective

Figure 3 displays absolute kappa indices, separately by decade, summarizing the magnitude of aggregate ownership-and-authority class differences in life conditions over time. The upper panel of the figure presents unadjusted kappa indices, while the lower panel presents kappa indices for ownership-and-authority class differences that are based on average adjusted predictions from models with fixed effects for disaggregate occupations (Williams 2012). The adjusted kappa indices help evaluate whether trends in aggregate ownership-and-authority class differences are influenced by potentially confounding patterns of occupational stratification. Both sets of indices are scaled to equal one in the 1970s, and all values thereafter represent proportionate changes since this reference period.

In general, these descriptive results indicate that aggregate ownership-and-authority class differences in life conditions have increased over time, although the changes are somewhat inconsistent or modest in size for several outcomes. According to the point estimates in figure 3, ownership-and-authority class differences in life satisfaction and equivalized household income have increased substantially; differences in health have increased modestly; and differences in subjective happiness and job satisfaction have remained stable.

Figure 3. Trends in aggregate ownership-and-authority class differences in life conditions by decade



Note: Results are based on 100 multiple imputation datasets. The adjusted kappa statistics for aggregate ownership-and-authority class differences are based on average adjusted predictions from models that additionally include occupation fixed effects.

Table 1 presents results from a set of formal hypothesis tests used to evaluate whether aggregate ownership-and-authority class differences in life conditions have changed since the 1970s. Specifically, this table presents Wald tests of the null hypothesis that the average marginal effects of ownership-and-authority class membership are time invariant. These tests are based on models with dummy variables for each ownership-and-authority class and for each decade along with a full set of class-by-decade interaction terms. They are computed both from a set of unadjusted models and from a set of adjusted models that additionally include fixed effects for disaggregate occupations. Overall, the results in table 1 provide little evidence of an appreciable change in aggregate ownership-and-authority class differences since the 1970s. For nearly every measure of life conditions, Wald tests consistently fail to reject the null hypothesis that the average marginal effects of ownership-and-authority class membership are invariant across decades. For the measure of equivalized household income, however, Wald tests suggest that aggregate class differences have changed significantly over time.

To better understand these changes, figure 4 displays trends in log equivalized household income for each aggregate ownership-and-authority class. The upper panel of the figure displays unadjusted conditional means for each aggregate class, while the lower panel displays average adjusted predictions from a model that additionally includes fixed effects for disaggregate occupations. Both the unadjusted and adjusted trend estimates reveal a considerable increase in the magnitude of equivalized household income differences between aggregate ownership-and-authority classes over time. Specifically, these estimates indicate that income differences between aggregate ownership-and-authority classes declined moderately from the 1970s to the 1980s but then increased substantially thereafter, owing to rapid income growth among large proprietors and high-level managers together with slower growth among workers.

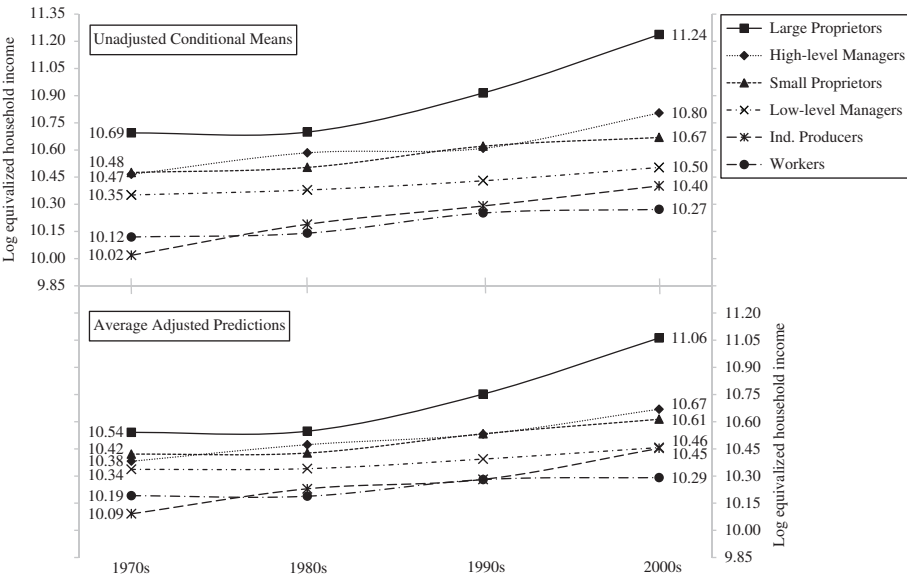
Figure 5 displays absolute kappa indices, separately by decade, summarizing attitudinal differences between aggregate ownership-and-authority classes over

