

DISCUSSION PAPER SERIES

IZA DP No. 14723

**The Effect of Work Schedule Control
on Volunteering among Early Career
Employees**

Noemi Mantovan
Robert M. Sauer
John Wilson

SEPTEMBER 2021

DISCUSSION PAPER SERIES

IZA DP No. 14723

The Effect of Work Schedule Control on Volunteering among Early Career Employees

Noemi Mantovan

Bangor University

Robert M. Sauer

Royal Holloway University of London and IZA

John Wilson

Duke University

SEPTEMBER 2021

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

The Effect of Work Schedule Control on Volunteering among Early Career Employees

Recent trends in the labor market see increasing numbers of workers having to deal with “schedule precarity” including volatile hours, rotating shift work, unpredictable work hours and lack of choice on the part of the employee. These trends are of concern to those interested in fostering levels of civic engagement because they potentially limit volunteering. This study uses data from the National Longitudinal Survey of Youth 1997 (NLSY97) containing information on work schedules in 2011 and 2013 among employees to determine the effect of changes in work schedules on becoming a volunteer using transition regressions. We investigate interactions between work schedule measures and pay structure because workers paid by the hour have lower volunteer rates than salaried workers. The study finds that, while three of the schedule dimensions are unrelated to volunteering, transitioning towards more schedule control has a positive effect on volunteering. However, interaction analysis shows this positive effect is confined to salaried workers whereas for hourly paid workers the effect is negative. The results support the idea that having more freedom to set one’s work schedule reduces work-life conflict but suggest that this positive effect is limited to those who can take advantage of it.

JEL Classification: J10, J20, J30

Keywords: volunteer work, precarious employment, work-schedules, pay structure

Corresponding author:

Robert M. Sauer
Royal Holloway College
University of London
Egham, Surrey TW20 0EX
United Kingdom

E-mail: robert.sauer@rhul.ac.uk

An increasing number of workers in the United States are losing control over their work schedules. Nearly half of US workers contacted by the General Social Survey in 2002 and 2006 said that their “employer decides” their work schedule while only fifteen percent were “free to decide” and the remaining forty percent said they could “decide within limits” (Golden 2015: 2). In addition, more workers are facing schedules that are “non-standard” (i.e. outside normal 9-5 working hours), volatile, and unpredictable. Working these schedules has been shown to intensify conflict between work and social life (Albertsen *et al.* 2008). They are therefore of considerable interest to those concerned about maintaining and perhaps increasing levels of civic engagement in the community, including doing volunteer work. If these new forms of employment become more widespread then perhaps the organizations that rely heavily on volunteer labor will find it even more difficult to attract people to work for them.

Volunteer work is a form of “serious leisure”, a spare time activity (Stebbins 1996). It stands to reason, therefore, that work hours limit volunteer hours, as evidenced for example in the volunteer rate difference between full-time and part-time workers (Freeman 1997; Lup and Booth 2019; Musick and Wilson 2008; Qvist 2021; Piatak 2016; Taniguchi 2012; Wiertz and Lim 2019; Wilson and Musick 1997). However, simply counting the number of hours spent on the job is not sufficient to fully comprehend how work time limits activities off the job. The schedule trends described above consist of changes not in how many hours employees work but in the timing, variability, predictability and control over hours worked. These new arrangements have been termed “work hours insecurity” (Alexander and Haley-Lock 2015) or “schedule precarity” (Schneider and Harknett 2019). Although “insecurity” and “precarity” refer directly to employees control over their schedules this is only one of four schedule measures we focus on but we retain the terms to connect with previous literature on work scheduling.

Although the impact of work schedules on volunteering has attracted some attention in the past research on this topic has been limited by lack of detailed information on employment contracts and longitudinal data capable of revealing within-person changes over time. The study reported here uses data from the US National Longitudinal Survey of Youth 1997 (NLSY97) which contains, in a special module, unusually detailed information on four work schedule measures: volatility, shift work, predictability, and schedule control. The information is given by a panel of employees who are interviewed on two consecutive occasions thus enabling us to see if

the changes in work schedules has any effect on volunteering. In addition, we develop the research on work schedules and volunteering further by examining whether method payment, salaried or hourly, moderates this effect.

In what follows we begin by describing schedule precarity. We then explain why schedule precarity might limit volunteering, citing the research that has addressed this issue. On the basis of this explanation we ask whether workers who experience a reduction in schedule precarity are more likely to become volunteers. We then use the research on volunteering and pay structure to ask if the benefits of more secure and predictable work schedules as far as becoming a volunteer is concerned are greater for salaried than hourly paid workers. The study thus extends our knowledge of how labor market experiences influence volunteering beyond the somewhat simplistic assumption that the number of hours spent working is the only or the most important measure of work hours.

Schedule Precarity

A traditional job pays a wage or salary, often has an implicit contract for continuing employment relationship, a predictable work schedule, predictable earnings, and work supervised by the organization paying the salary (Mas and Pallais 2020). This employment structure is no longer guaranteed in the labor market of modern economies, at least as far as work schedules are concerned. More and more workers, especially in service industries, are confronted by absence of advance schedule notice, unanticipated schedule changes, and variations in days of work, largely without input from the employee (Ananat and Gassman-Pines 2021; Henly and Lambert 2014). Increasingly, employees are assigned different days, shifts, hours, or any combination of these from one day, week, or month to the next as their employers shuffle their work force to meet fluctuating demand (Alexander and Haley-Lock 2015). Under these circumstances, workers have little control over the extent to which work time encroaches on their social lives because “precarious work is primarily intended to achieve benefits for employers” (Arlinghaus *et al.* 2019: 188). This would include employment described as “contingent” which typically entails variable hours that can be changed at short notice, and the same thing could be said of “on-call” or “zero-hours” contracts where unpredictable work schedules are common place.

Schedule Precarity and Limits on Volunteering

In order to encourage people to volunteer for them, organizations typically time their activities to occur outside of conventional work hours. Thus, any employee whose work is unconventionally scheduled will experience difficulty finding time to volunteer. Working the night shift, for example, means you are “working at socially valuable times”; you have time off but at the wrong times (Arlinghaus and Nachreiner 2016: 40). It is hardly surprising that survey data show employees working the night or evening shifts volunteering at a lower rate than those working during the day (Cornwell and Warburton 2014). Rotating shifts are even more disruptive: employees working these shifts are the least likely of members of the work force to volunteer (Soo and Gong-Soog 1998). Working a split shift (split between early morning and the end of the day), on the other hand, increases the likelihood of volunteering compared to regular day shift work because it leaves more of the day time free for volunteering (Gomez and Gunderson 2003).

Besides encroaching on conventional periods of free time, schedule precarity also means uncertainty, where variable work hours are not determined by the employee. To appreciate why this uncertainty would discourage volunteering it is important to recognize that volunteer work “often carries with it a clear obligation to be at a particular place, at a specified time, to perform a certain function” (Stebbins 1996: 218). This is what separates it from informal care. It entails a commitment, an obligation to turn up on time. Just like paid work, coaching a sports team, delivering Meals on Wheels, mentoring children after school, are jobs that have their own schedule. It is well-known that the less latitude workers have to determine how many hours they work, when, and where the less control they have over their life outside the workplace, and the more “work-life conflict” they experience (Gerstel and Clawson 2018; Kelly and Moen 2007; Schieman and Young 2010). It follows that uncertainty about paid work schedules would make it harder to commit to activities such as volunteering.

Although social scientists have long been aware of the “long arm of the job” when it comes to volunteer work (Wilson and Musick 1997) very little attention has been paid to the impact of work schedules on volunteering. Wuthnow (1998: 76) mentions that “women who feel they have control over their daily schedule at work are almost twice as likely to volunteer as those who do not control their schedules.” Two studies using the same data drawn from a subsample of older Americans find that those who are still working and have access to policies which enabled them

to reduce their work hours are more likely to volunteer than those who do not have this opportunity (Havens and McNamara 2007; McNamara and Gonzales 2011). A study of Japanese workers showed that those with no fixed work schedule volunteered at a lower rate than part-time workers, although they were still more likely to volunteer than those working full-time (Musick and Wilson 2008). Qvist (2021) found that, compared to those with regular work hours, the highest degree of flexible work arrangements (including the opportunity to work from home and full autonomy in deciding when to work) increased total annual hours of volunteering by ten hours. But the effect of flexibility was mainly due to increasing the probability of volunteering at all rather than the number of hours contributed thus raising the possibility that it can lead workers to increase work efforts, to the exclusion of volunteering, in order to justify their relative freedom (Qvist 2021: 23). These studies provide some support for the theory that, quite aside from the sheer number of hours worked, schedules can deter volunteering but they are very limited in their measurement of work schedules, typically using only one or two questions to measure scheduling practices and in two cases using the same subsample of older respondents. Only Qvist (2021) uses longitudinal data, necessary for determining the effect of changes in work schedules on entry into volunteering.

