

HOURLY PAYMENT AND VOLUNTEERING: THE EFFECT OF ORGANIZATIONAL PRACTICES ON DECISIONS ABOUT TIME USE

SANFORD E. DEVOE
University of Toronto

JEFFREY PFEFFER
Stanford University

We examine how organizational practices making an economic evaluation of time salient, such as hourly pay, can lead people to spend less time on uncompensated work—volunteering. Using nationally representative survey data, in Study 1 we showed that, with other factors that might affect time decisions controlled, people paid by the hour were both less likely to volunteer and spent less time volunteering than counterparts who were not paid hourly. Study 2 showed that having people calculate their hourly wage was associated with decreased willingness to volunteer and that this experimental manipulation only affected people not paid by the hour.

Because work organizations are typically institutionalized in every sense of that term (Scott, 1995), with their management practices often assuming a taken-for-granted quality (e.g., Zucker, 1977), people can learn decision rules and ways of thinking at work that they may then take with them into other spheres of their lives. Specifically, people may develop a particular psychology of time and come to make different decisions about time use depending on the management practices relevant to the evaluation of time to which they are exposed.

Although we believe that management practices and the dimensions of decisions about time that they may affect are many, we begin our inquiry by focusing on the effects of hourly payment on the decision to volunteer time. We argue that being paid by the hour almost inevitably makes salient an economic frame for the evaluation of time. Being compensated on an hourly basis predisposes people to assess how they spend their time in terms of the monetary returns from their decisions (e.g., Evans, Barley, & Kunda, 2004). We further argue that this monetary or economic frame surrounding time use is particularly relevant for decisions about work and work-like activities.

In this article, we focus on volunteering, a theoretically important class of work that is freely undertaken without remuneration (Tilly & Tilly, 1994). Because volunteering has been defined as

work done without pay, it is logical to argue that to the extent that the practice of hourly payment increases the salience of the economic evaluation of time, people paid by the hour should be less willing to volunteer and should volunteer less of their time than those not paid by the hour. We used a large nationally representative survey with numerous control variables as well as an experiment in which people calculated their hourly wage to illustrate the effect of the framing of compensation on decisions about time use.

BACKGROUND AND HYPOTHESES

Our argument relies on several assumptions, each of which has some foundation in the existing research literature. Although economists (e.g., Becker, 1965) have assumed that people implicitly use the economic value of their time in making decisions about how to allocate this scarce resource, we assume that the economic value of time can vary in its psychological salience in decisions about time use. Because even salaried people could, in principle, compute their implicit hourly wage, for our argument about the effect of hourly payment to hold, it must be the case that framing—in this instance, the framing of how one is paid—matters. If the last quarter century of research has shown one thing, it is that the framing of situations, even within different frames with identical normative implications, can induce people to make dramatically different decisions (Kahneman, 2003; Kahneman & Tversky, 2000). Moreover, research suggests that exposure to frames and ways of

Throughout this project, Chip Heath provided critical suggestions and insights for which we are indebted. We also thank Jerker Denrell and Jarrett Spiro for their statistical advice.

thinking increases the likelihood that they will be generalized to situations different from the context in which they were first encountered. For instance, studies have shown that exposure to economic thinking in an academic setting leads to the increased use of cost-benefit rules in everyday decisions (Larrick, Nisbett, & Morgan, 1993) and to more self-interested behavior (Frank, Gilovich, & Regan, 1993).

Next, we presume here that pay practices affect decisions about how to spend time, even on uncompensated but work-like or work-related activities. Again, it is reasonably well established that organizational pay practices can have effects on people's decisions about time allocations. For instance, research by Wright, George, Farnsworth, and McMahan (1993) demonstrated how contingent rewards can influence time spent on extra-role work behaviors. The results of their empirical analysis showed that when trade-offs between prescribed and nonprescribed role behaviors emerged because of difficult work goals, people were less likely to spend time on extra-role behaviors (i.e., spending time assisting a confederate coworker) when financial rewards were contingent on completion of the prescribed role behaviors.

Research on the insufficient and overly sufficient justification provides additional illustrations of how the *size* of rewards affects the psychology of time allocation and commitment. For instance, the literature on overly sufficient rewards (e.g., Lepper & Greene, 1975) shows that when provided with extrinsic rewards, children voluntarily choose to spend less time on previously rewarded activities during free periods. Deci (1972) showed that these results generalize to older children and even adults. What is important for our argument is that this literature demonstrates a form of spillover effect, in this case intertemporal spillover: that rewarding some activities affected decisions about engaging in those activities subsequently. Although the literatures on insufficient and overly sufficient justification have focused on the *magnitude* of the reward for engaging in some activity and the effects of rewards on decisions about time use at a different time, there is no reason to assume that the *framing* of the reward, not just its *size*, won't also matter or that spillover wouldn't affect decisions in other, related domains, not just at different times.

Finally, we assume that organizational practices relevant to time affect how people think about it and the decisions they make about how to allocate their time. Kaveny, writing about lawyers, conjectured that many of the aspects of life that provided meaning were undermined by the "billable hours" mentality, noting that "it may also be that lawyers

imbued with the ethos of the billable hour have difficulty grasping a non-commodified understanding of the meaning of time" (2001: 175). Yakura (2001), studying information technology consultants, found that routine billing practices contributed to a taken-for-granted equivalence between time and money. She noted that "time's meanings vary with the occupational and organizational contexts" (2001: 1078) and that the relationship people perceived between time and money is socially constructed.

The possible effects of organizational compensation practices on decisions about time use are nicely illustrated in Evans, Kunda, and Barley's (2004) ethnographic study of engineers, software developers, technical writers, and information technology specialists, who overwhelmingly sold their services to firms in exchange for an hourly wage. Their results provide evidence consistent with our conjecture that hourly payment can affect how people make decisions about time use. Evans et al.'s (2004) analysis uncovered a strong tendency for their informants to bring an economic evaluation frame to their decisions about how to use their time—viewing time solely through a metric of economic value. The study noted that being paid by the hour and the concomitant requirement to bill firms for the number of hours spent working led technical contractors to develop "an accountant's appreciation for the microeconomics of time" (Evans et al., 2004: 19). Billing hours provided these contractors with extensive practice in accounting for their time and its monetary value. Moreover, by being paid by the hour, "unlike salaried employees, contractors could put a precise value on every hour of the day—their hourly wage" (Evans et al., 2004: 21). As Evans and colleagues concluded, "When contractors used an economic metric as the sole measure of time, they often discounted the worth of other activities whose economic value was difficult to calculate" (2004: 22).

