Union Status and Time Intensive Health Behaviors among Young and Middle Aged Adults in the United States*

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ABSTRACT

We examine the association between detailed union statuses (i.e., married, married with spouse absent, cohabiting, same-sex couples, never married, divorced, separated, widowed) and temporally intensive health behaviors (i.e., sleep duration, 5 measures of exercise frequency and duration) in the National Health Interview Survey, a nationally representative sample of U.S. adults aged 18 to 55. We use Latent Class Analysis to identify 4 groups characterized by distinct exercise/sleep patterns. Multinomial logistic regression models examine the relationships between union statuses and membership in health behavior groups, and allow us to adjust for pecuniary resources as well as time intensive roles that are often associated with union status (i.e., parental status, work hours). We also examine gender differences in the relationship between union status and time intensive health behaviors.

Married individuals have better health and longer lives than those who are not married (Dupre, Beck, and Meadows 2009; Waite 2006). However, previous research has not extensively examined the relationship between detailed union statuses (i.e., married with spouse present, married with spouse absent, cohabiting, same-sex couples, never married, divorced/separated, or widowed) and health behaviors. Health behaviors account for over 40% of the premature mortality in the U.S. (Mokdad et al. 2004), and constitute an important mechanism through which union status may be linked to health outcomes (Umberson 1987, 1992). We focus on time intensive behaviors—sleep duration and physical activity—that have been linked to health and mortality outcomes (Blair et al. 1992; Kripke et al. 2002; Krueger, Saint Onge, and Chang 2011; Paffenbarger et al. 1993; Wingard and Berkman 1983), and that are sensitive to household decisions about the allocation of time. Further, we specifically assess the importance of pecuniary economic resources and temporally demanding roles (i.e., parenting and employment) that are often associated with union status. Our primary aim is to examine the relationship between union status and time-intensive healthy behaviors, while accounting for parenting, employment, and socioeconomic variables in a nationally representative sample of US adults.

Investigating time-intensive behaviors allows us to examine how multiple temporally demanding roles converge to shape health behavior patterns among adults. We use latent class analyses (LCA) to identify unobserved (or latent) subgroups of individuals who have distinct health behavior patterns (Clogg 1995; Magidson and Vermunt 2004). LCA offers three advantages over simply modeling each exercise and sleep variable separately. First, LCA allows us to recognize that some behaviors systematically co-occur. Decisions about how to care for one's health take place in social contexts that can support or hinder healthy lifestyles, resulting in persistent correlations among health behaviors (Cockerham, Rutten, and Abel 1997; Krueger,

Bhaloo, and Rosenau 2009; Pampel, Krueger, and Denney 2010). Second, because LCA specifically allows us to identify common health behavior patterns in the population, we may identify groups of individuals who trade off time spent sleeping with time spent being physically active. Alternately, some individuals may spend the same time exercising, but may substitute strenuous activity for moderate activity. By necessity, the time spent sleeping, exercising, working, and caring for family cannot equal more than 24 hours each day (Mullahy and Robert 2008). Finally, an examination of groups of health behaviors can help researchers understand why combinations of unhealthy behaviors are associated with increased mortality, over and above the effect of the behaviors individually (Kvaavik et al. 2010). Our analyses focus on young and middle aged adults (aged 18-55), because these are the ages where the demands of parenthood and employment are often greatest.

Union statuses vary in their ability to support time-intensive but healthy behaviors. Married and cohabiting individuals might benefit from having a spouse or partner to share work and family life responsibilities, and who encourage healthy behaviors (Lee et al. 2005; Satariano, Haight, and Tager 2002; Umberson 1987, 1992). Some cohabitors may go on to get married, but many cohabitors may benefit less from having a partner than married individuals. Those who cohabit may have partners who are less supportive or committed to the relationship than married spouses (Kenney and McLanahan 2006), which might result in less encouragement for salubrious health behavior patterns for their partners (Duncan, Wilkerson, and England 2006). Although same-sex couples have work and earnings profiles that are similar to married couples' (Biblarz and Savci 2010), prior research offers little insight into their sleep and exercise patterns in the US population.