There is another shortcoming in the previous studies. None of them consider the possibility that the influence of work schedules on volunteering might be moderated by other factors. First, the research literature suggests that the schedule dimensions interact with each other (Lambert *et al* 2019). For example, if volatility is combined with high schedule control the employee is empowered rather than weakened. In an analysis of Canadian data, Turcotte and Gaudet (2013) find that schedule flexibility increased volunteer rates but only when it is combined with working from home.

Second, in review of sociological research on work scheduling, Golden *et al.* (2013) recommend that more attention be paid to the possibility that work schedules affect the social life of hourly workers differently than salaried workers. For example, so-called “flexible” work arrangements might work to the benefit of salaried employees who feel confident about taking time off but to the detriment of hourly workers who are concerned about what their employers will think or who cannot afford to take advantage of it. [In their study of contract workers Evans *et al.* (2004) found that managers interpret use of flexible programs as evidence of lack of commitment, motivation and productivity.] There is evidence that being able to choose work hours means

different things to employees of different occupational statuses. A study of mothers of school-age children found that the work schedules of professionals allowed them to incorporate school activities in their workdays (Haley-Lock and Posey-Maddox 2016). In contrast, mothers in low-wage service industry jobs had unpredictable schedules. Any time they took off to help at the school was uncompensated. In fact, any “flexibility” they had was too costly to use. They were advised by their employers to take vacation time in order to volunteer. The suggestion here is that only salaried workers stand to benefit from secure and predictable schedules over which they exercise some control (Mas and Paillas 2020).

The difference between the professionals and low-wage service industry workers is not only that time off for volunteering would be more costly to the wage earners or that they are discouraged from volunteering because it might signal lack of commitment to the job. They are also different in the way they are paid. Because they are paid for each hour they work (and not paid for each hour they do not work) hourly paid workers are acutely aware of the economic cost of each hour they spend volunteering. In short, if work time is palpable and easily calculated then doing volunteer work is less attractive because its cost is more apparent. Therefore, any organizational practice that makes it easier for workers to precisely value their time “will tend to make time more like money and influence how people make trade-offs between time and money” (DeVoe and Pfeffer 2007a: 2). This theory has been supported in a number of experimental studies (DeVoe 2019; Pfeffer and Devoe 2008). In addition, analysis of 2003 US Time Diary data shows that the rate of volunteer participation for hourly paid workers is about five percent less than that for non-hourly paid workers and they spend 36% less time volunteering (DeVoe and Pfeffer 2007b). [NB: Lup and Booth (2019) find no effect of pay by the hour on volunteering in UK data.]

Taking these moderation possibilities into account, the current study seeks answers to the following research questions. Do work schedule transitions - from shift work to a “normal” schedule, toward less volatility, more predictability and greater schedule control - increase the propensity to volunteer? Second, is the effect of any of these work schedule dimensions on volunteering moderated by the others? Third, is the effect of any of these work schedule dimensions moderated by pay structure?

Data

The information on employees' work schedules comes from a specially designed module included in the 2011 and 2013 waves of the National Longitudinal Survey of Youth 1997 (NLSY97). It provides unusually detailed information on four work schedule measures (Lambert *et al.* 2014), based on the premise that work schedules are multi-dimensional. They include not only number of hours worked but advance notice, time of day, fluctuation from day to day, and control over how these requirements are determined. Specifically, the dimensions measured in the NLSY97 module are: *volatility*, or the degree to which a worker's hours fluctuate from day to day; *non-standard work timing*, meaning shift work outside the "normal" 6:00am – 6:00pm period on weekdays; *predictability*, or the extent to which work hours and their timing can be anticipated by employees; and *schedule control*, or the degree to which employees choose their work schedule and whether they control certain aspects of their schedule.

The NLSY97 is an often-used panel study that follows a nationally representative sample of U.S. individuals born between 1980 and 1984. The first interviews in the survey, administered in 1997, numbered 8,984 respondents aged between 12 and 17. They were surveyed annually until 2011 and biennially thereafter. Data are currently available from Round 1 (1997-98) through Round 18 (2017-18). Of the original respondents in 1997, 6,734 (75%) remained in the study through 2018.

The sample used in this study is drawn from rounds 15 and 16, corresponding to the calendar years 2011 and 2013, when sets of questions about both volunteering and work-schedule control were asked. In 2011 and 2013, there are 7,423 and 7,140 respondents, respectively, amounting to 14,563 person-year observations. Individuals who did not answer the volunteering question are removed from the sample thus eliminating 666 person-year observations. Individuals who indicated that the reason for volunteering was either by court order or a requirement for a school or a religious group were also excluded from the sample. This reduces the number of individuals in the sample to 6,765 in 2011 and 6,454 in 2013, with 5,738 contributing in both years. Because the analysis focuses on schedule control, we eliminate 916 individuals who do not belong to the universe where the schedule questions are asked or who declined to answer them. Finally, we eliminate 310 observations in which schedule control is said to be determined by neither the employer nor the employee. This is due to the small sample size for this response and the fact that

there is no obvious way to combine it with the other categories. The final sample amounts to 11,991 person-year observations, which constitutes 82.3% of the original population of respondents.

The size and composition of the analytical sample was influenced by some other features of the NLSY97 and its work schedule module. Work-schedule questions were asked only of individuals who had a civilian job. Respondents not in the labor force and the self-employed were excluded from the module¹. This poses a potential problem of selection bias. To cope with this problem, we adopted two strategies. The first was to include the unemployed and the self-employed in the analysis as separate categories thus reducing the selection bias that might arise from their exclusion. The second strategy is to exclude them from the analysis altogether, the results of which we report in the Appendix (Table A4).

Even amongst employees there are missing cases on the work schedule questions because 26% percent were inadvertently skipped in the 2011 wave. Skipped respondents were more likely to be employed in salaried jobs (see Lambert *et al.* 2014 for more discussion).² Keeping these observations in the sample, and controlling for their presence rather than removing them completely, helps reduce the selection bias that would otherwise occur. They are added as a separate control in all specifications displayed in the main text. Incorporating these respondents should reduce selection bias by allowing the inclusion of the relationships between many of the controls and volunteering, which if excluded could possibly give a biased picture of these latter relationships. And that indirectly might change the relationship between work schedules and volunteering. In the Appendix, we show that the main results are robust to eliminating these skipped cases.

Dependent Variable

The volunteering frequency question in the 2011 and 2013 survey is as follows: “In the last 12 months, how often did you do any unpaid volunteer work, including activities aimed at changing social conditions, such as work with educational groups, environmental groups, landlord/tenant groups, or other consumer groups, women’s groups or minority groups?”

1. Never
2. 1-4 times

3. 5-11 times

4. 12 times or more.”

In the multivariate analysis this variable is set to equal one if the individual reports having volunteered during the year, regardless of the frequency of volunteering, and is equal to zero otherwise. Ideally, we would have preferred to disaggregate the frequency of volunteering to measure it more precisely. However, this was not feasible because the categories 5-11 times and 12 times or more are scarcely populated (see Table 1.A). Most of the respondents who reported volunteering did so only 1-4 times a year.

Independent Variables

Volatility

This variable combines least, most, and usual hours worked to provide a measure of work volatility. It is defined as the difference between most and least hours worked in the last month divided by number of regular hours worked each week.

Non-standard work timing

This item asks respondents when they usually work. They are given the following options: 1, regular day shift; 2, regular evening shift; 3, regular night shift; 4, rotating shift (changes periodically from days to evenings or nights); 5, split shift (consists of two distinct periods each day); 6, irregular schedule or hours.

Predictability

The wording of this question is “How far in advance do you usually know what days and hours you will need to work?” The predictability variable is defined as follows: (1) one week or less, (2) between 1 and 2 weeks, (3) between 3 and 4 weeks, (4) 4 weeks or more / always work the same schedule.

Schedule Control

This item is worded as follows: “Which of the following statements best describes how your working hours are decided? By working hours, we mean the time you start and finish work, and not the total hours you work per week or month.

1. Starting and finishing times are decided by my employer and I cannot change them on my own
2. Starting and finishing times are decided by my employer but with my input
3. I can decide the time I start and finish work, within certain limits
4. I am entirely free to decide when I start and finish work
5. When I start and finish work depends on things outside of my control and outside of my employer's control.”