From our theoretical point of view, a commonality between billing clients for time and hourly payment is that both practices make the economic value of time salient to employees. Billing and accounting for small units of time is a practice that lacks widespread use beyond the professions of law, consulting, and contracting, whereas being paid for one's time on an hourly basis affects a majority of the U.S. workforce (Mellor & Haugen, 1984). Indeed, careful analysis of that workforce reveals the fraction of employees who are paid by the hour has increased since it has been tracked by the Current Population Survey (Hamermesh, 2002). Thus, documenting the effect of hourly payment speaks to the expe-

rience of a large segment of the working population.

VOLUNTEER LABOR

Tilly and Tilly (1994) distinguished among four domains of work—labor markets, the informal sector, household labor, and volunteer work—deeming volunteer activities the work domain that is the most freely undertaken and in which discretion in choices about time use is highest. Tilly and Tilly defined volunteer activities as “unpaid work provided to parties to whom the worker owes no contractual, familial or friendship obligations” (1994: 291). We believe that, in examining decisions about time use, volunteer work is a particularly appropriate domain to study. As freely chosen *work* that does not result in economic compensation, volunteering is precisely the type of activity we would expect economic evaluators of time to devalue in their decisions about how to spend their time. In fact, we argue that the economic framing of time created by hourly payment would probably *not* affect decisions that entail, for instance, family obligations or social responsibilities, in that the structure of society promotes segmentation between work and nonwork domains (e.g., Dubin, 1973), and social pressures might loom as more important determinants of decisions about time given to family and social responsibilities.

The decision to volunteer one’s time is not only theoretically relevant, but also substantively important, because volunteer labor is economically and socially significant, at least in the United States. For many organizations in the nonprofit sector, volunteer labor constitutes a majority of the labor power supplied. And volunteer work is consequential even if viewed from the perspective of the entire economy. Menchik and Weisbrod (1987) noted that volunteer labor constituted the full-time equivalent of more than 5 percent of the economy and more than one-fourth of civilian employment in government. Putnam (1995, 2000) used the extent of volunteering as one indicator of civic engagement. An extensive empirical literature in both sociology and economics concerns volunteering, so that documenting the influence of common organizational practices on volunteering would supplement research that has thus far focused primarily on the effects of personal characteristics such as age, income, gender, and marital status on the decision to volunteer (e.g., Wilson & Musick, 1997a, 1997b, 1998).

Therefore, we used volunteering time as the dependent variable in examining the effect of organizational practices on decisions about time use.

And we focused our study on the organizational practice that virtually all of the contractors in the Evans et al.’s (2004) ethnography shared: payment for services through an hourly wage. We tested whether hourly payment was associated with a decreased willingness to undertake work without remuneration (i.e., volunteer activities).

Hypothesis 1. The economic value of time that is made salient by hourly payment will diminish willingness to undertake work lacking monetary compensation.

We initially tested this hypothesis using the first year of time use data collected by the Bureau of Labor Statistics (BLS), which allowed a wide variety of job and personal characteristics associated with hourly work to be statistically controlled in our analyses of the amount of time hourly paid workers and workers not paid hourly (nonhourly paid workers) spent on volunteer activities. Our initial study provides external validity in that we looked at whether hourly payment affected volunteering in a representative national survey sample. But the study necessarily left some alternative interpretations and mechanisms unexplored. So, in a second study, we manipulated one hypothesized causal mechanism, the salience of time’s economic value, by randomly assigning both hourly and nonhourly respondents to calculate their hourly wage and subsequently measuring their willingness to volunteer their time. We found that, as expected, calculating one’s hourly wage does affect willingness to volunteer, but only for people who are not paid by the hour and who therefore have not already had their hourly wage made salient. Taken together, these two studies show that hourly payment decreases people’s willingness to undertake volunteer work, with the experiment suggesting that the salience of time’s economic value is at least one factor affecting decisions about time use.

STUDY 1 METHODS

Data

To explore how being paid by the hour affected volunteering in a nationally representative random sample, we used data from the 2003 American Time Use Survey (ATUS). This data set is from the first federally administered survey on time use in the United States, the objective of which was to “measure how people divide their time among life’s activities” (www.bls.gov/tus/tu2003coderules.pdf). Each ATUS respondent was interviewed once about how he or she had spent the previous day.

The ATUS sample was divided into four ran-

domly selected panels, one for each week of the month. To ensure good measures of time spent on weekdays and weekend days, the BLS also split the sample evenly between weekdays and weekend days (10 percent of the sample was allocated to each weekday, and 25 percent, to each weekend day). Both hourly and nonhourly workers were slightly more likely to be sampled on weekends, but importantly for our interpretation of differences associated with hourly paid status, both hourly and nonhourly paid workers were sampled on the weekends with identical frequency (57%). Extensive documentation of the survey can be obtained through the ATUS homepage (<http://www.bls.gov/tus>).

Measures

Independent variable. For our measure of hourly payment, we used the BLS coding of *hourly status* (TEERNHRY); 0 indicated nonhourly paid status ($n = 5,901$), and 1 indicated hourly paid status ($n = 6,781$). All other values were treated as missing. The BLS coded this variable so that only respondents who were employed in the labor force were included, and all respondents who were self-employed or without pay were excluded. Mellor and Haugen (1986) extensively documented the demographic associations with this variable.

Dependent variables. Each ATUS interview took place over the phone. The respondent went through his or her activities for the 24-hour period from 4 A.M. of the day prior to the interview to 4 A.M. of the interview day, and the surveyor coded these activities and their duration using very detailed categories. (A full description of the time diary method and the ATUS procedures for coding can be found on the Web site.)

To examine respondents' willingness to volunteer their time, we examined the time diary data for volunteer activities (ATUS first-tier activity coding category 15) and travel-related volunteer activities (ATUS first-tier activity coding category 17, second-tier category 15: "travel related to volunteer activities"). This category captures time spent volunteering "for individuals or institutions for or through formal organizations" (www.bls.gov/tus/tu2003coderules.pdf) on the following activities: administration and support; social service and care (except medical); indoor and outdoor maintenance, building, and clean-up; attending meetings, conferences, and training; public health and safety work; travel; and volunteer activities not elsewhere classified. We calculated the total amount of time a respondent spent on volunteer activities, imputing a value of

zero to those spending no time on these activities on the particular day he/she was surveyed.