Prior research often overlooks variation in health among single individuals who do not currently live with a spouse or partner (Carr and Springer 2010), another contribution of our study. Never married adults may face difficulty in finding time to sleep or exercise because they do not have a partner who helps to balance work, parenting, and home-life responsibilities. However, never married adults who do not have children or who work fewer hours may be well positioned to pursue healthy activities without having to coordinate with a partner. Other single statuses imply some experience with marriage. Those who are married but have an absent spouse—a group that is largely ignored by prior research—may enjoy some of the socioeconomic and emotional support benefits of marriage, but might lack the routine support of a spouse in juggling work and family obligations. Divorced and separated individuals may be able to share parenting responsibilities with a former spouse, but the ex-husband or wife might have less interest in working around the individual's work schedules or encouraging healthy behaviors. Widowers lack even the occasional presence of a former spouse, and must cope with the loss of a spouse while managing work, family, and health promoting activities, which leads to increased risks of death (Elwert and Christakis 2008) and possibly less healthy behaviors.

We also focus on three sets of variables that are linked to union status and health behaviors: having children, working, and pecuniary socioeconomic resources. Although parents average better health than adults without children (Umberson 1987), the demands of parenthood vary with the age of children. Very young children have irregular sleep schedules, are expensive to place in daycare, require constant attention, and may be associated with unhealthy behaviors among mothers and fathers (Berge et al. 2011). As children age, they sleep more regularly, become more independent, and are eligible to spend more of their time at pre-school or kindergarten. But older children may limit the time parents have to invest in their health. Parents

of teenage children sleep less than those with no children (Krueger and Friedman 2009), perhaps because they are up late worrying about their children or spend time taking them to activities.

Employment is a pro-social role associated with healthy behaviors and positive health outcomes, although not all work conditions are associated with better health (Krueger and Burgard 2011; Theorell 2000). Long work hours decrease the leisure time available for adequate sleep or exercise. Although those who are unemployed and looking for work typically have worse health than those who are employed (Strully 2009), they may have more time available for sleep or exercise.

Finally, pecuniary socioeconomic resources—indicators of income and wealth—work through a variety of mechanisms to promote health and healthier behaviors (Link and Phelan 1995; Pampel et al. 2010). Individuals with more financial resources may be better able to purchase sporting goods equipment and gym memberships, housing that is quieter and that facilitates sleep, and daycare that permits time for leisure activities including exercise and sleep (Berry 2007; Brownson, Boehmer, and Like 2005; Hale and Phuong Do 2007).

We also examine whether the relationship between our key predictors and time intensive health behaviors varies for men and women. Compared to women, men may receive greater health benefits from being married (Waite 2006), working long hours (Krueger and Burgard 2011), and having higher incomes (Macintyre and Hunt 1997; McDonough et al. 1999). We suspect that these patterns will persist when focusing on time intensive health behaviors for several reasons. First, women more often undertake the burdensome responsibilities of marriage and family life, including spending more time caring for the household and dependent children (Burgard 2011). Second, compared to men, women have weaker attachments to the labor force because they devote greater time to home life; as such, when women do work, they earn less money and work in more tedious jobs with variable work schedules (Krueger and Burgard 2011). Finally, women earn less money than men and have fewer assets, and they benefit less from economic resources than men (Macintyre and Hunt 1997). Thus, compared to men, women who work long hours or have young kids may have even less time for adequate sleep and exercise.

MATERIALS AND METHODS

Data

We use the 2004-2010 waves of the National Health Interview Survey (NHIS) to examine health behaviors in a large, nationally representative survey of noninstitutionalized adults aged 18 years or older in the United States (National Center for Health Statistics various years). These data come from annual, cross-sectional surveys of households in the U.S. and are designed to track the health of the U.S. population. We examine US adults ages 18-55, a range involving adults likely to be in the midst of marriage, childrearing, and labor force engagement. Sociodemographic and socioeconomic information is collected through in-person interviews at each household and for each individual in the household, and behavioral characteristics are collected from one member of each household selected for the sample adult file (SAF). The annual response rate is close to 90 percent of the eligible households in the sample. Our sample includes 116,908 men and women aged 18 through 55.