Table 1. Wald Tests from Models of Aggregate Ownership-and-Authority Class Differences in Life Conditions over Time

Outcome	N	Unadjusted models		Occupation fixed effects models	
		χ^2 (df = 15)	P-value	χ^2 (df = 15)	P-value
Household income	31,752	61.60	<0.001	70.39	<0.001
Happiness	29,095	14.19	0.511	13.45	0.568
Self-rated health	23,716	11.82	0.693	9.55	0.847
Life satisfaction	19,125	19.35	0.198	21.93	0.110
Job satisfaction	29,392	18.10	0.258	15.10	0.444

Note: The Wald test evaluates the null hypothesis that the average marginal effects of aggregate ownership-and-authority class membership are invariant across time. Results are based on 100 multiple imputation datasets.

Figure 4. Trends in aggregate ownership-and-authority class differences in equivalized household income by decade

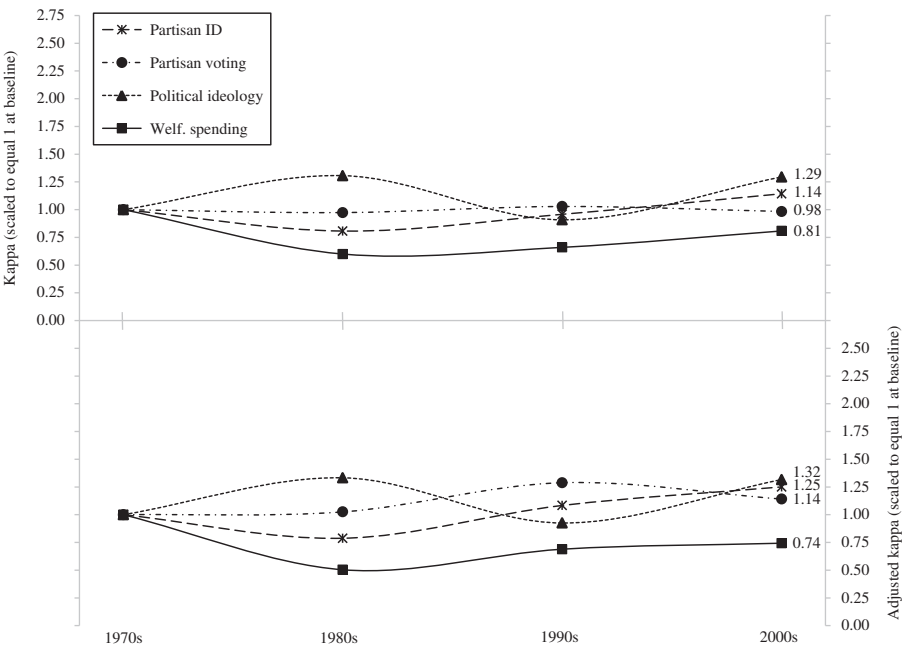


Note: Results are based on 100 multiple imputation datasets. The average adjusted predictions are computed from models that additionally include occupation fixed effects.

time. As in figure 3, the upper panel presents unadjusted kappa indices while the lower panel presents adjusted kappa indices based on average adjusted predictions computed from models with fixed effects for disaggregate occupations, all of which are scaled to equal one in the 1970s so that subsequent values represent proportionate changes since this period. The descriptive results in figure 5 provide little evidence of any consistent changes in political differences between aggregate classes defined in terms of workplace ownership and authority. Despite some modest fluctuations, these estimates suggest that ownership-and-authority class differences in partisan identification, presidential voting, and political ideology remained stable over time.