As already noted, respondents who chose option 5 are excluded from the analysis. For details on the coding of this variable for transition regressions see below.

Pay Structure

The wording of the question is: “on your job, what is the easiest way for you to report your total earnings before taxes or other deductions: hourly, weekly, annually, or on some other basis? We transform this into a binary variable, equal to 1 if the person is paid by the hour and 0 otherwise.

Control Variables

Volunteer work occurs disproportionately amongst middle class individuals (Musick and Wilson 2008). Control over work schedule is also associated with class: the less power employees have the more likely is their schedule to be managed by someone else (Boushey and Ansel 2016; Chung 2019; Gerstel and Clawson 2015; Lyness *et al.* 2012; Kelly and Moen 2007). Hence the need to control for occupation. Women are less likely than men to have schedules that enable them to control their start and stop times (Ala-Mursula *et al.* 2004; Gerstel and Clawson 2015) but in the US they are more likely to volunteer. We therefore control for gender. [NB: A recent European study shows no gender difference in schedule control (Chung 2019).] As noted above, hours

worked are linked to volunteering, and part-time work “doubles a worker’s chances of having variable hours” (Boushey and Ansel 2016: 3). We therefore use a part-time/full-time control.

Other, more demographic, controls are also used although the demography of work scheduling has resulted in conflicting findings. Parental status is positively related to volunteering, but it is not clear whether it is related to work schedules. One study found that female workers whose schedules vary and who have no control over their work hours were less likely to have children in the household (McCrate 2012) but another study found that living with children was not related to level of schedule control (Lyness *et al.* 2012). Marital status is positively related to volunteering but little is known about its relation to work schedules. Schneider and Harknett’s (2019) examination of schedule control and well-being includes a control for marital status, but they do not report its relation to schedule control. To eliminate any possibility that marital or parental status might confound the relation between work schedule and volunteering they are included as control variables in the models. Other controls are age, education, race, self-employment, being in non-traditional unemployment, religious attendance, hourly income, sector (Public, Private, NGO), and unemployment.

Descriptive Statistics

Table 1.A displays the distribution of volunteering and schedule control, predictability, non-standard work timing, and work hours volatility responses for the whole sample (Column (1)) and the frequency of volunteering (1-4 times or more during the year, Column (2)). Column (3) shows the p-value of the difference in volunteering between the base category and the category considered for each variable. The summary statistics show that 39.7 percent of the sample reports having volunteered in the past 12 months, mostly 1-4 times during the year. Amongst the employed, 74.6 percent have jobs in which the work-schedule is decided by the employer, either exclusively or with some employee input. The employee decides the work-schedule, freely or within limits, in 26.4 percent of the cases. The incidence of volunteering increases with work-schedule control amongst the employed.

Table 1.A about here

With regards to work schedule predictability, the distribution is non-linear, with 32.3 per cent having one-week notice or less and 51.3 per cent having 4 weeks or more notice. Categories

between 1- and 4-weeks' notice are less densely populated (11.2 and 5.3 per cent). The volunteering rate is higher the longer the notice. Most individuals (69.7 per cent) work a regular day shift, with 11.5 per cent having a regular evening or night shift, and 18.9 per cent have rotating/split or irregular shifts, with volunteering being more common among individuals who work a regular shift, except for a spike in the "irregular" category probably due to a small population in the category. Finally, most individuals work stable hours (80.5 per cent), while 19.5 per cent have unstable working hours. For the purpose of this table, we consider as unstable any difference between least and most hours works, but we use the continuous variable in the analysis. There is no statistically significant difference in volunteering between the two groups.

Table 1.B about here

Table 1.B continues the analysis of table 1.A for the rest of the personal and employment characteristics. The employed have a higher incidence of volunteering than the unemployed and the incidence of volunteering increases with work-schedule flexibility among the employed, albeit the difference is not statistically significant. The figures in Table 1.B show correlations commonly found in other studies of volunteering: there are clear and statistically significant differences between volunteers and non-volunteers when it comes to education, occupation, sector, hourly payments, gender, race, and marital status, all in the expected direction.

[Table A1 in the appendix shows correlations between volunteering and work schedule variables.]

Methods

To investigate the main and interaction effects of the schedule measures and pay structure we first pool data from the two waves to show the distributions of and zero-order relations between the variables in the study. We then exploit the longitudinal structure of the data by estimating transition models, which apply a change-score method (Allison, 1990; Johnson, 2005). It measures the likelihood that a person who is not volunteering in the first wave will volunteer in the second wave following a change in work schedule or pay structure. Transition models eliminate omitted and unobserved fixed characteristics that could bias results of cross-sectional analyses.

The within-person analysis is a rigorous test of the effect of work schedules on volunteering. The main effect of interest in the within-person analysis is the influence of *changes*

in work-schedule on the *entry* into volunteering. Transition regression is similar to a fixed-effects (FE) strategy, which corrects for biases due to time-invariant unobserved omitted variables. However, FE assume identical coefficients for entry and exit, which is a limitation compared to transition regressions which allow different coefficients for entry and exit. There is strong evidence that entry and exist respond differently to changes in employment and therefore should not be constrained to be equal (Wiertz and Lim 2019). Exits from the volunteering state can be analyzed separately.

We investigate interaction effects between each of the schedule measures and between each of the schedule measures and pay structure³. Equation (1) summarizes the model we use for starting volunteering, which estimates for the i individual the likelihood of volunteering in T=2 (2013), given that she was not a volunteer in T=1 (2011). The right hand-side of the equation includes the intercept α_0 , a vector containing changes in work schedule (CWS). Depending on the model estimated, the right hand-side will also contain change in pay structure (PS), interaction between elements of CWS and PS (CWSxPS), controls measuring states at T=1 (X) and the other changes between T=1 and T=2 (Y), as well as an individual error term ε_i . Equation (2) repeats the same process for the likelihood of not volunteering in T=2 (2013), given that the employee was a volunteer at T=1 (2011).

$$\Pr (Y_{i2=1}|Y_{i1=0}) = \alpha_0 + \beta_{CWS}CWS_i + \beta_{PS}PS_i + \beta_{CWSxPS}CWSxPS_i + \beta_x X_i + \beta_y Y_i + \varepsilon_i \quad (1)$$

$$\Pr (Y_{i2=0}|Y_{i1=1}) = \alpha_0 + \beta_{CWS}CWS_i + \beta_{PS}PS_i + \beta_{CWSxPS}CWSxPS_i + \beta_x X_i + \beta_y Y_i + \varepsilon_i \quad (2)$$

Wiertz and Lim (2019) employ a nearly identical estimation method, focusing on the effect of labor market integration on entry rates into volunteering, rather than the effect of work schedules. Their use of the change-score estimation method is more dependent on functional form (the log transformation) and may introduce additional measurement error compared to the linear probability model (see Allison 1990). The linear probability model is also more straightforward to interpret as well as robust to non-linear transformations (such as probit and logit) that constrain estimated probabilities to be between zero and one. It should be noticed that coefficients estimated using OLS are very similar to the marginal effects of logit estimates (see note 6 in the Results section).

Variable Coding for the Transition Analysis

For transition into volunteering, the estimation sample for the transition regressions is restricted to individuals who report not having volunteered during the year 2011. The dependent variable is equal to one if the individual reports having volunteered during the year 2013, regardless of the frequency of volunteering. If the individual does not report having volunteered in 2013, the value of the binary dependent variable is equal to zero.

In order to deal with the problem of low numbers in several response categories the independent variables in the transition regressions are specified as follows. If an individual is employed in 2011 and the answer to the work-schedule control question is “1” (Starting and finishing times are decided by my employer and I cannot change them on my own) and the individual is employed in 2013 and the answer to the work-control schedule question is “2” (Starting and finishing times are decided by my employer but with my input), “3” (I can decide the time I start and finish work, within certain limits) or “4” (I am entirely free to decide when I start and finish work), then the binary variable “more work-schedule control” takes the value one. In all other cases it is equal to zero. Note that transitions between unemployment and employment are also assigned a value of zero for the “more work-schedule control” variable. Thus, “more work-schedule control” receives a value of one only when the employee clearly has more work-schedule control on the job in 2013 than in 2011. Disaggregating transitions between the various work-schedule control categories “1” through “4” is not feasible due to sample size limitations.