Variables

Time intensive health behaviors include sleep hours and frequency and duration of physical activity. Self-reported sleep duration indicates the usual hours of sleep in a 24 hour period. Sleep duration is reported in hour increments ranging from 0 to 24, with 98% of cases falling between 4 and 12 hours. We categorize sleep into 4 or fewer hours, 5 hours, 6 hours, 7 hours, 8 hours, 9 hours, and 10 or more hours. Five measures capture vigorous (causes heavy

sweating or large increases in breathing), moderate (causes light to moderate increases in sweating and breathing), and strength (activities designed to strengthen muscle or improve cardiovascular fitness) activities. The number of times per week that individuals undertake vigorous (1 item), moderate (1 item), or strength (1 item) activities ranges from 0 to 29 times. The SAF asks about the usual number of minutes that each exercise bout lasts only for moderate and vigorous activities; those two items range from 0 to 720 minutes.

Union status is coded into 7 categories: married spouse present, married spouse absent, cohabiting, same sex couple, never married, divorced/separated, and widowed. Parental status is coded as a series of dummy variables that indicate whether there are 1 or more children aged birth through 1 year, 2 through 5 years, 6 through 12 years, and 13 through 17 years. The referent category is families that do not have any dependent children living in the household. We use age categories that mark distinct social and developmental points that have implications for the intensity of parents' care, the availability of school, and children's ability to care for themselves. Work status is separated into respondents who usually work more than full-time (41 or more) hours, full-time (35-40) hours, or less than full-time (1-34) hours per week, or if they were unemployed or not in the labor force. Family income is adjusted to 2010 dollars, and adjusted for the purchasing power of different sized families as shown elsewhere (Krueger and Burgard 2011). The family income portfolio captures the number of income sources received, per family member, from sources including jobs, self-employment, Social Security retirement (not due to disability), interest-bearing accounts, dividends, and other income. The income portfolio is a proxy for wealth, and is associated with mortality independently of the value of all income sources combined (Krueger and Burgard 2011). Gender is coded dichotomously.

Our control variables include age, years of education attained, race/ethnicity (coded

categorically as non-Hispanic white, non-Hispanic black, non-Hispanic other, and Hispanic), nativity (foreign-born or US-born), quarter of interview, year of interview, and region of residence (Midwest, South, West, Northeast).

Statistical Analyses

We use latent class analysis (LCA) to identify unobserved (i.e. latent) subpopulations based on observed patterns in sleep and physical activity behaviors (Clogg 1995; Magidson and Vermunt 2004). LCA is an inductive statistical method, and the analyst defines the number of classes (or health behavior groups) the model should find in the data. Because we do not have a strong *a priori* assumption about how the sleep and physical activity items should group together, we estimated models that allowed for between 1 and 15 classes. We then compared the BIC and AIC statistics to identify the LCA model that best fit the observed data (Muthén and Muthén 2010; Nylund, Asparouhov, and Muthén 2007). We determined that a 4 class model adequately captured variation in the data; although the BIC and AIC supported additional classes, those classes were quite similar to the classes identified in more parsimonious models. Because we risk over-fitting our data (finding additional classes that are nearly identical to other classes) due to our large sample size, we use the 4 class model.

We use multinomial logistic regression to predict membership in each of the four classes with our key predictors and control variables. In addition, because 14% of respondents did not report a family income, we use a single imputation with stochastic variation added onto the expected values (Gelman and Hill 2007), to impute the missing data. We also test for interactions between sex and our key covariates.

RESULTS

Table 1 shows the distribution of sleep and the physical activity measures across the four

classes identified with the latent class analysis. Class 1 captures the group of individuals who are most likely to sleep short (5 or fewer) hours or long (9 or more) hours, and who undertake virtually no leisure time physical activity. The individuals who belong to class 2 are slightly less likely to sleep short or long hours than those in class 2, and average 5 days of moderate physical activity each week, with each bout lasting an average of 42 minutes. Individuals in class 2 also average just less than one day of strength training per week. Class 3 includes individuals who are slightly less likely to sleep short or long sleep hours than those in class 2, and who primarily undertake vigorous and strength training activities. Finally, class 4 includes those individuals who are the most efficient sleepers; they are the most likely to sleep 6 or 7 hours, and the least likely to sleep short or long hours. Those who belong to class 4 also average high levels of vigorous, moderate, and strength training activities.