Although this data set provides an extremely accurate, diary-based measure of time allocation for a nationally representative sample, it does so only for one day in the life of each respondent. At aggregated levels, these data become representative of the entire year and the entire population. However, the total amount of variance to be explained by the individual-level factors is extremely constrained. Since we are examining a behavior that has a low frequency to begin with, we are unable to observe the difference between individual respondents who never volunteer and people who simply happened not to volunteer on the day they were sampled. Thus, the data permit a conservative test (because variation is constrained) for observed differences between hourly and nonhourly workers. One way of examining the importance of the effect of hourly status in these data is to compare the effects of hourly status with other substantively and theoretically important predictors of volunteering on the sampled day. This comparison of effect sizes is illuminating because it reveals the extent to which each individual-level variable is predictive of volunteer activities on a randomly sampled day.

Using the time diary data for volunteer activities, we did two analyses. First, we examined *volunteer participation*, capturing whether respondents participated in volunteer activities at all, with individuals who reported spending any time on volunteer activities coded 1 and those who reported no participation coded 0. This analysis was conducted with binary logistic regression. Second, we examined variation in the amount of time spent volunteering; our variable was *number of minutes spent volunteering*. Analyzing the amount of time a person volunteers captures both the underlying decision of whether or not to volunteer and the amount of time the individual dedicated to the activity (Mutchler, Burr, & Caro, 2003).

Since the time diary only captured one day, a substantial number of respondents in the entire sample did not report any volunteer activities¹ and therefore had zero minutes of volunteering. This sample trait yields a truncated, or "left-censored," dependent variable (Maddala, 1983; see Tobin, 1958). For this type of distribution, employing an ordinary least squares (OLS) regression model to

¹ Among the hourly and nonhourly respondents, 93.6 percent reported no volunteer activities on the day they were sampled. Of those respondents who did report spending time on volunteer activities, the average duration was 134.52 minutes, or two hours and 14 minutes.

estimate the number of minutes respondents volunteer would create potentially biased estimates. Mutchler et al. (2003: 1276) recommended instead employing Tobit regression models, to take into consideration the distribution of the dependent variable. Tobit regression was, therefore, employed for this analysis.

Control variables. Obviously, hourly and non-hourly paid people may differ in a number of ways, and volunteering is a function of many factors. Therefore, we included a number of variables available in the data set to statistically control for these other effects.

In each of our models, we included *day of diary*, a variable for whether the respondents' data were collected for a weekend day or a weekday, as weekends customarily allow people more free time in which to participate in volunteer activities. A second set of control variables measured important characteristics of a respondent's job. *Income earned per week* (TRERNWA), *number of hours worked per week* (PEHRACTT), and the sector of the respondent's main job (PEIO1COW) were all included as controls. We recoded the original values for sector so that the private for-profit sector was the baseline category, one dummy variable indicated the *government sector* (federal, state, and local collapsed), and the other dummy variable indicated the *private nonprofit sector*. We also included dummy variables for the major occupational category of the respondent's main job (PRMJOCGR). Using service occupations as the baseline category, the dummy variables were *management, business, & financial operations; professional & related; sales & office; natural resources, construction, & maintenance; and production, transportation, & material moving*.

A third set of control variables measured characteristics of individuals that might be expected to affect their allocation of time. We controlled for education (PEEDUCA) by including four dummy variables for *high school graduate, some college, college graduate, and postgraduate degree holder*, with high school dropout as the baseline category. Additionally, we included total household *family income* in the past 12 months (HUFAMINC), which was assessed at 16 different levels, ranging from 1 ("less than \$5,000") to 16 (">\$150,000 or more").² Finally, we included *age* (PRTAGE), *gender* (PESEX, where 1 = "female"), *marital status* (PEMARITL, where 1 = "married"), and

number of children under 18 years old (PRNMCHLD).³

STUDY 1 RESULTS

Table 1 displays the descriptive statistics and correlations among the variables. Hourly status was significantly related to all of the other variables, except for the dummy variable for whether a respondent was sampled on a weekday or weekend—demonstrating why it was important to control for these other variables in the analysis.

In keeping with our hypothesis, hourly status was significantly related to volunteering. The rate of volunteer participation for hourly paid workers was less (5%) than that for nonhourly paid workers (8%; $\chi^2 [1, N = 11,872] = 43.43, p < .0001$). During the sampled day, nonhourly paid workers also spent, on average, more time volunteering ($\bar{x} = 10.75, s.e. = 0.76$) than hourly workers ($\bar{x} = 6.89, s.e. = 0.49, t[11,870] = 4.43, p < .0001$). To put these numbers into perspective, we note that aggregating this average daily difference over a year shows that nonhourly paid workers spent an average of 65 hours and 24 minutes a year on volunteer activities, whereas hourly paid workers spent an average of 41 hours and 55 minutes a year. Thus, hourly workers spent, on average, 36 percent less time on volunteer activities than their nonhourly counterparts.

Participation in Volunteer Activities

The binary logistic regressions presented in Table 2 model whether or not a respondent volunteered at all on the day sampled. Model 1 includes the various control variables as predictors, and model 2 adds our independent variable, hourly paid status. Entering the additional parameter of hourly paid status significantly increased the likelihood-ratio chi-square of the model ($\Delta\chi^2 = 5.61, p < .05$). Model 2 shows that, with a wide variety of control variables held constant, respondents who were paid hourly were significantly less likely to participate in volunteer activities than their counterparts who were not paid hourly.

With respect to the other variables in the model,

² The finer-grained levels above \$75,000 (levels 15 and 16) were not included for part of the data collection (see www.bls.gov/tus/atuscpscocodebook.pdf).

³ We considered including a variable for the number of hours that a respondent's spouse or unmarried partner worked per week (TESPUHRS), but this variable was uncorrelated with hourly status ($r = .01, n.s.$). Thus, spouse/partner's hours worked per week cannot provide an alternative explanation for the effect of hourly status on our dependent variables.