Coding transitions for the other work schedule variables is simpler. They are: more predictability, measured as the transition from short to long notice (therefore from 1 week to more than one week notice); the transition from irregular to regular schedule (from any other type of shift to regular day shift); and the transition from more to less volatile hours. Finally, in order to fully understand the effect that the pay structure has when interacted with work schedule, we generate a dummy variable equal to 1 if the person is in pay by the hour status in 2011 and 2013 or if the person transitioned to pay by the hour in 2013, having previously not been paid by the hour. Most of these individuals, except for 12 who are unemployed in 2011 and paid by the hour in 2012, are employed both in 2013 and 2011⁴. Table A2 in the Appendix describes the full coding used in the transition analysis for each main and control variable.

Results

Transition (within-person) regression models are next estimated. The standard errors are clustered at the individual level. The results of transition regressions in Table 2 show the within-person effects of a change in work-schedule on the propensity to become a volunteer between the years 2011 and 2013.

Table 2 about here

Table 2 Columns (1) to (4) show the transition regressions for each of the schedule variables. No variables are significant except for transitioning towards less volatile hours. However, this result is not robust to the inclusion of other variables in the regressions, and thus shows a rather weak effect. This would seem to rule out any effect of work scheduling on volunteering, at least among this group of early career Americans. But these regressions do not take into account the possibility of interaction between each of the work schedule measures and between them and pay structure. In the next section we explore these interactions by adding a further step to the estimation.

Interactions

The second stage of the analysis examines interactions between the work schedule measures and between each of them and pay structure. The results for the interactions between the schedule measures are shown in Table A3 in the Appendix. No significant interactions were found. We then turned to the interaction between pay structure and work schedule. Columns (5) to (8) of Table 2 include both “Being and transitioning to being paid by the hour” and its interaction with every schedule variable. All columns (1 to 8) include a control for individuals who were wrongly skipped in 2011

Column (5) of Table 2 shows that transitioning towards more schedule control has a coefficient of .124, corresponding to a 49.2% increase in volunteering⁵. Being or transitioning to being paid by the hour has a precisely estimated coefficient of -.005, corresponding to a decrease in volunteering of 2.0%. The interaction between these two variables, as expected, is negative, with a magnitude of -.155, corresponding to a decrease in volunteering of 61.5%. Thus, moving towards having more schedule control has a positive effect on volunteering for salaried individuals;

if the employee is salaried, more control over one's work hours increases the probability of entering into volunteering by 61.5%. On the other hand, having more power over one's work schedule has an opposite effect for employees who are paid by the hour; for them, the increase in control lowers the probability of entering into volunteering. The overall effect in this case is a coefficient of $-.031$, corresponding to a decrease in the probability of volunteering of 12.3%.

Note that the estimated constant in the regression corresponds to a weighted average entry rate into volunteering amongst a heterogeneous subgroup of individuals. This subgroup, or control group, includes people who are unemployed in both years, who transit between unemployment and employment, and who change jobs but do not gain more work-schedule control in their employment transition. The significant effect of "more work-schedule control" is driven by the substantially higher observed entry rate into volunteering amongst the "treatment" group relative to this control group. In columns (6), (7) and (8) of Table 2, we repeat the interaction analysis for the other schedule variables; however, in each case, neither the variable nor the interaction with pay structure is significant.

Table 3 about here

Table 3 focuses more narrowly on transitioning towards more schedule control, because it is the only variable among the schedule variables with an impact on becoming a volunteer. While Column (1) replicates the results of Column (5) in Table 2, in Column (2) a broad set of fixed and time-varying covariates are added to the regression. These covariates include formal education, race, gender, age, religious attendance, different labor market trajectories (movements between unemployment, part-time and full-time work, sector, income), changes in job characteristics other than schedule control (i.e., entering or leaving a professional occupation or entering a job that pays by the hour, increased predictability, moving to standard working time, having less volatile hours) as well as changes in marriage, fertility and the age of children. The results show that the point estimate on "more work-schedule control" is only slightly reduced, remaining large in magnitude and precisely estimated. The coefficient of $.109$ corresponds to a 70.3% increase in the entry rate of volunteering. The small decrease in the effect is mostly due to formal education. There is no effect of race or gender. The interaction between transition towards "more control over schedule" and "being paid by the hour" retains magnitudes and significance, with a coefficient of $-.140$, corresponding to a decrease in volunteering of 90.1%. The coefficient of "Being or transitioning

to being paid by the hour” is no longer statistically significant; however, the three variables (“more control”, “pay by the hour”, and their interaction) are jointly precisely estimated at the 0.05% level.⁶

[Table A2 in the Appendix replicates the regressions of Table 3 after eliminating all unemployed, self-employed and erroneously skipped individuals in 2011. Results are robust both in terms of magnitude and precision.]

Finally, we repeat all the analysis for exiting volunteering. The estimation sample for the transition regressions is restricted to individuals who report having volunteered in 2011. The dependent variable is equal to one if the individual reports not having volunteered in 2013. If the individual reports having volunteered in 2013, the value of the binary dependent variable is equal to zero. The results, not reported but available upon request, do not show a statistically significant effect of “more work-schedule control” on transitions out of volunteering. This should come as no surprise. The factors that influence individuals to volunteer in the first place are not necessarily the same factors that prevent them from quitting (Locke *et al.* 2003). Ceasing to be a volunteer is not the same as becoming one. People become habituated to certain behaviors, especially those they value. They will normally “find a way” and “make time” to continue their volunteer work. Studies show high degrees of autoregression in volunteering (Choi and Chou 2010). Volunteer work also has a strong moral dimension, resulting in behavioral “stickiness” in which people are reluctant to abandon behaviors they feel are right or find rewarding (Beaton and Torgler 2018: 2192). In addition, while external circumstances undoubtedly play a role in people quitting volunteer work there are many other “internal” circumstances, such as poor volunteer management, that are probably more important. This further justifies separately estimating entry and exit regressions as opposed to running fixed-effects regressions that constrain the coefficients to be identical for both entry and exit.

Finally, we should note that, the more tests that are performed, the higher the likelihood of finding statistical significance. But we focused our analysis from the outset on the interaction between work schedule and being paid by the hour. The same is true for the other tests (interactions between schedule variables and additional controls), which are driven by a-priori theoretical considerations. In addition, when performing the analysis, we are more concerned about the

magnitude of the effects and their meaningfulness than the precision of the estimates as proxied by various cut-off levels of statistical significance.

Limitations

The special module in the NLSY97 provides unusually detailed information on the work schedules of Americans in the early stages of their careers. However, information on both volunteering and work schedules is gathered on only two occasions, 2011 and 2013. Having more waves and observing additional transitions could either strengthen or diminish the magnitude of the effects, or we might have found no substantial change at all. Results of the exit regressions that we ran with the two waves at our disposal suggest that the estimates are not substantially biased. Since we do not find any significant effects that help explain exits from volunteering, those who are in the pool of potential re-entrants to volunteering are as good as a random sample; thus, we would expect them to select back into volunteering in the same way as our observed sample. On the other hand, if we also observed more exits with additional waves, perhaps this random exit phenomenon would not hold, making it impossible to determine the magnitude of a possible bias. Moreover, with additional waves, there is likely to be a more severe attrition problem which could introduce a new form of bias in the estimates. Second, survey respondents have reached ages 26-31 by 2011, the first year in which schedule questions were asked. They are just beginning their careers and are on the cusp of middle age, the prime time for doing volunteer work (Musick and Wilson 2008). It is not known whether the relation between work schedule, pay structure, and volunteering would be different among middle-aged workers.

A second limitation is the lack of information about work schedules among the self-employed. We partially address this by adding “non-traditional employment” to the analysis. That said, the main focus of schedule precarity studies is on the relation between employer and employee and who has the most control over work hours. This issue does not arise among the self-employed who, it must be assumed, are in control of their own work schedules. Nevertheless, studying the impact of work schedule on volunteering among the self-employed and non-traditional employed (e.g. time of day) could be a subject of future research.

Finally, a binary measure of volunteer status is used because the distribution of the sample across volunteer categories is highly skewed, leaving very few cases in the 5-11 and 12 times or

more a year categories. The vast majority of respondents who reported volunteering did so only 1-to-4 times in the previous year. This rather sporadic pattern of volunteering might help explain why some work schedule characteristics, such as shift work, have no effect on volunteering. Moreover, there are many transitions between volunteering frequencies in the data, rendering them particularly unstable. For the purposes of assessing the magnitude of the effect of work schedule on volunteering using all the frequencies would be less than ideal as results would not be robust and standard errors would vary widely depending on the specification. We find that collapsing volunteering frequencies into a binary variable leads to robust results.