(Table 1 about here)

Table 2 shows the means and percentages of the key covariates across class membership. The union status variables show that the share of adults who are married is highest in class 2, the percentage of those who are married spouse missing, cohabiting, divorced/separated, or widowed is highest in class 1, and the percentage of those who are never married is highest in class 3. The dummy variables for children at specific ages show that the proportion of families that have no children is highest in class 3, whereas the share of families that have children aged birth through 12 is highest in class 1 (the most sedentary group). Because families can have children of different ages, the percentages do not sum to 100.

(Table 2 about here)

The distribution of work hours also varies by class membership. The share of individuals who are unemployed or working part time (1-34) hours is highest in class 2, the share of

individuals who work full time (35-40) hours is highest in class 3, and the share of individuals who work more than full time (more than 40) hours is highest in class 4. The socioeconomic measures show that both family income and the number of income sources available to the family, per family member, both increase persistently from class 1 to class 4.

Table 3 shows the distribution of our key covariates across the union status categories. Adults who are married are the least likely to have no children and are the most likely to have children aged 2 through 17 years of age, but adults in cohabiting couples are slightly more likely to have children aged birth through 1. Those who are married have the lowest levels of unemployment and have among the highest rates of being not in the labor force (after those who are never married and widowed). Individuals in same sex couples are the most likely to work 40 or more hours per week, those who are married but with an absent spouse are the most likely to work full time (35-40) hours, and never married individuals are the most likely to work part-time (1-34) hours. Individuals who are married or in same-sex couples are have the highest family incomes.

(Table 3 about here)

Table 4 presents multinomial logistic regression coefficients for models that explore the predictors of class membership. In all cases, we compare membership in classes 2 (Panel A), 3 (Panel B), and 4 (Panel C) to membership in class 1. Model 1 examines the relationship between union status and class membership, while adjusting for basic demographic variables including age, sex, education, Census region, quarter of interview, year of interview, and nativity, and Model 2 further adjusts for children at specific ages, work hours, and socioeconomic status.

(Table 4 about here)

Model 1, Panel A shows that compared to those who are married, individuals in

cohabiting couples, who are never married, or who are divorced/separated are less likely to be in class 2 (the moderate exercise and adequate sleep group) than in class 1 (the inactive and poor sleep group). Model 2 adjusts for the presence of children at specific ages, the respondent's work hours, and family socioeconomic status, and finds no significant differences across union statuses in participation in class 2 versus class 1. Notably, individuals who have children aged 2 through 17 are more likely to be members of class 2, but working any hours or being not in the labor force is associated with a lower likelihood of membership in class 2. Higher family incomes and access to more sources of income per family member are associated with increased odds of membership in class 2.

Model 1, Panel B shows that compared to those who are married, individuals in cohabiting couples or who are widowed are less likely to be in class 3, but never married individuals are more likely to be in class 3 (the vigorous exercise and adequate sleep group) than in class 1 (the inactive and poor sleep group). Model 2 further adjusts for the presence of children at specific ages, work hours, and socioeconomic status. Being in a cohabiting couple remains associated with lower odds of being in class 3, and being never married remains associated with increased odds of being in class 3. Further, being divorced/separated now has a positive association with membership in class 3, and being widowed no longer has a negative relationship with membership in class 3. Notably, having children aged birth through 1 is associated with reduced odds of being in class 3. Compared to those who are unemployed, those who work full time (35-40) hours have lower odds of being in class 3. Finally, higher levels of family income and more diverse income portfolios are associated with increased odds of being in class 3.