TABLE 1
Descriptive Statistics and Correlations, Study 1^a

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Hourly status	0.57	0.50																					
2. Day of diary	0.51	0.50	.00																				
3. Income earned per week	734.29	570.00	-.41**	-.01																			
4. Number of hours worked per week	39.17	12.69	-.22**	.00	.39**																		
5. Government sector	0.18	0.39	-.11**	.01	.02*	.00																	
6. Private nonprofit sector	0.08	0.27	-.03**	.00	-.03**	-.03**	-.14**																
7. Management business, & financial operations	0.15	0.36	-.28**	.01	.32**	.14**	-.05**	.03**															
8. Professional & related	0.48	0.86	-.21**	-.02*	.18**	.01	.23**	.15**	-.24**														
9. Sales & office	0.25	0.43	.08**	.00	-.14**	-.08**	-.07**	-.06**	-.25**	-.33**													
10. Natural resources, construction, & maintenance	0.08	0.28	.11**	.01	-.02†	.06**	-.08**	-.07**	-.13**	-.17**	-.18**												
11. Production, transportation, & material moving	0.13	0.33	.18**	.01	-.09**	.04**	-.12**	-.09**	-.16**	-.21**	-.22**	-.11**											
12. High school graduate	0.27	0.44	.19**	.00	-.19**	-.02*	-.09**	-.07**	-.12**	-.24**	.08**	.11**	.17**										
13. Some college	0.19	0.39	.09**	.00	-.09**	-.03**	-.02*	-.02*	-.04**	-.10**	.12**	.00	-.01	-.30**									
14. College degree	0.31	0.46	-.18**	.00	.18**	.07**	.04**	.05**	.15**	.20**	-.04**	-.11**	-.14**	-.41**	-.33**								
15. Postgraduate degree holders	0.12	0.32	-.29**	-.01	.35**	.10**	.17**	.10**	.11**	.34**	-.15**	-.10**	-.13**	-.22**	-.18**	-.25**							
16. Family income	10.84	3.29	-.29**	.00	.46**	.16**	.07**	.01	.21**	.18**	-.04**	-.05**	-.12**	-.19**	-.05**	.20**	.22**						
17. Age	41.00	12.82	-.13**	-.01	.15**	.05**	.10**	.07**	.06**	.05**	-.01	-.03**	.01	.06**	-.03**	.02*	.12**	.06**					
18. Gender	0.53	0.50	.08**	.00	-.25**	-.23**	.09**	.10**	-.03**	.09**	.20**	-.28**	-.20**	.00	.03**	.03**	-.01	-.09**	.01				
19. Marital status	0.56	0.50	-.15**	.01	.19**	.09**	.04**	.00	.07**	.07**	-.05**	.05**	-.01	.00	-.06**	.10**	.07**	.36**	.20**	-.11**			
20. Number of children under 18 years old	0.97	1.13	.02**	.01	.00	-.02†	-.03**	-.02*	-.01	-.02*	-.03**	.04**	.00	-.02*	-.03**	-.01	-.03**	.05**	-.29**	-.02†	.24**		
21. Volunteer participation	0.06	0.24	-.06**	.03**	.04**	-.01	.04**	.04**	.04**	.06**	-.01	-.03**	-.04**	-.07**	.01	.04**	.07**	.06**	.05**	.03**	.08**	.07**	
22. Number of minutes spent volunteering	8.54	47.08	-.04**	.04**	.02*	-.02†	.04**	.02*	.02*	.04**	-.01	-.02†	-.03**	-.04**	.00	.03**	.04**	.04**	.04**	.01	.05**	.04**	.70**

^a Raw correlations among hourly and nonhourly respondents are reported. For gender, 1 equalled “female”; for marital status, 1 equalled “married.”

† $p < .10$

* $p < .05$

** $p < .01$

TABLE 2
Result of Binary Logistic Regression Analyses
Predicting Volunteer Participation^a

Predictors	Model 1	Model 2
Hourly status		-.24* (.10)
Day of diary	.17* (.09)	.17* (.09)
Income earned per week	-.00 (.00)	-.00 (.00)
Number of hours worked per week	-.01 [†] (.00)	-.01 [†] (.00)
Government sector	.20 [†] (.11)	.18 (.11)
Private nonprofit sector	.30* (.14)	.31* (.14)
Management, business, & financial operations	.43* (.18)	.36* (.18)
Professional & related	.14 (.09)	.12 (.09)
Sales & office	.19 (.17)	.16 (.17)
Natural resources, construction, & maintenance	.02 (.24)	.05 (.24)
Production, transportation, & material moving	-.26 (.22)	-.24 (.22)
High school graduate	.14 (.24)	.14 (.23)
Some college	.76** (.23)	.76** (.23)
College degree	.66** (.24)	.63** (.24)
Postgraduate degree	.79** (.26)	.74** (.26)
Family income	.02 (.02)	.02 (.02)
Age	.02** (.00)	.02** (.00)
Gender	.25* (.10)	.27** (.10)
Marital status	.37** (.11)	.36** (.11)
Number of children under 18 years old	.30** (.04)	.29** (.04)
Constant	-5.12** (.36)	-4.85** (.38)
Log-likelihood	-2,139.12	-2,136.31
Likelihood-ratio chi-square	243.94**	249.55**
Change in likelihood-ratio chi-square		5.61*

^a Standard errors are in parentheses. The number of observations in the model was 9,566.

[†] $p < .10$

* $p < .05$

** $p < .01$

statistically significant coefficients included those for day of the week (people were more likely to participate in volunteer activities on a weekend) and education (people with any degree of college education were more likely to participate in volunteer activities). Additionally, working in the private nonprofit sector, being in the managerial occupation category, being older, female, married, and having more children were all associated with a greater likelihood of volunteering. These results for the various control variables are consistent with

findings from other studies of volunteering, providing some additional confidence in our models and data. For instance, Menchik and Weisbrod (1987), using survey data from a different national sample, also observed a positive effect of being female, older, married, and having more children on volunteering. Wilson and Musick (1998) reported that a higher level of education, greater age, and female gender were all positively related to volunteering.

Amount of Time Spent Volunteering

An examination of the amount of time spent on volunteer activities shows a generally similar pattern of results. The Tobit regressions presented in Table 3 model the amount of time spent volunteering during the day sampled. Again, model 1 includes the various control variables as predictors, and model 2 adds the independent variable of hourly paid status. Entering the additional parameter of hourly paid status significantly increased the likelihood-ratio chi-square of the model ($\Delta\chi^2 = 6.06$, $p < .05$). Model 2 in Table 3 shows that, with a wide variety of control variables held constant, hourly paid employees spent significantly less time on volunteer activities than did their nonhourly paid counterparts.

The other variables in the model showed people spent more time on volunteer activities on the weekend and spent less time volunteering the more hours per week they worked. People in the government and private nonprofit sectors spent more time on volunteer activities than people in private for-profit jobs. As in the results for volunteer participation, people with any degree of college education spent more time on volunteer activities, and being older, female, married, and having more children were all positively associated with spending more time on volunteer activities.