Table 2 presents hypothesis tests that formally evaluate whether aggregate ownership-and-authority class differences in political attitudes changed over time. Specifically, this table presents Wald tests of the null hypothesis that the average marginal effects of ownership-and-authority class membership are invariant across decades. As before, these tests are based on models with dummy variables for each ownership-and-authority class and for each decade along with a full set of class-by-decade interaction terms, and all tests are computed both from a set of unadjusted models and from a set of adjusted models that additionally include fixed effects for disaggregate occupations. Consistent with the descriptive trends from figure 5, these results provide little evidence of temporal change in political differences between aggregate ownership-and-authority classes. For every political attitude considered in this analysis, the Wald tests

Figure 5. Trends in aggregate ownership-and-authority class differences in political attitudes by decade



Note: Results are based on 100 multiple imputation datasets. The adjusted kappa statistics for aggregate ownership-and-authority class differences are based on average adjusted predictions from models that additionally include occupation fixed effects.

Table 2. Wald Tests from Models of Aggregate Ownership-and-Authority Class Differences in Political Attitudes over Time

Outcome	N	Unadjusted models		Occupation fixed effects models	
		$\chi^2(df = 15)$	P-value	$\chi^2(df = 15)$	P-value
Party identification	31,752	11.51	0.715	8.84	0.886
Partisan voting	46,205	13.84	0.538	11.03	0.750
Political ideology	28,016	11.43	0.721	11.31	0.731
Welfare spending	18,234	10.50	0.787	9.45	0.853

Note: The Wald test evaluates the null hypothesis that the average marginal effects of aggregate ownership-and-authority class membership are invariant across time. Results are based on 100 multiple imputation datasets.

consistently fail to reject the null hypothesis that the average marginal effects of ownership-and-authority class membership are time invariant.

In sum, aggregate ownership-and-authority class differences in life conditions and political attitudes appear to have remained stable since the 1970s. In fact,

the only evidence of an appreciable change during this period indicates that aggregate ownership-and-authority class differences in equivalized household income grew substantially larger, particularly from the 1980s onward.

Aggregate Ownership-and-Authority Class versus Occupational Class Divisions

Table 3 presents a cross-tabulation of ownership-and-authority versus occupational class positions. The upper panel of the table contains a cross-tabulation of aggregate ownership-and-authority class positions with aggregate occupational class positions, while the lower panel contains a cross-tabulation of aggregate ownership-and-authority class positions with the ten largest disaggregate occupational classes in the GSS. These tabulations highlight an important complication for the decomposition of class perspective, at least as it relates to aggregate classes defined in terms of workplace ownership and authority. In particular, they show that aggregate ownership-and-authority classes cannot be conveniently disaggregated into constituent occupations because individuals vary widely in their levels of ownership and authority within both aggregate and disaggregate occupational classes. For example, the lower panel of table 3 indicates that although most engineers are employed workers without any ownership or authority in production, a nontrivial number do in fact control the labor activities of subordinates from atop managerial hierarchies or occupy ownership roles in large enterprises.

Given that aggregate classes based on workplace ownership and authority cannot be conveniently disaggregated into occupational micro-classes, the key test for the decomposition of class perspective in this context is whether ownership-and-authority class differences in life conditions and political attitudes can be explained by disaggregate occupational differences. In other words, are aggregate class differences based on workplace ownership and authority merely a reflection of disaggregate occupational differences, or are significant ownership-and-authority class differences in individual outcomes present even within highly disaggregate occupations?