Discussion

The study finds that workers who gain more control over their work schedule are more likely to become volunteers, but this depends on their pay structure. It therefore adds another dimension – the way work time is organized and controlled – to the study of the relation between employment and volunteering. It confirms the findings of (Havens and McNamara 2007; McNamara and Gonzales 2011) but with more complete measures of scheduling and with a much younger age group. It confirms the findings of Qvist (2021) about the positive effect of flexibility on volunteer status but improves on them in two ways. Instead of a single measure of flexibility (deciding when to work) the study reported here uses multiple measures and examines interactions between them and between each of them and pay structure. And instead of a measurement of flexibility on only on occasion (“the availability of flexible working arrangements were only collected in 2012” [Qvist 2021: 23]), the study reported here uses information gathered on two occasions thus permitting the use of transition regressions to determine the effect of within-person changes in employment schedules.

By taking advantage of the multiple measures of work schedules in the NYLS97 survey and including each in the same model we were able, for the first time, to calculate their respective strengths. As it happens, non-standard work timing and volatile work hours have no effect on entry into volunteering. To some degree this might be the result of many people volunteering only sporadically and thus being able to work around these work time obstacles. But the dependent variable we use is binary: we are measuring entry into volunteer status. This means that the explanation probably lies in the fact that the one dimension that does effect volunteering is *perceived control* over work time. It is one thing to work variable hours and another thing to have

no choice of what those variations might be. This suggests a psychological mechanism that might help explain why employees with little sense of control over their work do not become volunteers.

Mental health problems arise from employment relations that give little schedule autonomy or control to employees (Fenwick and Taussig 2001; Fenwick and Taussig 2004). These negative outcomes arise not so much from non-standard work schedules as they do from situations where workers believe they have no control over them. The mechanisms by which schedule precarity harms mental health include anticipation, planning for and coping with work demands, and reconciliation of work demands with family or personal life (Hurtado *et al.* 2015). Thus, even if workers are obliged to enter into non-standard work arrangements, they have a more positive experience if they can exercise some choice over them (Spreitzer *et al.* 2017). A Finnish study showed that lack of worktime control increased “psychological distress,” at least among women (Al-Mursula *et al.* 2004), while in the US more work schedule control was found to lessen general anxiety (Schieman and Glavin 2016). Significantly, it is not so much flexible work arrangements that affect mental health but “workers perception of schedule flexibility” (Grzywacz *et al.* 2008: 202). In short, there is a distinct possibility that a mechanism linking schedule precarity to volunteering is psychological. Precarious schedules are stressful and stress discourages getting involved in “community activities” (Golden 2015: 20).

This theory gathers support from research showing that lack of control over one’s life has discourages volunteering (Son and Wilson 2017). This does not mean that people are more generous, compassionate, caring, or altruistic because they feel in control. Nor does sense of control explain why people feel obligated to help others. Rather, it explains why people believe they *can* help others, or they *can* meet their community obligations. Feeling in control of their own fate and, convinced that their social environment is at least to some degree malleable, they are more inclined to “exert effort, try hard, initiate action, and persist in the face of failures and setbacks; they evince interest, optimism, sustained attention, problem solving, and an action orientation” (Skinner 1996: 556). When they do not feel in control, they behave in a very different manner. They tend to withdraw, retreat, escape, and otherwise become passive, finding it much harder to visualize being successful (Hitlin and Johnson 2015). Unfortunately, the NLYS97 does not contain the necessary data to test this mechanism hypothesis but future research should investigate this linkage.

Another possible psychological mechanism is anxiety created by the economic security resulting from schedule precarity (Cauthen 2011; Schneider and Harknett 2019). Low levels of psychological well-being make volunteer work more difficult to manage. (Son and Wilson 2015; Thoits and Hewitt 2001). Again, information on these possible mechanisms is absent from the NYLS97 but this is a promising direction of research on the social consequences of work scheduling.

Responding to suggestions by experts in the area of work scheduling (Arlinghaus and Nachreiner 2016; Golden *et al.* 2013) we investigated interactions between each of the four schedule dimensions and between each of the four dimensions and pay structure. We did not find any interaction effects between the schedule dimensions. However, we did find that salaried workers are more likely to seize the opportunity to volunteer if they transition to a work schedule over which they exercise more control. Salaried workers are typically more highly educated, occupy higher status jobs, work full-time and so on, all features associated with volunteering, but we control for those factors in the models. Intriguingly, hourly paid workers who make the same transition are less likely to become volunteers. A reviewer suggests that a possible explanation for this might lie in the literature on how members of different occupations use flextime provisions in their employment contracts. Hourly paid workers do not necessarily use flextime arrangements to create spare time for off the job activities. Evans *et al.* (2004) show that employees who choose contract work over regular employment, workers who are paid by the hour and whose work schedules are completely under their control, tend to work longer hours than if they were regular employees. Being acutely conscious of how they spend their time, they are reluctant to waste it on leisure pursuits.

In short, the conclusion of this study is that, as far as work schedules and volunteering are concerned the ideal combination is being paid a salary and exercising choice of the timing of one's work. This underlines the fact that, although volunteering is a common practice in many segments of society, it is still resource and social class dependent, an activity much more common among the middle classes. Preventing the encroachment of the "non-standard" work schedules into the labor market promises to benefit only those higher up the occupational ladder. And yet the study also suggests that any concern about the deleterious effect of new forms of employment on civic life is probably unwarranted: variations over time in shift work, volatile hours, and unpredictable

work schedules have no effect on the supply of volunteer labor. Perhaps different effects would be revealed with better counts of volunteer hours.

A final comment on causality is prompted by a reviewer's recommendation. Within-person transitions allow us to be more confident about assigning causal priority to work schedules. But reverse causation is possible if people choose their work schedules based on their volunteer commitments. Work schedules also have a subjective component, especially when it comes to having the freedom to choose when to work. Experimental findings suggest that becoming a volunteer changes the way people think about their allotment of time. People who devote time to helping others actually believe they have more free time – time to do as they like – chiefly because they acquire more self-efficacy (Mogilner *et al.* 2012). This opens up the possibility that employees who volunteer will report having more control over their work schedules than employees who do not volunteer. Future studies using multi-wave panel data would help tackle these causation problems.

Notes

¹ Some self-employed might have more control of their work schedules than others. The only information the NLSY97 provides with regards to other forms of employment is the difference between the “traditional” self-employed, who are likely to have more control over their schedule and individuals in “non-traditional” employment (also referred to as “on-call” workers). We control for both forms of employment. Another option would have been to construct proxies for the autonomy of occupation from other sources (see Yu and Kuo, 2017). However, this would imply different measures between employed and self-employed workers. While this approach would increase sample size and allow us to study self-employment at the same time, imputing the average flexibility for the occupation would result in a large loss of individual variation amongst those who stay in the same occupation, whilst changing their schedule. Hence, we think it is a contribution to be able to exploit the unusually detailed information at the individual level in this project.

² The regressions include controls for being employed in a job that pays by the hour. This helps to partially address biases due to sample selection. Thirty-nine percent of the observations in the subsample of employed people are in jobs that pay by the hour.

³ OLS regressions, not reported but available upon request, show having more control over the work schedule is associated with a higher probability of volunteering.

⁴ The variable is equal to 1 if the persons reports being unemployed in 2011 and then reports being paid by the hour in 2013. This happens for a very small number of observations, changing their value to 0 does not affect the magnitude or significance of the main results of the analysis.

⁵ Percentage increase in volunteering for each variable is calculated as the coefficient for the variable divided by the constant, expressed in percentage terms.

⁶ Using a logit estimation instead of a linear probability model would lead to similar estimated magnitude. The marginal effects for Table 3, Column 2 would be .092 for More Work-Schedule Control, -0.032 for being paid by the hour and -0.129 for their interaction.

References

Ala-Mursula, L., Vahtera, J., Pentti, J. & Kivimaki, M. (2004). 'Effect of employee worktime control on health: a prospective cohort study'. *Occupational and Environmental Medicine*, 61: 254-261.

Albertsen, K., Rafnsdottir, G., Grimsmo, A., Tomasson, K. & Kauppinen, K. (2008). 'Work hours and work-life balance'. *Scandinavian Journal of Work, Environment & Health*, 5: 14-21.

Alexander, C. & Haley-Lock, A. (2015). 'Underwork, work-hour insecurity, and a new approach to wage and hour regulation.' *Industrial Relations*, 54(4): 695-716.