Other Decisions about Spending Time

We have argued that hourly payment creates an economic frame that will primarily affect decisions about work and work-related activities. Such activities include volunteering, which has been defined (Tilly & Tilly, 1994) as working without pay. We recognize that no effect might emerge for many reasons and that one should be cautious in interpreting null results. Nonetheless, we wanted to see to what extent our argument about economic priming affecting only or primarily work-related activities held and, therefore, whether or not hourly payment affected decisions about other time use categories coded by ATUS. Because the other activities did not have the statistical distribution issues

TABLE 3
Results of Tobit Regression Analyses Predicting Minutes Spent Volunteering^a

Predictors	Model 1	Model 2
Hourly status		-37.65* (15.34)
Day of diary	37.21** (12.99)	36.68** (12.99)
Income earned per week	-0.00 (0.00)	0.00 (0.00)
Number of hours worked per week	-1.13* (0.57)	-1.26* (0.57)
Government sector	39.74* (16.87)	37.80* (16.88)
Private nonprofit sector	49.28* (22.53)	49.47* (22.54)
Management, business & financial operations	57.88* (27.02)	46.32 [†] (27.37)
Professional & related	18.06 (12.81)	14.36 (12.89)
Sales & office	24.58 (24.33)	19.87 (24.39)
Natural resources, construction, & maintenance	4.70 (33.28)	7.82 (33.26)
Production, transportation, & material moving	-41.46 (31.17)	-38.43 (31.13)
High school graduate	25.28 (31.94)	26.53 (31.92)
Some college	105.69** (32.48)	106.10** (32.48)
College degree	93.04** (32.72)	88.89** (32.76)
Postgraduate degree holders	109.24** (37.59)	100.77** (37.72)
Family income	3.99 (2.77)	3.69 (2.76)
Age	2.76** (0.62)	2.71** (0.62)
Gender	27.79* (15.07)	30.51* (15.11)
Marital status	49.19** (15.95)	47.66** (15.95)
Number of children under 18 years old	41.31** (6.15)	41.47** (6.14)
Constant	-825.24** (58.69)	-783.91** (60.23)
Log-likelihood	-5,753.11	-5,750.08
Likelihood-ratio chi-square	226.91**	232.97**
Change in likelihood-ratio chi-square		6.06*

^a Standard errors are in parentheses. The number of observations in the model was 9,566.

[†] $p < .10$

* $p < .05$

** $p < .01$

that volunteering presented, we ran OLS regressions on other major time use categories, using the same set of control variables. Table 4 reports the unstandardized coefficient and standard error for the hourly pay variable from each of those separate regressions.

As can be seen, it is *only* for the time use category of volunteering that being paid by the hour seems to affect people's decisions about how much time to spend on a category of activity.⁴ Thus, as we suspected, the economic frame created by being paid by the hour affects decisions about work and work-like activities, but has, at least in these data, no systematic effect on other decisions about spending time.

⁴ Note that the first-tier activity coding category 17 ("volunteer activities") used by ATUS did not include the time coded as travel related to volunteer activities, which we included in our measure of volunteering.

STUDY 1 DISCUSSION

Prior research on social participation and volunteering has not examined the effect of how people are paid on whether or not they volunteer or how much time they spend in volunteer activities. We found that including the variable of hourly paid status significantly increased the fit of a model predicting both participation in and duration of volunteering, going above and beyond the contribution of a wide set of control variables. More importantly for our argument, the results from this nationally representative survey showed that people paid by the hour were both less likely to participate in volunteer activities on a given day and spent less time overall on volunteer activities, with a wide variety of other variables controlled. And hourly pay affected only decisions to volunteer, not other decisions about time allocation. Thus, the results show that how people are paid does affect their decisions about time use, consistently with the idea that making the economic value of time

TABLE 4
Results of OLS Regression Analyses for
the Effect of Hourly Payment on Time
Spent on Different Activities^a

First-Tier ATUS Activities ^b	<i>b</i>	s.e.
1. Personal care	-1.68	3.06
2. Household activities	-1.20	3.06
3. Caring for and helping household members	-0.81	1.70
4. Caring for and helping nonhousehold members	1.73	1.20
5. Working and work-related activities	2.26	5.16
6. Education	2.10	1.28
7. Consumer purchases	-0.77	1.36
8. Professional and personal care services	-0.38	0.59
9. Household services	-0.44	0.29
10. Government services and civic obligations	-0.15	0.13
11. Eating and drinking	-1.07	1.25
12. Socializing, relaxing, and leisure	3.64	4.02
13. Sports, exercise, and recreation	-1.04	1.53
14. Religious and spiritual activities	-1.53	1.00
15. Volunteer activities	-2.30*	1.07
16. Telephone calls	0.24	0.23
17. Traveling	0.68	1.95

^a Day of diary, weekly earnings, hours worked weekly, sector of main job, occupation of main job, education, total household family income, age, gender, marital status, and number of children under 18 years old were controlled for in each regression. A negative coefficient indicates that people paid by the hour reported spending less time on an activity than their nonhourly paid counterparts.

^b "ATUS" is the American Time Use Survey.

* $p < .05$

salient diminishes people's willingness to engage in uncompensated work (volunteering).

Some might note that, with a relatively large sample, statistical significance is less informative, and effect size may be more informative for interpreting the substantive importance of results. Although effect size, or variance explained, was constrained by the fact that we only had information on a single day for each respondent, the size of the effect of being paid hourly on predicting volunteering on this sampled day was comparable in its impact to whether or not respondents were sampled on a weekend or a weekday, obviously an important factor in determining volunteering behavior.

Although the nationally representative time use data provide external validity to our hypothesis about how organizational practices affect people's decisions about time use outside of work, our analyses have many obvious limitations, even though virtually all of the existing studies of volunteering have used similar types of survey data. For instance, hourly workers earned less per week, and

25 percent of them had a family income below \$25,000 a year. Both of these facts may have constrained hourly workers' ability to volunteer their time in ways that simply statistically controlling for pay may not adequately capture. In short, we do not know if it was easier for salaried workers to volunteer their time. Furthermore, the difference in volunteering between hourly and nonhourly workers may not reflect different psychological ways of thinking about time per se, but real differences in the extent to which time is directly aligned with money. To the extent that any worker has time available to volunteer, hourly workers may have the option to earn more money with that time, whereas their salaried counterparts don't necessarily earn more by working more hours.

And although we were able to hold constant a wide variety of factors, it is possible that people who are not interested in volunteering their time (or are predisposed to evaluate time through an economic frame) self-select into jobs that pay with an hourly wage. Some other unobserved heterogeneity between hourly and nonhourly workers may also explain the present findings but be unrelated to our hypothesis about the effects of hourly payment and uncaptured by our control variables. For instance, it is possible that salaried people build networks through their volunteer activities that are useful in their careers and do so more than people paid hourly because such networks are more important in salaried than in hourly paid jobs. Consequently, the cross-sectional, survey-based nature of Study 1 necessarily limited our ability to speak to the causal role of exposure to hourly payment in decisions about time use.