Table 4 presents hypothesis tests and goodness-of-fit statistics for disaggregate occupational class, aggregate ownership-and-authority class, and hybrid models of life conditions. The hybrid models include effects for both aggregate ownership-and-authority classes and disaggregate occupational classes, and thus they allow for the possibility that class differences based on workplace ownership and authority internally divide occupations. For every measure of life conditions considered in this analysis, models that do not account for aggregate ownership-and-authority class differences are suboptimal, as indicated by both the AIC and BIC statistics and Wald tests of the null hypothesis that the average marginal effects of ownership-and-authority class membership are all equal to zero. Hybrid models that account for aggregate ownership-and-authority class and disaggregate occupational differences in quality of life provide the optimal fit according to the AIC. By contrast, according to the BIC, which more severely penalizes complex specifications, models that account for aggregate ownership-

Table 3. Joint Distribution of Aggregate Ownership-and-Authority Classes versus Aggregate and Selected Disaggregate Occupational Classes

Occupational groups row percent (<i>n</i>)	Aggregate ownership-and-authority classes					
	Workers	Ind. producers	Low-level managers	High-level managers	Small proprietors	Large proprietors
Aggregate occ. classes						
Professionals	0.60 (4232)	0.05 (385)	0.18 (1266)	0.10 (713)	0.04 (264)	0.03 (189)
Clerical occs.	0.68 (3599)	0.03 (166)	0.19 (1028)	0.07 (383)	0.02 (82)	0.01 (42)
Managerial occs.	0.29 (1329)	0.07 (298)	0.29 (1331)	0.21 (964)	0.07 (335)	0.07 (312)
Service occs.	0.66 (2866)	0.07 (323)	0.17 (729)	0.06 (279)	0.02 (97)	0.01 (30)
Craft occs.	0.50 (1852)	0.07 (272)	0.26 (953)	0.10 (352)	0.05 (181)	0.02 (73)
Operatives	0.71 (2442)	0.05 (176)	0.15 (518)	0.06 (213)	0.02 (72)	0.01 (22)
Sales occs.	0.59 (1061)	0.09 (163)	0.16 (295)	0.08 (140)	0.05 (87)	0.03 (51)
Laborers	0.64 (722)	0.07 (83)	0.17 (193)	0.06 (70)	0.03 (36)	0.02 (18)
Agricultural occs.	0.33 (153)	0.28 (129)	0.13 (61)	0.04 (21)	0.16 (73)	0.06 (27)
Sel. disaggregate occs.						
Managers (n.e.c.)	0.25 (656)	0.08 (212)	0.28 (730)	0.20 (524)	0.10 (252)	0.09 (227)
Teachers	0.84 (1162)	0.03 (39)	0.07 (100)	0.04 (52)	0.01 (18)	0.01 (13)
Salespersons	0.62 (850)	0.08 (105)	0.17 (225)	0.07 (102)	0.04 (52)	0.02 (31)
Clerks (n.e.c)	0.70 (669)	0.02 (22)	0.19 (177)	0.07 (69)	0.01 (10)	0.01 (5)
Cleaners	0.67 (462)	0.05 (36)	0.17 (120)	0.07 (49)	0.02 (17)	0.01 (4)
Machine ops. (n.e.c)	0.73 (450)	0.02 (14)	0.16 (101)	0.07 (44)	0.01 (7)	0.00 (2)

(Continued)

Table 3. *continued*

Occupational groups row percent (<i>n</i>)	Aggregate ownership-and-authority classes					
	Workers	Ind. producers	Low-level managers	High-level managers	Small proprietors	Large proprietors
Nurses/hygienists	0.87 (514)	0.02 (11)	0.06 (38)	0.03 (18)	0.01 (7)	0.01 (3)
Accounting clerks	0.62 (351)	0.06 (33)	0.20 (113)	0.08 (43)	0.03 (19)	0.02 (11)
Accountants	0.54 (298)	0.06 (30)	0.22 (121)	0.13 (70)	0.03 (19)	0.02 (10)
Engineers	0.46 (239)	0.04 (22)	0.23 (121)	0.20 (102)	0.04 (19)	0.03 (16)

Note: Results are combined estimates from 100 multiple imputation datasets. Cells contain row percentages and counts in parentheses. Statistics are reported for all disaggregate occupations with at least 500 observations.