Model 1, Panel C shows that compared to those who are married, those who are cohabiting, who are divorced/separated, or who are widowed have lower odds of participation in class 4 (the most active and efficient sleep group) than in class 1 (the inactive and poor sleep group). After adjusting for the presence of children, work hours, and socioeconomic status, cohabitation is still associated with a lower likelihood of participation in class 4, but being never married is associated with a higher likelihood of being in class 4. Young children are associated with lower odds of being in class 4, but having children aged 2 through 17 is associated with higher odds of being in class 4. Compared to those who are unemployed, working any hours is associated with lower odds of being in class 4. Higher levels of income and income diversification are associated with increased membership in class 4.

Separate analyses (not shown) examine interactions between sex and the marital status, children, work hours, and socioeconomic status variables. Three consistent patterns emerge. First, the relationship between never married and membership in classes 2, 3, or 4 was negative for females, but positive for females in both Models 1 and 2. Second, having children aged birth through age 1 was associated with a much lower likelihood of being in classes 3 and 4 for women than for men. Finally, higher family incomes and more diverse income portfolios have a weaker positive relationship with membership in classes 3 and 4 among men than among women.

CONCLUSION

Our first aim was to examine the relationship between union status and time intensive health behaviors. Our baseline models suggest that individuals in cohabiting couples are persistently less likely to be in classes marked by moderate or vigorous physical activity, as well as efficient sleep hours (marked by low levels of both short and long sleep durations). Individuals who cohabit may have less healthy behaviors than those who are married because cohabitation offers less support for healthy behaviors than marriage, or because individuals who have less healthy behavior patterns and who are less desirable marriage partners settle into cohabiting unions (Duncan et al. 2006; Kenney and McLanahan 2006).

Other union statuses, including being never married, divorced/separated, and widowed also had lower odds of participating in at least some of the classes marked by physical activity and more efficient sleep hours. However, those coefficients often fell from significance or even reversed when adjusting for the presence of children, work hours, and socioeconomic status. For example, in our fully adjusted models, those who are never married have a higher likelihood of being in classes 3 or 4 than those who are married.

We also examined the relationship between a series of factors that often shape the time available to undertake time intensive but healthy behaviors (Mullahy and Robert 2008) notably, the presence of children and work hours. We also examine whether these relationships differ by gender. In her ethnographic research, Hochschild (2003, p. 10) reports that women who work long hours and have young children are particularly pinched, observing that "these women talked about sleep the way a hungry person talks about food." Consistent with her findings, our results show that women were typically in the healthier sleep and exercise groups if they were never married, or if they did not have young children (see also Burgard 2011). In contrast, men typically had worse exercise and sleep patterns if they were single than if they were married, which might partially explain the greater health benefits that men receive from marriage than women, because wives may be particularly supportive of healthy behaviors among their husbands (Bird and Rieker 2008; Umberson 1992).

The measures of family income and income diversification, however, often had weaker (but still positive) relationships with healthy practices among men than among women, a finding that contradicts some prior research that finds that women receive fewer health benefits for each additional increment in income (Macintyre and Hunt 1997; McDonough et al. 1999).

In sum, we identify groups with distinct health behavior patterns in the U.S. Although a substantial portion of adults are sedentary and have poor sleep patterns (U.S. Department of Health and Human Services 2010), other groups are marked by varying levels of sleep and vigorous, moderate, or strength oriented physical activities. Further, participation in each of these groups is shaped by important social roles that have implications for the use of leisure time including union status, parenthood, and employment. Although many individuals might state that they do not take better care of their health because they do not have the time to do so, at least in some cases, our data suggest that this might be the case. Public health efforts to encourage healthier exercise and sleep patterns may be of limited effectiveness if they fail to recognize the family and work obligations that can make it difficult for some individuals to care for their health. Policies that provide subsidies for high quality daycare or flexible work schedules may facilitate healthy behaviors in the U.S. population.