Therefore, in Study 2, we did an experiment to more directly and precisely assess the effects of the salience of hourly wages on people's choices. Of course, it is impossible to randomly assign people to jobs where they are paid or are not paid by the hour. However, one *can* potentially manipulate the salience of an hourly wage rate by having randomly assigned respondents either calculate (or not calculate) their hourly wage. In Study 2, we experimentally manipulated exposure to the salience of hourly payment by randomly assigning people to calculate their approximate hourly wage and also assessed whether people were being paid by the hour in their current jobs. If the impact of hourly payment on volunteering has its effect by making salient an economic evaluation of time, just having people calculate their approximate hourly wage may be associated with less willingness to volunteer time among people who are not paid by the hour.

STUDY 2 METHODS

In Study 2, we used a convenience sample in which we could experimentally manipulate employed participants' exposure to knowing their hourly wage rate as part of the study as well as measure whether they were currently paid by the hour at their principal jobs. Additionally, we gathered a number of demographic variables to hold constant many of the ways that hourly and non-hourly paid employees might differ.

We predicted that, if hourly payment affects people's willingness to spend their time on volunteer activities by making salient an economic evaluation of time, making the economic value of time salient and explicit by having people calculate their implicit hourly wage rate would diminish their willingness to volunteer their time without financial remuneration. Moreover, if an economic evaluation of time is prevalent among people currently paid by the hour in their jobs, the effect of calculating an implicit hourly wage rate should only influence the decisions of people who are *not* currently paid by the hour and for whom, therefore, an hourly wage rate is not already salient.

Participants and Procedures

Participants were recruited from a nationwide database maintained at a private West Coast university to respond to questions regarding work and life attitudes. A total of 85 currently employed participants completed the online questionnaire in exchange for a \$5 gift certificate to an online retailer.

After reading a consent form, participants were told that the researchers were conducting a survey on how Americans think about their time and that they would respond to demographic questions about their jobs so that we could make comparisons with national survey estimates. This introduction provided a rationale for asking participants to respond to the detailed questions concerning their earnings and work hours that comprised the experimental manipulation.

Manipulation. Participants in both of two experimental conditions responded to three questions about the prior year: how much they had earned before taxes and other deductions, how many hours they had usually worked per week, and how many weeks they had worked. Those assigned to the control condition proceeded directly to the dependent measures, whereas participants in the "*calculate hourly*" condition were presented with two additional questions that asked them to calculate their approximate hourly wage. Participants were told they should feel free to use scratch paper or a

calculator on their computer in responding to these two questions. Participants in the calculate hourly condition were asked to multiply the number of weeks worked in the prior year (their answer to the second question of the survey) by the average number of hours worked per week in the prior year (their answer to the third question). Then participants were asked to take their yearly salary in the prior year (their answer to the first question) and divide it by the total number of hours they worked during the year (the answer calculated for the fourth question of the survey). Participants were told that this number was their "approximate hourly wage (i.e., the amount of money you earn per hour)."

Hourly paid status. Toward the end of the survey, participants were asked, "Are you paid at work by your time (i.e., by the hour)?" Participants who responded yes to this question were coded 1, and those who responded no were coded -1 .⁵

Dependent variable. Participants responded to five survey questions designed to tap their willingness to volunteer their time without remuneration (i.e., "I am willing to volunteer for an organization I care about without financial compensation for me," "Even for an organization I care about, I am unwilling to work without getting paid," "I'm unlikely to undertake any type of work without being paid," "Volunteering is a worthwhile use of my time even if I do not get paid," and "Without some financial compensation, it is not worth doing volunteer work") on a scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). Relevant items were reverse-coded so that higher values indicated a greater willingness to do volunteer activities. The constructed scale exhibited good reliability (Cronbach's $\alpha = .84$). The scale was designed to measure the decision about time use that, per our hypothesis, hourly payment affects—namely, doing work without getting paid for it.

We presumably could have asked respondents about their actual volunteering behavior instead of about an attitude, their willingness to volunteer. There are two problems with this alternative approach for our study. First of all, to see if calculating their hourly wage changes how respondents think about decisions concerning time allocation,

⁵ To make the results for our main independent variables of the manipulation (dichotomous), hourly paid status (dichotomous), and their interaction immediately comparable to results obtained via standard analysis of variance (ANOVA) procedures, we followed Aiken and West's (1991: 129) recommendation of using effect coding instead of dummy coding for these independent variables.

one needs to have a measure that *can* change in the context of conducting an online experiment, and that is a measure of a relevant attitude—in this instance, willingness to volunteer. Secondly, as we knew from the ATUS data, volunteering is a rare-enough activity that we wanted to gather a measure (willingness to volunteer) that might be more normally distributed across the population.

Control variables. We included a set of variables comparable to those used in Study 1 to statistically control for the ways that participants with hourly and nonhourly pay experiences might differ. In our analysis of covariance (ANCOVA) model, we included a set of control variables that captured important characteristics of the respondents' jobs: *income earned per year*, the *number of weeks worked last year*, the *average number of hours worked per week*, and the sector of main job. The responses for sector were coded so that private for-profit was the baseline category; one dummy variable indicated *government sector*; and one dummy variable indicated *private nonprofit sector*. A second set of control variables measured characteristics of individuals that might be expected to affect their willingness to volunteer their time. We controlled for education by including three dummy variables for *some college*, *college graduate*, and *postgraduate degree holder*, with high school de-

gree or less as the baseline category. Additionally, we included *age*, *gender* (1 = "female"), *marital status* (1 = "married"), and the *number of children living at home*.

STUDY 2 RESULTS

Table 5 reports the means, standard deviations, and correlations among the Study 2 variables. Many of the relationships with hourly paid status are consistent with what we observed in Study 1. The only substantial difference was that hourly paid status in our second sample was positively related to being married, but in Study 1 it was negatively related to marriage. Also, even though participants were randomly assigned to condition, there was a significant tendency for more married people to be in the calculate hourly condition.

The OLS regressions reported in Table 6 model participants' responses to the measure tapping their willingness to volunteer without remuneration.