Table 4. Goodness-of-Fit Statistics for Aggregate Ownership-and-Authority Class versus Disaggregate Occupational Class Models of Life Conditions

Outcome/statistic	Model A	Model B	Model C	Model D
Model description	intercept-only model	occupation model	own-and-auth class model	B + C
Household income, <i>n</i> = 31,752				
Wald test <i>p</i> -value	N/A	N/A	< 0.001	< 0.001
AIC	76,989	71,297	75,521	70,605
BIC	76,997	72,368	75,571	71,717
Happiness, <i>n</i> = 29095				
Wald test <i>p</i> -value	N/A	N/A	< 0.001	< 0.001
AIC	36,108	35,969	35,983	35,899
BIC	36,116	37,028	36,033	37,000
Self-rated health, <i>n</i> = 23716				
Wald test <i>p</i> -value	N/A	N/A	< 0.001	< 0.001
AIC	31,092	30,725	31,014	30,701
BIC	31,100	31,758	31,062	31,775
Life satisfaction, <i>n</i> = 19,125				
Wald test <i>p</i> -value	N/A	N/A	< 0.001	< 0.001
AIC	26,514	25,987	26,268	25,873
BIC	26,521	26,993	26,315	26,918
Job satisfaction, <i>n</i> = 29,392				
Wald test <i>p</i> -value	N/A	N/A	< 0.001	< 0.001
AIC	40,680	39,772	40,161	39,441
BIC	40,688	40,778	40,209	40,486

Note: The Wald test evaluates the null hypothesis that the average marginal effects of aggregate ownership-and-authority class membership are all equal to zero. Results are based on 100 multiple imputation datasets.

and-authority class differences, but not disaggregate occupational differences, provide the optimal fit for all measures except equivalized household income.

Table 5 presents hypothesis tests and goodness-of-fit statistics for aggregate ownership-and-authority class, disaggregate occupational class, and hybrid models of political attitudes. Similar to the results discussed previously, models of political attitudes that do not account for aggregate class differences based on workplace ownership and authority are uniformly suboptimal: Wald tests of the null hypothesis that there are no average marginal effects of ownership-and-authority class membership are all rejected at stringent significance levels, and both the AIC and BIC statistics consistently favor models that account for ownership-and-authority class differences. Specifically, according to the AIC, hybrid models that jointly account for both aggregate ownership-and-authority

Table 5. Goodness-of-Fit Statistics for Aggregate Ownership-and-Authority Class versus Disaggregate Occupational Class Models of Political Attitudes

Outcome/statistic	Model A	Model B	Model C	Model D
Model description	intercept-only model	occupation model	own-and-auth class model	B + C
Party identification, <i>n</i> = 31,752				
Wald test <i>p</i> -value	N/A	N/A	<0.001	<0.001
AIC	41,334	40,690	41,069	40,580
BIC	41,343	41,761	41,119	41,693
Partisan voting, <i>n</i> = 46,205				
Wald test <i>p</i> -value	N/A	N/A	<0.001	<0.001
AIC	59,448	57,548	58,824	57,262
BIC	59,456	58,667	58,876	58,424
Political ideology, <i>n</i> = 28,016				
Wald test <i>p</i> -value	N/A	N/A	<0.001	<0.001
AIC	35,750	35,568	35,640	35,517
BIC	35,758	36,623	35,690	36,613
Welfare spending, <i>n</i> = 18,234				
Wald test <i>p</i> -value	N/A	N/A	<0.001	<0.001
AIC	25,233	25,067	25,156	25,022
BIC	25,241	26,067	25,203	26,061

Note: The Wald test evaluates the null hypothesis that the average marginal effects of aggregate ownership-and-authority class membership are all equal to zero. Results are based on 100 multiple imputation datasets.

class and disaggregate occupational differences provide the optimal fit. According to the BIC, models that account for aggregate ownership-and-authority class differences, but not for disaggregate occupational differences, are preferred in most cases.