Allison, P. (1990). 'Change scores as a dependent variable in regression analysis'. *Sociological Methodology*, 20: 93-114.

Ananat, E. & Gassman-Pines, A. (2021). 'Work schedule unpredictability: daily occurrence and effects on working parents' well-being'. *Journal of Marriage and Family*, 83: 10-26.

Arlinghaus, A. & Nachreiner, F. (2016). 'Unusual and unsocial? Effects of shift work and other unusual working times on social participation.' Pp. 39-54 in *Social and family issues in shift work and non-standard working hours* (I. Iskra-Golec et al. Eds). Springer International Publishing.

Arlinghaus, A., Bohle, P., Iskra-Golec, I., Jansen, N., Jary, S. & Rotenberg L. (2019). 'Work Time Society consensus statements: Evidence-based effects of shift work and non-standard working hours on workers, family and community'. *Industrial Health*, 57: 184-200.

Beatton, T. & Torgler, B. (2018). 'Volunteering and life or financial shocks: does income and wealth matter?' *Applied Economics*, 50(19): 2190-2209.

Boushey, H. & Ansel, B. (2016). *Working by the Hour: The Economic Consequences of Unpredictable Scheduling Practices*. Washington, DC: The Washington Center for Equitable Growth.

Cauthen, N. (2011). *Scheduling Hourly Workers: How Last Minute, 'Just in Time' Scheduling Practices are Bad for Workers, Families and Business*. New York: Demos.

- Choi, N. & Chou, R. (2010). 'Time and money volunteering among older adults'. *Ageing and Society*, 30: 559-581.
- Chung, H. (2019). 'Women's work penalty in access to flexible working arrangements across Europe'. *European Journal of Industrial Relations*, 25(1): 23-40.
- Cornwell, B. & Warburton, E. (2014). 'Work schedules and community ties'. *Work and Occupations*, 41(2): 139-174.
- DeVoe, S. (2019). 'The psychological consequences of thinking about time in terms of money'. *Current Opinion in Psychology*, 26: 103-105.
- DeVoe, S. & Pfeffer, J. (2007a). 'When time is money: the effect of hourly payments on the evaluation of time'. *Organizational Behavior and Human Decision Processes*, 104: 1-13.
- DeVoe, S. & Pfeffer, J. (2007b). 'Hourly payment and volunteering: the effect of organizational practices on decisions about time use'. *Academy of Management Journal*, 50(4): 783-798.
- DeVoe, S. & Pfeffer, J. (2010). 'The stingy hour: how accounting for time affects volunteering'. *Personality and Social Psychology Bulletin*, 36(4): 470-483.
- Evans, J., Kunda, G. & Barley, S. (2004). 'Beach time, bridge time, and billable hours: the temporal structure of technical contracting.' *Administrative Science Quarterly*, 49: 1-38.
- Fenwick, R. & Taussig, M. (2001). 'Scheduling stress: family and health outcomes of shift work and schedule control'. *American Behavioral Scientists*, 44(7): 1179-1198.
- Fenwick, R. & Taussig, M. (2004). 'The health and family consequences of shift work and schedule control: 1977 and 1997'. Pp. 77-110 in *Fighting for Time: Shifting Boundaries of Work and Social Life*, edited by Cynthia Fuchs Epstein and Arne Kalleberg. New York: Russell Sage Foundation.
- Freeman, R. (1997). 'Working for nothing: the supply of volunteer labor'. *Journal of Labor Economics*, 15(1): S140-S166.

- Gerstel, N. & Clawson, D. (2015). 'Inequality in work time: gender and class stratify hours and schedules, flexibility, and unpredictability in jobs and families'. *Sociology Compass*, 9: 1094-1105.
- Gerstel, N. & Clawson, D. (2018). 'Control over time: employers, workers, and families shaping work schedules'. *Annual Review of Sociology*, 44: 77-97.
- Golden, L. (2015). *Irregular Work Scheduling and Its Consequences*. Washington, DC: Economic Policy Institute.
- Golden, L., Henly, J. & Lambert, S. (2013). 'Work schedule flexibility: a contributor to employee happiness?' *Journal of Social Research and Policy*, 4(2): 107-135.
- Gomez, R. & Gunderson, M. (2002). 'Volunteer activity and the demands of work and family'. *Industrial Relations*, 58(4): 573-589.
- Grzywacz, J., Carlson, D. & Shulkin, S. (2008). 'Schedule flexibility and stress: linking formal flexible arrangements and perceived flexibility to employee health'. *Community, Work, & Family*, 11(2): 199-214.
- Haley-Lock, A. & Posey-Maddox, L. (2016). 'Fitting it all in: how mothers' employment shapes their school engagement'. *Community, Work & Family*, 19(3): 302-321.
- Havens, J & McNamara, T. (2007). *Civic Engagement: Volunteering Dynamics and Flexible Work Options: Issue Brief 07*. Boston: Boston College Center for Aging and Work.
- Henly, J. & Lambert, S. (2014). 'Unpredictable work timing in retail jobs: implications for employee work-life conflict'. *Industrial & Labour Relations Review*, 67(3): 986-1016.
- Hitlin, S. & Johnson, M. (2015). 'Reconceptualizing agency within the life course: the power of looking ahead'. *American Journal of Sociology*, 120(5): 1429-1472.
- Hurtado, D., Glymour, M., Berkman, L., Hashimoto, D., Reme, S. & and Sorenson, G. (2015). 'Schedule control and mental health: the relevance of coworkers' reports'. *Community, Work & Family*, 18(4): 416-434

- Johnson, D. (2005). 'Two-wave panel analysis: comparing statistical methods for studying the effects of transitions'. *Journal of Marriage and Family*, 67: 1061–75
- Kelly, E. & Moen, P. (2007). 'Rethinking the clockwork of work: why schedule control may pay off at work and at home'. *Advances in Developing Human Resources*, 94(4): 487-506.
- Lambert, S., Fugiel, P., & Henly, J. (2014). *Precarious Work Schedules among Early-Career Employees in the US: A National Snapshot*. Chicago: EINet (Employment Instability, Family Well-Being, and Social Policy Network). <http://ssascholars.uchicago.edu/einet>.
- Lambert, S., Henly, J. & Kim, J. (2019). 'Precarious work schedules as a source of economic insecurity and institutional distrust'. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 5(4): 218-57.
- Locke, M., Ellis, A. & Davis Smith, J. (2003). 'Hold on to what you've got: the volunteer retention literature'. *Voluntary Action*, 5(3): 81-99.
- Lup, D. & Booth, J. (2019). 'Work and volunteering: longitudinal relationships between work-related experiences and volunteering behavior'. *British Journal of Industrial Relations*, 57(3): 599-623.
- Lyness, K., Gornick, J., Stone, P. & Grotto, A. (2012). 'It's all about control: worker control over schedule and hours in a cross-national context'. *American Sociological Review*, 77(6): 1023-1049.
- McNamara, T. & Gonzales, E. (2011). 'Volunteer transitions among older adult Americans: the role of human, social, and cultural capital in later life'. *The Journals of Gerontology, Series B*, 66(4): 490-501.
- Mas, A. & Pallais, A. (2020). *Alternative Work Arrangements*. Working Paper 26605, National Bureau of Economic Research.
- McCrate, E. (2012) Flexibility for whom? Control over work schedule variability in the US. *Feminist Economics*, 18(1), 39-72.
- Mogilner, C., Chance, Z. & Norton, M. (2012). 'Giving time gives you time'. *Psychological Science*, 23(10): 1233-1238.

- Musick, M. & Wilson, J. (2008). *Volunteers: A Social Profile*. Bloomington, Indiana: Indiana University Press.
- Pfeffer, J. & DeVoe, S. (2009). 'Economic evaluation: the effect of money and economics on attitudes about volunteering'. *Journal of Economic Psychology*, 30: 500-508.
- Piatak, J. (2016). 'Time is on my side: a framework to examine when unemployed individuals volunteer'. *Nonprofit and Voluntary Sector Quarterly*, 45(6): 1169-1190.
- Qvist, H. (2021). 'Hours of paid work and volunteering: evidence from Danish panel data'. *Nonprofit and Voluntary Sector Quarterly*, 1-26.
- Schieman, S. & Glavin, P. (2016). 'Ironic flexibility: when normative role blurring undermines the benefits of schedule control'. *Sociological Quarterly*, 58(1): 51-71.
- Schieman, S. & Young, M. (2010). 'Is there a downside to schedule control for the work-family interface?' *Journal of Family Issues*, 31(10): 1391-1414.
- Schneider, D., & Harknett, K. (2019). 'Consequences of routine work-schedule instability for worker health and well-being'. *American Sociological Review*, 84(1): 82-114.
- Skinner, E. (1996). 'A guide to constructs of control'. *Journal of Personality and Social Psychology*, 71(3): 549-570.
- Son, J. & Wilson, J. (2015). 'The psycho-social processes linking income and volunteering: chronic financial strain and well-being'. *Sociological Forum*, 30(4): 1059-1081.
- Son, J. & Wilson, J. (2017). 'Education, perceived control, and volunteering'. *Sociological Forum*, 32(4): 831-849.
- Soo, K. & Gong-Soog, H. (1998). 'Volunteer participation and time commitment of older Americans'. *Family and Consumer Sciences Research Journal*, 27: 146-167.
- Spreitzer, G., Cameron, L. & Garrett, L. (2017). 'Alternative work arrangements: two images of the new world of work'. *Annual Review of Organizational Psychology and Organizational Behavior*, 4: 473-499.