Model 1 includes the various control variables as predictors, and model 2 adds an effect-coded variable for condition assignment, an effect-coded variable for hourly paid status, and a condition by hourly status interaction term. Adding the theoretically important independent variables to the regression model with the controls significantly in-

TABLE 5
Descriptive Statistics and Correlations, Study 2

Variables ^a	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Condition	0.47	0.50														
2. Hourly status	0.57	0.50	.00													
3. Income earned per year	40,227.45	38,655.29	-.10	-.24*												
4. Number of weeks worked last year	45.02	11.97	.05	-.11	.25*											
5. Average number of hours worked per week	35.28	12.71	.03	-.25*	.42**	.62**										
6. Government sector	0.12	0.32	.10	-.12	-.08	.10	.14									
7. Private nonprofit sector	0.09	0.29	-.06	-.13	.15	.09	.03	-.12								
8. Some college	0.33	0.47	-.07	.29**	-.32**	-.05	-.21 [†]	-.18 [†]	-.14							
9. College degree	0.44	0.50	-.08	-.18	.18	.08	.27*	.04	.12	-.63**						
10. Postgraduate degree	0.14	0.35	.09	-.20 [†]	.06	-.06	-.10	.27*	-.13	-.29**	-.36**					
11. Age	35.57	9.90	.14	-.14	.03	-.07	-.12	.02	-.02	.07	-.13	.18				
12. Gender	0.80	0.40	-.06	.13	-.18	-.19 [†]	-.35**	.00	.06	.11	-.03	-.05	.11			
13. Marital status	0.58	0.50	.28**	-.01	.06	.02	.00	.02	-.13	.05	-.10	.01	.39**	-.01		
14. Number of children living at home	0.98	1.18	.16	.11	-.11	.10	-.10	-.13	-.20 [†]	.21 [†]	-.20 [†]	-.06	.25*	-.09	.40**	
15. Willingness to volunteer	5.15	1.41	-.15	-.07	.21 [†]	.13	.17	.02	.11	-.23*	.22*	-.06	.13	.09	.15	.30**

^a The calculate hourly condition (the experimental condition) was coded 1. For gender, "female" was coded 1; for marital status, "married" was coded 1.

[†] $p < .10$

* $p < .05$

** $p < .01$

TABLE 6
ANCOVA Results for Study 2^a

Predictors	Model 1	Model 2
Condition ^b		-.25*
Hourly status		.06
Condition × hourly status		.25*
Yearly salary	.18	.13
Weeks worked last year	-.12	-.15
Hours worked weekly	.12	.19
Government sector	-.01	.03
Private nonprofit sector	.11	.08
Some college	-.19	-.30
College degree	.15	.04
Postgraduate degree	-.07	-.08
Age	.02	.04
Gender	.26*	.29*
Marital status	.05	.13
Number of children living at home	.45**	.44**
<i>df</i> error	61	58
<i>F</i>	2.50**	2.75**
<i>R</i> ²	.33	.42
ΔR^2		.09*

^a Values are beta coefficients from OLS regression analyses. Positive values indicate a greater willingness to volunteer without remuneration.

^b The calculate hourly (experimental) condition was coded 1.

* $p < .05$

** $p < .01$

creased the variance explained (R^2) from .33 to .42 ($F[3, 58] = 2.85, p < .05$). The results in model 2 show that participants in the calculate hourly condition were less willing to volunteer their time than participants in the control condition ($\beta = -.25, t[58] = -2.21, p = .03$). Although hourly workers did not differ from nonhourly workers ($\beta = .06, t[58] = 0.49, n.s.$), hourly status significantly inter-

acted with the manipulation ($\beta = .25, t[58] = 2.28, p = .03$). Figure 1 presents bar graphs of the adjusted means and standard errors for willingness to volunteer as a function of these two variables.

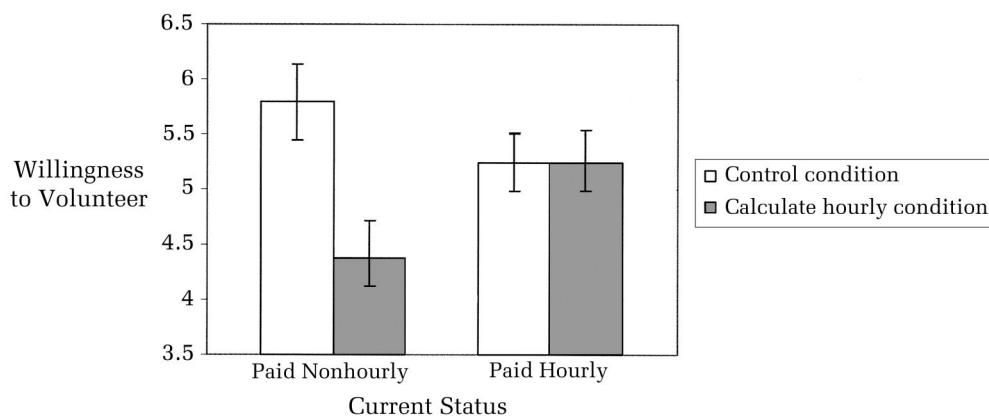
Follow-up tests showed that calculating one's hourly wage rate had a significant effect among the nonhourly paid respondents ($\beta = -.51, t[17] = -2.23, p = .04$) but no effect on those paid by the hour ($\beta = .04, t[29] = .29, n.s.$). Thus, the diminished willingness to volunteer without remuneration that resulted from calculating one's hourly wage rate only occurred for participants whose hourly wage was not likely already salient owing to their normally being paid by the hour.

STUDY 2 DISCUSSION

When people who were not currently paid by the hour calculated their implicit hourly wage rate, they were less willing to volunteer their time without remuneration. Thus, by making an economic evaluation of time salient through having people calculate their hourly wage rate, we were able to conceptually replicate the findings of Study 1, where respondents' current hourly status was associated with both diminished participation in and time spent on volunteer activities. Calculating an hourly wage only affected participants who were not currently paid by the hour in their main jobs, a result that is consistent with our argument that hourly payment would have already made an economic evaluation of time salient for these participants, so that having them calculate their hourly wage as part of the experiment would not further affect the salience of being paid by the hour or the economic evaluation of their time.

Although the dependent measure we used enabled us to assess respondents' willingness to un-

FIGURE 1
Willingness to Volunteer by Pay Status and Experimental Condition



dertake work without remuneration after exposure to an experimental manipulation that might plausibly affect these attitudes, this measure also has important limitations. First, it is unclear how well this measure would correlate with the actual amount of time individuals allocate to volunteering or whether or not they engage in any volunteering. Second, questions about willingness to volunteer may engender socially desirable responses. This bias may explain why the mean responses to this measure were high in comparison to the low levels of volunteering observed in Study 1. Nonetheless, a generalized social desirability bias in responses cannot explain why nonhourly participants who calculated their hourly wage rate indicated they were less willing to volunteer without remuneration, but this same manipulation did not affect hourly participants' responses.

The fact that the experimental manipulation of having people calculate their hourly wage affected their willingness to volunteer their time is theoretically important. In spite of all the various ways in which hourly and nonhourly paid workers might differ, we showed that experimentally manipulating the salience of their hourly wage for participants was associated with a diminished willingness to volunteer. In Study 1, we documented the association of hourly paid status with volunteering net of many different factors, and the effect of our manipulation in Study 2 provides even stronger evidence that hourly payment can have a causal influence on people's willingness to volunteer their time.