In previous studies of occupational stratification (e.g., Featherman and Hauser 1978; Weeden and Grusky 2005), researchers often incorporate a measure of self-employment into their occupational class models in an effort to at least partially account for aggregate ownership-and-authority class effects. The adjustment typically involves including an additional parameter that allows for differences between the employed and self-employed. Part C of the online supplement compares models of this type to aggregate class models that fully parameterize differences between positions in the workplace ownership and authority structure. Hypothesis tests and goodness-of-fit statistics from this ancillary analysis overwhelmingly favor models that permit differences across the entirety of the workplace ownership and authority structure rather than models that merely permit differences based on self-employment status. Thus, the complications that aggregate ownership-and-authority class models pose for

the decomposition of class perspective cannot be overcome via the common adjustment for self-employment status in disaggregate occupational models.

Similarly, part C of the online supplement also compares models based on aggregate ownership-and-authority classes with models based on the Erikson-Goldthorpe-Portocarero (EGP) class typology. Although the EGP typology is conceptually defined in terms of “employment relations,” “asset specificity,” and “monitoring difficulty,” it is measured almost exclusively in terms of broad occupational and self-employment categories (Erikson and Goldthorpe 1992). Thus, in practice, this typology is only tangentially related to workplace ownership and authority, and it is essentially equivalent to an aggregate occupational class typology that additionally permits differences between the employed and self-employed. As expected, then, hypothesis tests and goodness-of-fit statistics reported in part C of the online supplement demonstrate that the EGP typology does not adequately capture aggregate class differences based on workplace ownership and authority, indicating that these approaches to class analysis are conceptually, operationally, and empirically distinct.

In sum, there is little evidence that aggregate ownership-and-authority class differences in life conditions and political attitudes have decomposed into disaggregate occupational differences. Results indicate that contemporary patterns of social stratification cannot be sufficiently summarized by disaggregate occupational models—or by any class model defined or measured primarily in terms of occupational distinctions, whether disaggregate or not—because they do not capture substantively large class differences based on workplace ownership and authority relations that cut across the technical division of labor.

Discussion

Recent critiques of class analysis argue that aggregate class differences in life conditions and political attitudes have either declined to the point of irrelevance or decomposed into differences that map more closely onto disaggregate occupations. This study introduces a distinction between aggregate classes based on workplace ownership and authority relations and occupational classes based on the technical division of labor, and it provides an empirical test of the death and decomposition of class perspectives as they relate specifically to aggregate ownership-and-authority classes. Results indicate that both perspectives are difficult to reconcile with time-series data from the United States. Contrary to predictions derived from these perspectives, statistically significant and substantively large ownership-and-authority class differences in quality of life and political attitudes persist in modern American society and show no signs of weakening over the past four decades. Moreover, these differences persist across highly disaggregate occupations, indicating that contemporary patterns of social stratification cannot be reduced to occupational divisions even when they are conceptualized and measured at a highly granular level.

For example, the death of class perspective contends that “having a stake in the system by owning a business does not significantly foster...a conservative political orientation” (Kingston 2000, 115). Data from the GSS, however,

indicate that large proprietors are in fact much more likely than workers to identify with a conservative political party, vote for a conservative presidential candidate, and report a conservative political ideology. Similarly, this perspective also contends that “while income inequalities have started widening in recent years... this widening is *not* along class lines [emphasis in original]” (Pakulski and Waters 1993, 671–72). The GSS, however, indicates that equivalized household income differences between aggregate ownership-and-authority classes have indeed widened substantially over recent decades. In general, the broad claim that aggregate class analysis has become “nearly valueless” (Nisbet 1959, 11) for understanding contemporary patterns of social stratification is highly inconsistent with the results presented in this study.