Stebbins, R. (1996). 'Volunteering: a serious leisure perspective'. *Nonprofit and Voluntary Sector Quarterly*, 25(2): 211-224.

Taniguchi, H. (2012). 'The determinants of formal and informal volunteering: evidence from the American Time Use Survey', *Voluntas* 23: 920-939.

Thoits, P., & Hewitt, L. (2001). 'Volunteer work and well-being'. *Journal of Health and Social Behavior*, 42(2): 115-131.

Turcotte, M. & Gaudet, S. (2013). *Social Participation of Full-Time Workers*. Catalogue No 75-004-M. Ottawa, CA: Statistics Canada.

Wiertz, D. & Lim, C. (2019). 'The civic footprints of labor market participation: longitudinal evidence from the United States 2002-2015'. *Social Forces* 97(4): 1757-1783.

Wilson, J. & Musick, M. (1997). 'Work and volunteering: the long arm of the job'. *Social Forces*, 76(1): 251-272.

Wuthnow, R. (1998) *Loose Connections*. Cambridge: Harvard University Press.

Yu, W. & Kuo, J. (2017). 'The motherhood wage penalty by work conditions: How do occupational characteristics hinder or empower mothers?' *American Sociological Review*, 82(4): 744-769.

Table 1.A: Summary Statistics – Volunteering and Work Schedule

	Sample Proportion	Proportion Volunteer	Difference Volunteering from Base Category (Prob>ch2)	Person-year Observations Sample
	(1)	(2)	(3)	(4)
Volunteering:				
Never	0.603	-	-	7,230
1-4 times	0.262	-	-	3,141
5-11 times	0.055	-	-	654
12 times or more	0.081	-	-	966
Schedule Control:				
Schedule decided by employer	0.451	0.357	BC	2,979
Schedule decided by employer with input	0.285	0.426	0.000	1,886
Schedule decided by employee within limits	0.212	0.489	0.000	1,404
Schedule decided by employee	0.052	0.503	0.000	342
Predictability:				
1 week notice or less	0.323	0.352	BC	2,130
Between 1 and 2 weeks notice	0.112	0.419	0.001	735
Between 3 and 4 weeks notice	0.053	0.418	0.020	347
4 weeks or more / always work the same schedule	0.513	0.447	0.000	3,381
Standard and Non-Standard Work Timing:				
Regular day shift	0.697	0.428	BC	4,607
Regular evening shift	0.060	0.344	0.000	396
Regular night shift	0.055	0.314	0.000	361
Shift Rotates	0.096	0.390	0.037	634
Split Shift	0.070	0.354	0.026	464
Irregular	0.023	0.511		149
Hours Volatility:				
Stable working hours	0.805	0.414	BC	5,929
Volatile working hours	0.195	0.437	0.475	1,436

.Note: Column 3 contains the p-value of the statistical difference for the difference between the mean volunteering for the category compared to the base category (indicated as BC).

Table 1.B: Summary Statistics – Control Variables

	Sample Proportion	Proportion Volunteer	Diff Volunt from Base Category (Prob>ch2)	Person-year Observations Sample
	(1)	(2)	(3)	(4)
Unemployed	0.288	0.342	BC	2,978
Employed	0.737	0.415	0.371	7,373
Part time	0.173	0.400	BC	1,793
Full time	0.539	0.421	0.231	5,580
Self-employed	0.103	0.476	BC	762
Payed-employment	0.900	0.410	0.000	6,611
Non-traditional Epmloyment	0.050	0.394	BC	336
Traditional Employment	0.095	0.412	0.855	6,379
Not Paid by the Hour	0.614	0.446	BC	4,530
Paid by the Hour	0.386	0.356	0.000	2,843
Non-Professional Occupation	0.856	0.396	BC	6,296
Professional Occupation	0.144	0.536	0.000	1,058
Public Sector	0.127	0.515	BC	598
Private Sector	0.793	0.372	0.000	3,731
NGO	0.799	0.541	0.447	376
Hourly Income (Average)	1.014	-	-	7,224
Less than High School	0.076	0.211	BC	914
High School Degree	0.525	0.328	0.000	6,279
AA or BA Degree of higher	0.399	0.524	0.000	7,193
Male	0.488	0.366	BC	5,849
Female	0.512	0.427	0.000	6,142
Non-white	0.417	0.353	BC	5,991
White	0.583	0.428	0.000	6,990
Single	0.421	0.377	BC	5,029
Married	0.579	0.411	0.001	6,926
Religious Attendance: Never/Infrequent	0.963	0.384	BC	11,538
Religious Attendance: Weekly	0.296	0.732	0.000	355
Religious Attendance: More than Weekly	0.074	0.764	0.000	89
Age	29.86	-	-	11,991
Number of Children	0.926	-	-	11,991

Note: Age and Number of Children in Column (1) shows the mean for the sample. The sample includes individuals with volunteering information in either or both 2011 and 2013. It should be noted that self-employment and non-traditional employment are not technically control variables, but categories that do not overlap with the main explanatory variables, which are available only for individuals in paid employment. Column 3 contains the p-value of the statistical difference for the difference between the mean volunteering for the category compared to the base category (indicated as BC).

Table 2: Transition towards Volunteering and Interaction with Pay Structure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
More Work-Schedule Control	0.042 (0.036)				0.124* (0.051)			
More Predictability		0.032 (0.038)				0.027 (0.049)		
Non-Standard to Standard Work Timing			-0.005 (0.033)				-0.005 (0.041)	
Change in Hours Volatility				0.045* (0.021)				0.039 (0.023)
Being or transitioning to Pay by the Hour					-0.005* (0.019)	-0.060** (0.019)	-0.057** (0.019)	-0.052** (0.020)
Interaction Control*Pay by the Hour					-0.155* (0.069)			
Interaction Predictability*Pay by the Hour						0.035 (0.077)		
Interaction Standard Work Timing*Pay by the Hour							0.019 (0.068)	
Interaction Volatility *Pay by the Hour								0.001 (0.050)
Constant	0.241*** (0.010)	0.242*** (0.009)	0.245*** (0.009)	0.245*** (0.009)	0.252*** (0.011)	0.257*** (0.011)	0.259*** (0.011)	0.249*** (0.012)
N	2,802	2,802	2,802	2,802	2,802	2,802	2,802	2,802

Note: Robust standard errors in parentheses. All specifications control for being wrongfully skipped in 2011.

Table 3: Entry into Volunteering Regressions (OLS) – Interaction between More Schedule Control and Pay Structure – full set of controls

	(1)	(2)
More Work-Schedule Control	0.124* (0.051)	0.109* (0.052)
Pay by the Hour	-0.047* (0.019)	-0.031 (0.020)
Interaction Control*Pay by the Hour	-0.155* (0.069)	-0.141* (0.069)
More Predictability		0.027 (0.039)
Non-Standard to Standard Work Timing		-0.009 (0.034)
Change in Hours Volatility		0.027 (0.022)
Non-employed to Part-time		0.009 (0.050)
Non-employed to Full-time		0.054 (0.050)
Part-time to Full-time		0.031 (0.036)
Full-time to Part-time		-0.066 (0.039)
Part-time to non-Employed		0.038 (0.040)
Full-time to non-Employed		-0.047 (0.032)
Enter a Professional Occupation		-0.009 (0.045)
Leave a Professional Occupation		0.005 (0.060)
Entering Self-Employment		0.067 (0.062)
Exiting Self-Employment		0.115 (0.068)
Entering Non-Trad Occu		-0.041 (0.056)
Exiting Non-Trad Occu		0.100 (0.077)
Change in Hourly Income		0.007** (0.003)
Constant	0.246*** (0.010)	0.155*** (0.034)
N	2,802	2,796
Adjusted R-squared	0.005	0.027

Note: Robust standard errors in parentheses. * p<.05, ** p<.01, *** p<.001. Column (2) includes a dummy for being erroneously skipped in 2011, dummies for changing work sector from private to public and from private to NGO, dummies for frequencies of religious attendance, age dummies, being white, sex, education, as well as transitions into and out of marriage, giving birth and having children who reach primary school age.