GENERAL DISCUSSION

The two studies reported here examined the hypothesis that one way in which experiences at work may affect choices in nonwork domains is by altering both the logic people use to decide how to spend their time and the salience of various factors they consider in decisions about time use. Specifically, we argued that the organizational practice of hourly payment makes an economic evaluation of time salient, which leads people to devalue the worth of noncompensated work such as volunteering. Using both survey and experimental methods, we found that people who make decisions about their time within an economic framing (either because they are paid by the hour and therefore have had the equivalence of time with money made salient, or because they have calculated their hourly wage and doing so has made the time-money association salient) were less willing to undertake volunteer activities that lacked monetary compensation.

Effects of Compensation Practices

If how people are compensated—not how much they are compensated, but whether or not they are paid by the hour, or their experience with other conditions that make the association between time and money salient—influences decisions about time use in other domains, organizational compensation practices may have important implications that have not been systematically explored or studied. First, if volunteering is influenced by pay practices and how they are framed, then decisions to volunteer or not can influence people's obtaining many of the benefits that participation in volunteer activity can afford, such as greater subjective and objective well-being (Wilson & Musick, 2000). Moreover, it is possible that pay practices affect how people evaluate their decisions about leisure, or time spent not working that might be spent earning money. For instance, in another study (DeVoe & Pfeffer, 2007), we found that hourly payment, by making an economic evaluation of time salient, caused people to be more willing to give up their free time for more money, trading money for leisure. Strong societal and interpersonal obligations in the domain of family activities may determine how people spend their time regardless of a framing whereby they associate time with money, something we observed with the ATUS data. However, the potential for an economic evaluation of time to influence how employees allocate time in other domains besides volunteering, such as the trade-offs that emerge in work-family conflicts, is an important question for future research.

The finding that an economic evaluation of time that is associated with knowing one's approximate hourly wage rate influences people's decisions about how to spend their time is important in light of the assumption in economic theory that individuals implicitly calculate the economic value of their time when making choices about time use. According to this assumption, opportunity costs are always relevant and salient. Our results suggest, however, that economic theory-based predictions incorporating concepts such as opportunity costs to explain how people make decisions about time use may be more accurate in describing people who are paid by the hour than people who are not.

Of course, other organizational practices also undoubtedly train people to price their time or cause the economic value of time to be salient, and these may have effects similar to those we observed for hourly payment. Perhaps the most theoretically interesting organizational practices for future research to examine would be those that are not directly tied to how much people earn but that do

make the economic value of time visible and salient. One such practice is providing employees with pay statements that show their hourly wage, even when they are not compensated by the hour, as some widely used human resource computer systems do.

Yet another candidate for further study is billing and/or accounting for time at work, a practice considered by Yakura (2001) and Kaveny (2001). Although we have yet to identify a nationally representative data set with variables related to the practice of billing time, one interesting finding consistent with our argument that billing may have an effect on time use decisions similar to the effect of hourly payment comes from the Missouri Bar Association's survey of its members. These respondents estimated the proportion of revenue they had generated in the prior year that was attributable to billable hours on a scale ranging from 0 to 100 percent (this was a plausible proxy for how often they engaged in billing their time) and also provided information on the extent to which they provided pro bono (uncompensated) legal services. In the Missouri Bar Association data, the frequency of billing and participation in pro bono services displayed a statistically significant, negative correlation. Because the data did not permit controls for job and personal characteristics, we cannot speak with assurance about all of the reasons for this association. Nonetheless, the results are consistent with our arguments about billing as a practice that makes the equivalence of time and money salient and the effects of an economic evaluation of time on a decreased willingness to volunteer time. Furthermore, this empirical finding is echoed in recent critiques decrying the insidious impact the practice of billing time has on lawyers' time use choices (e.g., Curtis & Resnik; Fortney, 2000; Kaveny, 2001).

It is also worth considering how organizational practices such as hourly payment may come to have self-fulfilling effects and empirically studying how such effects unfold. For example, if hourly payment systems lead people to spend less of their time on volunteer activities, empirical observation of such people would show them to be both narrowly self-interested and primarily motivated by extrinsic incentives such as money. Such observations would operate to confirm the underlying logic of an hourly payment system—that people act as if time were money—not because such a decision logic is a priori true but because existing organizational practices have induced such decision logics (Ferraro, Pfeffer, & Sutton, 2005; Schwartz, Schuldenfrei, & Lacey, 1981).

Conclusion

The vast majority of recent scholarship on time has focused on how little of it people in the United States think or feel they have for their lives outside of work—what Schor (1991) termed the plight of the “overworked American.” We believe that this literature could be productively expanded by a deeper consideration of why people feel compelled to spend so much of their time on activities that pay, even when doing so may be inconsistent with their preferences. Although attempts to maximize the efficiency of people's time at work to better conserve time are obviously important (e.g., Perlow, 1997, 1998), we argue that organizational compensation practices play a powerful role in people's evaluation of how to spend their nonwork time and even their psychological perceptions about how much free time they have. For instance, although employees often express a desire for flexibility and less work, Evans and coauthors (2004) observed that time-based payment can decrease the likelihood individuals will actually act on such preferences. It is also possible that by making time/money trade-offs more salient, some organizational pay practices may cause people to feel more overworked or stressed, even if they objectively are not working more hours, because the opportunity costs of how they spend their time are constantly in their minds.

Our theoretical perspective complements Evans et al. (2004) and others in highlighting that the economic evaluation of time may not only press people to spend more time on paid activities but also lead them to spend less time on work that does not directly compensate them with money (i.e., volunteer activities). If hourly payment and other organizational practices that induce an economic evaluation of how to spend time result in individuals engaging in fewer volunteer activities, organizational management practices may be spilling over into other spheres of life. In thinking about these issues, exploring how management practices affect the decision logics that people employ both on and off the job would seem to be an important avenue of research to pursue.

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Sanford E. DeVoe (sanford.devoe@rotman.utoronto.ca) is an assistant professor at the Rotman School of Management, University of Toronto. He received his Ph.D. in organizational behavior from Stanford University. He studies the psychological dimensions of incentives within organizations.

Jeffrey Pfeffer (pfeffer_jeffrey@gsb.stanford.edu) is the Thomas D. Dee II Professor of Organizational Behavior at the Graduate School of Business, Stanford University. He received his Ph.D. in organizational behavior from Stanford University. He studies power and influence in organizations and the connections between managerial action and knowledge.



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