Findings from this analysis are also difficult to reconcile with the decomposition of class perspective, at least as it relates to aggregate classes defined in terms of workplace ownership and authority. For example, this perspective claims that its favored disaggregate occupational class typology “incorporates all the big-class structure found in conventional maps,” which can “easily be decomposed into components generated within and between big classes” (Weeden and Grusky 2005, 192). Data from the GSS, however, demonstrate that disaggregate occupational models do not incorporate all of the structure found in the aggregate class map employed for this analysis precisely because differences in life conditions and political attitudes based on workplace ownership and authority cannot be conveniently decomposed into occupational differences. Analyses that focus exclusively on the technical division of labor therefore obscure “big-class structure” based on workplace ownership and authority relations.

These conclusions notwithstanding, results also demonstrate that aggregate ownership-and-authority class differences in individual outcomes are often less pronounced than those based on disaggregate occupational classes and that there is occupational variation within these aggregate classes. In other words, although aggregate class differences based on workplace ownership and authority remain important in contemporary society, data from the GSS also provide support for arguments about the occupational fractionalization of production. These seemingly contradictory patterns demonstrate that occupational fractionalization need not imply the death or decomposition of aggregate classes based on workplace ownership and authority. In general, there is no justification for ignoring persistent divisions between aggregate ownership-and-authority classes simply because they are not internally homogeneous groups or because other non-class divisions are also important determinants of individual outcomes. Within-group heterogeneity is endemic to all aspects of social life, but this does not justify a disregard of enduring between-group differences.

The present study makes several specific contributions to class-analytic theory and research. In particular, it provides an assessment of the death and decomposition of class perspectives that directly addresses a number of conceptual and methodological criticisms leveled at prior research. First, previous attempts at empirically evaluating these perspectives have been criticized for expanding the number of class categories to accommodate emergent non-class dimensions of social stratification, such as education and other skills (Pakulski and Waters

1993). As a result, “the more successful the adjustments...the less distinguishable the adjusted class schemes become from their main competitors, especially status attainment models and human capital theory” (Pakulski and Waters 1993, 684). The approach to class analysis adopted in this study avoids these complications by defining aggregate classes exclusively in terms of workplace ownership and authority relations and by treating other factors, such as human capital, social status, and occupations, as distinct forms of stratification.

Second, previous evaluations of the death of class perspective have been criticized for ignoring the *relative* importance of “class determinations of inequalities vis-à-vis other non-class determinations,” particularly those based on status groups (Pakulski 2005, 155). To overcome this limitation, I directly compared ownership-and-authority class differences in life conditions and political attitudes to racial and gender differences in these outcomes. Results from these comparisons suggest that aggregate class inequalities are generally comparable to racial and gender inequalities. Although racial and gender differences surely do not capture the full array of status-based inequalities highlighted by the death of class perspective, these comparative analyses suggest that ownership-and-authority class divisions are similar in magnitude to at least one set of status group divisions that are widely held to be large in contemporary society.

Finally, previous studies have been criticized for employing aggregate class typologies whose constituent categories represent little more than “academic constructs that are relatively peripheral to contemporary social systems” (Grusky and Sorensen 1998, 1201). According to this argument, increasingly elaborate class categories like “semi-credentialed supervisors” (Wright 1985) or “routine non-manual employees” (Erikson and Goldthorpe 1992) are not institutionalized within the system of production and exchange, which limits their influence on individual attitudes and behavior. The aggregate class typology used in this study, however, reflects widely recognized categories, such as “owner,” “manager,” and “employee,” that are deeply embedded in economic and government institutions.