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	Class1	Class2	Class3	Class4
	Inactive & poor	Moderate exercise	Vigorous exercise	Most active &
	sleep	& adequate sleep	& adequate sleep	efficient sleep
Usual sleep hours, %				
4 hours or less	3.5	2.5	2.3	1.9
5 hours	6.6	6.1	5.7	5.4
6 hours	21.6	22.2	22.6	22.7
7 hours	28.1	31.2	33.5	35.8
8 hours	32.0	30.6	29.9	29.0
9 hours	3.9	4.1	3.6	3.4
10 hours or more	4.1	3.3	2.3	1.8
Exercise, mean				
Vigorous activity days per week	0.0	0.0	4.9	4.7
Vigorous activity minutes per bout	0.0	0.0	61.4	55.8
Moderate activity days per week	0.0	5.1	0.0	5.6
Moderate activity minutes per bout	0.0	47.2	0.0	47.0
Strength activity days per week	0.2	0.8	2.0	2.5
N (unweighted)	41,110	23,090	11,346	40,633
Proportion of observations	0.35	0.20	0.10	0.35

Table 1: Composition of the latent classes, U.S. adults aged 18 to 55, 2004-2010

	Class 1	Class 2	Class 3	Class 4
	Inactive & poor	Moderate exercise	Vigorous exercise	Most active &
	sleep	& adequate sleep	& adequate sleep	efficient sleep
Union Status, %				
Married	44.4	49.5	42.4	47.0
Married spouse missing	2.0	1.5	1.4	1.2
Cohabiting couple	7.4	6.6	6.3	6.5
Same sex couple	0.5	0.6	0.6	0.8
Never married	26.3	23.8	34.1	29.9
Divorced/separated	17.9	16.7	14.6	13.9
Widowed	1.5	1.4	0.7	0.8
Children, %				
No Children	51.0	51.6	60.0	57.9
Aged 0-1	10.5	9.3	7.8	7.8
Aged 2-5	18.7	17.1	15.3	15.5
Aged 6-12	26.7	26.3	21.9	23.4
Aged 13-17	19.2	19.3	14.4	15.7
Work Hours, %				
Unemployed	5.3	6.1	5.0	5.4
More than 40 hours	19.0	20.9	27.8	29.6
35-40 hours	41.3	40.5	43.1	39.7
1-34 hours	10.4	12.7	11.2	12.3
Not in Labor Force	24.0	19.9	13.0	13.0
Socioeconomic Status, mean				
Family income, \$	47,585	60,607	63,460	70,925
Income portfolio	0.74	0.95	1.02	1.17

Table 2: Means and percentages of key covariates by class membership, U.S. adults aged 18 to 55, 2004-2010

		Married spouse	Cohabiting	Same sex		Divorced/	
	Married	missing	couple	couple	Never married	separated	Widowed
Sex, %							
Female	55.2	50.3	53.3	50.0	51.4	61.5	78.4
Male	44.8	49.8	46.7	50.0	48.6	38.5	21.6
Age, mean	39.4	38.5	33.0	38.5	31.3	42.4	47.0
Education, mean	15.1	13.7	14.1	15.9	14.9	14.7	14.1
Children, %							
No Children	34.3	71.7	55.1	77.0	81.8	61.5	66.6
Aged 0-1	13.8	4.3	14.3	4.8	4.2	2.5	1.5
Aged 2-5	25.4	10.9	18.6	9.5	7.8	9.1	3.9
Aged 6-12	36.8	16.1	22.0	12.0	9.3	21.5	17.4
Aged 13-17	25.0	12.2	11.6	8.0	5.1	20.7	20.6
Work Hours, %							
Unemployed	3.4	6.1	8.4	3.8	7.8	6.2	5.9
More than 40 hours	25.0	23.2	22.3	29.9	21.3	26.6	19.2
35-40 hours	41.9	45.3	41.1	42.2	37.2	43.5	36.9
1-34 hours	10.9	10.4	12.0	11.8	14.2	8.7	11.4
Not in Labor Force	18.8	15.1	16.3	12.3	19.5	15.0	26.6
Socioeconomic Status, mean							
Family income, \$	82,732	39,133	54,938	84,513	35,263	42,116	38,974
Income portfolio	0.90	0.94	0.88	1.27	1.09	0.95	1.00