Appendix

Table A1: Correlation between Volunteering and Work Schedule

	Volunteering	Schedule decided by employer	Schedule decided by employer with input	Schedule decided by employee within limits	Schedule decided by employee	Schedule decided by employer	1 week notice or less	Between 1 and 2 weeks notice
Schedule decided by employer	-0.065	1.000						
Schedule decided by employer with input	-0.048	-0.331	1.000					
Schedule decided by employee within limits	0.026	-0.248	-0.248	1.000				
Schedule decided by employee	0.069	-0.209	-0.209	-0.157	1.000			
1 week notice or less	-0.038	0.854	-0.388	-0.291	-0.245	-0.115	1.000	
Between 1 and 2 weeks notice	-0.043	-0.267	0.221	0.153	0.107	0.137	-0.313	1.000
Between 3 and 4 weeks notice	0.012	-0.147	0.069	0.133	0.082	0.063	-0.172	-0.119
4 weeks or more / always work the same schedule	0.007	-0.099	0.069	0.099	0.027	0.018	-0.116	-0.080
Regular day shift	-0.038	0.854	-0.388	-0.291	-0.245	-0.115	1.000	-0.313
Regular evening shift	0.061	-0.549	0.246	0.165	0.218	0.045	-0.643	0.131
Regular night shift	-0.022	-0.119	0.095	0.058	-0.029	-0.005	-0.140	0.075
Shift Rotates	-0.034	-0.114	0.120	0.025	-0.033	-0.010	-0.133	0.048
Split Shift	-0.004	-0.154	0.024	0.073	0.041	0.083	-0.180	0.124
Irregular	-0.020	-0.132	0.051	0.080	-0.003	0.000	-0.155	0.086
Hours Volatility	0.033	-0.149	0.086	0.096	0.096	0.078	-0.174	0.199

Table A1: Correlation between Volunteering and Work Schedule – Continued

	Between 3 and 4 weeks notice	4 weeks or more / always work the same schedule	Regular day shift	Regular evening shift	Regular night shift	Shift Rotates	Split Shift	Irregular
4 weeks or more / always work the same schedule	-0.044	1.000						
Regular day shift	-0.172	-0.116	1.000					
Regular evening shift	0.035	0.015	-0.643	1.000				
Regular night shift	0.029	0.027	-0.140	-0.198	1.000			
Shift Rotates	0.053	0.026	-0.133	-0.189	-0.041	1.000		
Split Shift	0.095	0.065	-0.180	-0.255	-0.056	-0.053	1.000	
Irregular	0.096	0.088	-0.155	-0.219	-0.048	-0.046	-0.062	1.000
Hours Volatility	0.084	0.043	-0.174	0.060	0.039	0.057	0.067	0.036

The sample includes individuals with volunteering information in either or both 2011 and 2013.

Table A2: Transition Variables Definition

	(1)	(3)
	Original Variable in 2011	Original Variable in 2013
Entering Volunteering=1	Not Volunteering	Volunteering
More Work-Schedule Control=1	Schedule decided by employer	Schedule decided by employer with input, Schedule decided by employee within limits, Schedule decided by employee
More Predictability=1	1 week notice or less	Between 1 and 2 weeks notice, Between 3 and 4 weeks notice, 4 weeks or more / always work the same schedule
Non-Standard to Standard Work Timing =1	Regular evening shift, Regular night shift, Shift Rotates, Split Shift, Split Shift, Irregular	Regular day shift
Change in Hours Volatility	Difference in Hours Volatility Between 2013 and 2011	
Paid by the Hour	Paid by the hour, not paid by the hour	Paid by the hour
Non-employed to Part-time=1	Not Employed	Employed Part-time
Non-employed to Full-time=1	Not Employed	Employed Full-time
Part-time to Full-time=1	Employed Part-time	Employed Full-time
Full-time to Part-time=1	Employed Full-time	Employed Part-time
Part-time to Non-employed	Employed Part-time	Not Employed
Full-time to Non-employed	Employed Full-time	Not Employed
Enter a Professional Occupation=1	Not in Professional Occupation	In Professional Occupation
Leave a Professional Occupation=1	In Professional Occupation	Not in Professional Occupation
Entering Self-employment=1	Not Self-employed	Self-employed
Exiting Self-employment=1	Self-employed	Not Self-employed
Entering Non-traditional Occupation=1	Not in Non-traditional Occupation	In Non-traditional Occupation
Exiting Non-traditional Occupation=1	In Non-traditional Occupation	Not in Non-traditional Occupation
Change in Hourly Income	Difference in Hourly Income Between 2013 and 2011	
Private to Public=1	In Private Sector	In Public Sector
Private to NGO=1	In Private Sector	Working for NGO
Transition into Marriage	Not Married nor Cohabiting	Married or Cohabiting
Transition out of Marriage	Married or Cohabiting	Not Married nor Cohabiting
Giving Birth=1	Difference Between Number of Own Children in 2013 and 2011 >=1	
Children turning Primary School Age	Difference Between Number of Own Children Turning 5/6 in 2013 and 2011 >1	

Note: Transition regressions contains dummies for frequencies of religious attendance, age dummies, being white, sex, education. These are fixed characteristics.

Table A3: Transition towards Volunteering – Interactions between Schedule Variables

	(1)	(2)	(3)	(4)	(5)	(6)
More Work-Schedule Control	0.039 (0.038)	0.035 (0.038)	0.041 (0.036)			
More Predictability	0.027 (0.041)			0.019 (0.040)	0.012 (0.046)	
Interaction Control*Predictability	0.013 (0.114)					
Non-Standard to Standard Work Timing		-0.016 (0.034)		-0.018 (0.040)		-0.035 (0.037)
Interaction Control*Standard Work Timing		0.059 (0.106)				
Change in Hours Volatility			0.032 (0.021)		0.040 (0.021)	0.039 (0.021)
Interaction ControlVolatility			0.163 (0.084)			
Interaction Predictability*Standard Work Timing				0.084 (0.114)		
Interaction Predictability*Volatility					-0.058 (0.080)	
Standard Work Timing*Volatility						0.085 (0.075)
Constant	0.239*** (0.010)	0.242*** (0.010)	0.234*** (0.010)	0.243*** (0.010)	0.234*** (0.010)	0.237*** (0.010)
N	2,802	2,802	2,802	2,802	2,802	2,802

Note: Robust standard errors in parentheses. * p<.05, ** p<.01, *** p<.001. All specifications control for being wrongfully skipped in 2011.

Table A4: Entry into Volunteering Regressions (OLS) – Interaction between More Schedule Control and Pay by the Hour – Restricted sample

	(1)	(3)
More Work-Schedule Control	0.104* (0.053)	0.111* (0.053)
Pay by the Hour	-0.066** (0.022)	-0.029 (0.024)
Interaction Control*Pay by the Hour	-0.135 (0.069)	-0.140* (0.070)
More Predictability		0.033 (0.039)
Non-Standard to Standard Work Timing		0.001 (0.035)
Change in Hours Volatility		0.038 (0.250)
Non-employed to Part-time		0.025 (0.058)
Non-employed to Full-time		0.049 (0.053)
Part-time to Full-time		0.019 (0.037)
Full-time to Part-time		-0.061 (0.043)
Enter a Professional Occupation		-0.030 (0.047)
Leave a Professional Occupation		0.033 (0.072)
Exiting Self-Employment		0.077 (0.107)
Entering Non-Trad Occu		-0.042 (0.078)
Exiting Non-Trad Occu		0.113 (0.081)
Change in Hourly Income		0.005 (0.008)
Constant	0.272*** (0.016)	0.010 (0.096)
N	1,787	1,785
Adjusted R-squared	0.009	0.023

Note: Robust standard errors in parentheses. * p<.05, ** p<.01, *** p<.001. Column (2) includes dummies for changing work sector from private to public and from private to NGO, dummies for frequencies of religious attendance, age dummies, being white, sex, education, as well as transitions into and out of marriage, giving birth and having children who reach primary school age.