Although this study avoids some of the pitfalls associated with prior research, it is not without limitations. In particular, it relies on imperfect measures of ownership and authority. For example, information on self-employment combined with data on supervisory responsibilities may not accurately classify wealthy rentiers who live primarily on passive income. If this measurement approach systematically omits rentiers, the magnitude of ownership-and-authority class differences is likely understated in the preceding analyses. Wealth data collected in the 2006 wave of the GSS, however, suggests that the operational definition of large proprietors employed in this study does in fact capture many high-net-worth individuals. For example, mean wealth among large proprietors identified with measures of self-employment status and supervisory responsibilities is about \$1.4 million, while the corresponding figure among workers is about \$210,000. Although these statistics must be interpreted cautiously owing to the small sample sizes involved in their calculation, they suggest that the operationalization of ownership-and-authority classes employed in this analysis possesses a high degree of criterion validity.

In addition, this study focuses only on class differences in life conditions and political attitudes. It does not examine differences in several other outcomes that are central to death and decomposition of class arguments, such as class identification, class mobility, and cultural consumption. Unfortunately, the GSS lacks a compelling measure of class identification. It also lacks measures that would permit an assessment of trends in ownership-and-authority class mobility as well as measures of cultural consumption from samples large enough to support the type of analysis executed in this study. To provide a more comprehensive assessment of the death and decomposition of class perspectives, future research should investigate patterns of class identification, class mobility, and cultural consumption using alternative data sources.

Finally, results from unsaturated logistic regression models that include fixed effects for disaggregate occupations are premised on several strong assumptions about correct model specification, including assumptions that both the variance and distributional form of any unobserved heterogeneity in life conditions or political attitudes have remained invariant over time. If these assumptions are violated, then inferences about aggregate ownership-and-authority class differences, net of disaggregate occupational differences, may be biased. To address this limitation, I focused on average marginal effects and average adjusted predictions, which tend to be more robust to these types of misspecification than other effect measures (Mood 2010). In addition, I conducted ancillary analyses based on location-scale probit models that account for potential changes in the variance of unobserved heterogeneity across decades, and the results are substantively identical to those discussed previously. Nevertheless, future research should further address these methodological challenges by developing and employing new techniques that better mitigate the risk of misspecification bias in binary outcome models.

Despite these limitations, this study casts doubt upon a number of arguments associated with the death and decomposition of class perspectives as they relate to aggregate class inequalities based on workplace ownership and authority. The weight of the evidence indicates that aggregate class analysis, at least when informed by a social-relational focus on control over resources deployed within production, remains essential for understanding contemporary patterns of social stratification. Research on material and political inequalities in modern societies would thus seem poised to benefit from a serious reintegration of aggregate class analyses based on workplace ownership and authority relations.

Notes

1. This implementation of the Weeden and Grusky (2005) typology includes additional categories for military occupations and for a small number of respondents with missing SOC codes.
2. For example, in the 2006 wave of the GSS, respondents were asked how they voted in both the 2000 and 2004 elections, and this analysis includes all voting choices reported (with observations classified into decades based on interview rather than election dates).

3. Analyses based on alternative summary measures of between-group inequality, such as relative rather than absolute kappa indices, yield substantively similar results.
4. To investigate whether trends in the kappa index may be sensitive to sample size, sparseness, or model specification, I also estimated trends from models that constrain changes in aggregate class differences across decades to follow a linear or linear-logistic pattern and from models that only parameterize changes across a smaller number of much broader time periods. Estimated kappa trends are substantively similar across all of these different analyses.
5. The GSS uses a split-ballot survey design, where questions about supervisory authority are typically administered to a random 50 to 75 percent subset of respondents. As a result, nearly all of the missing data in this analysis is for the aggregate class variable, where about 30 percent of respondents are missing data on this measure overall.
6. The complete formula for the AIC in this context is $AIC = -2\left(\sum_i w_i \log f(y_i; \beta, \theta)\right) + 2k\delta$, where δ is the so-called “average...design effect” (Lumley and Scott 2015, 5). Because δ is difficult to estimate in practice, I assume for simplicity that $\delta = 1$ when computing the AIC, even though δ is likely somewhat greater than 1 in this analysis. Experimentation with larger values for δ yields AIC statistics that support the same conclusions.

About the Author

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Supplementary Material

Supplementary material are available at *Social Forces* online.

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