Table 3: Means and percentages of key covariates across union statuses, U.S. adults aged 18 to 55, 2004-2010

	Panel A: Class 2	versus Class 1
	Model 1	Model 2
Union Status		
Married	ref.	ref.
Married spouse missing	-0.10	-0.01
Cohabiting couple	-0.13**	-0.08
Same sex couple	0.09	0.03
Never married	-0.09**	-0.02
Divorced/separated	-0.17***	-0.05
Widowed	-0.17	-0.07
	0.21***	0.22***
Male	-0.31***	-0.32***
Education	0.09***	0.0/***
Children		
No Children		ref.
Aged 0-1		0.04
Aged 2-5		0.09**
Aged 6-12		0.18***
Aged 13-17		0.10**
Work Hours		c. C
Unemployed		ref.
More than 40 hours		-0.36***
35-40 hours		-0.40***
1-34 hours		-0.23***
Not in Labor Force		-0.30***
Socioeconomic Status		
Income portfolio, logged		0.91***
Family income/10,000, logged		0.12***
	Panel B: Class 3	versus Class 1
	Model 1	Model 2
Union Status		
Married	ref.	ref.
Married spouse missing	-0.13	0.04
Cohabiting couple	-0.18**	-0.15*
Same sex couple	0.01	-0.08
Never married	0.14***	0.25**
Divorced/separated	-0.01	0.19**
Widowed		0.12
	-0.31*	-0.10
	-0.31*	-0.10
Male	-0.31* 0.57***	-0.10 0.49***
Male Education	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13***
Male Education Children	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13***
Male Education Children No Children	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref.
Male Education Children No Children	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22***
Male Education Children Aged 0-1 Aged 2-5	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12**
Male Education Children No Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours Unemployed	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05 ref.
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours Unemployed More than 40 hours	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05 ref. 0.04
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours Unemployed More than 40 hours 35-40 hours	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05 ref. 0.04 -0.14*
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours Unemployed More than 40 hours 35-40 hours 1-34 hours	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05 ref. 0.04 -0.14* 0.01
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours Unemployed More than 40 hours 35-40 hours 1-34 hours Not in Labor Force	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05 ref. 0.04 -0.14* 0.01 -0.25***
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours Unemployed More than 40 hours 35-40 hours 1-34 hours Not in Labor Force	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05 ref. 0.04 -0.14* 0.01 -0.25***
Male Education Children Aged 0-1 Aged 2-5 Aged 6-12 Aged 13-17 Work Hours Unemployed More than 40 hours 35-40 hours 1-34 hours Not in Labor Force Socioeconomic Status	-0.31* 0.57*** 0.18***	-0.10 0.49*** 0.13*** ref. -0.22*** -0.04 0.12** 0.05 ref. 0.04 -0.14* 0.01 -0.25*** 0.76***

Table 4: Multinomial logistic regression coefficients for the predictors of class membership, U.S. adults aged 18 to 55, 2004-2010.

	Panel C: Class 4	Panel C: Class 4 versus Class		
	Model 1	Model 2		
Union Status				
Married	1.00	ref.		
Married spouse missing	-0.16	0.02		
Cohabiting couple	-0.17***	-0.12**		
Same sex couple	0.17	0.07		
Never married	-0.01	0.09**		
Divorced/separated	-0.17***	0.06		
Widowed	-0.33***	-0.14		
Male	0.31***	0.25***		
Education	0.24***	0.18***		
Children				
No Children		ref.		
Aged 0-1		-0.18***		
Aged 2-5		0.08**		
Aged 6-12		0.29***		
Aged 13-17		0.21***		
Work Hours				
Unemployed		ref.		
More than 40 hours		-0.26***		
35-40 hours		-0.46***		
1-34 hours		-0.21***		
Not in Labor Force		-0.39***		
Socioeconomic Status				
Income portfolio, logged		1.42***		
Family income/10,000, logged		0.31***		

Notes: * = $p \le .05$; ** = $p \le .01$; *** = $p \le .001$ (two tailed tests)

All models also adjust for Census region, quarter of interview, year of interview, nativity, and age.