ABSTRACT

Population aging requires understanding the implications of eldercare. Using American Time Use Surveys, we find caregivers spend less time on personal care, social activities/sports, and more on housework, than individuals who do not provide any eldercare. They also report higher stress and lower happiness. In addition, caregivers may not provide care every day, but on days they do, they also spend more time on housework and less on paid work, and report higher levels of sadness than on days they do not provide care. Regular caregivers experience worse well-being than non-caregivers, but also experience additional strain on days they provide care.

Keywords: eldercare; time use; subjective mood; time constraints

INTRODUCTION

Research has shown that providing care is associated with caregivers' well-being (Amirkhanyan and Wolf 2006; Marks 1998; Moen et al 1995; Pavalko and Woodbury 2000; Pinquart and Sörensen 2003; Ruppanner and Bostean 2014). This issue may become more pressing given the aging population and the fact that caregiving continues to fall on the shoulders of unpaid care providers, comprising family members and friends. In the USA in 2011, more than one in ten people were 65 years old or older. According to the U.S. Census Bureau, this number is expected to increase to about one in five people by 2030. Further, 6.5% of U.S. non-institutionalised older adults (>65) report needing help with personal care from other people, including in activities such as eating, bathing, dressing and getting around the house (Ward et al 2016).

According to a report by the United States Bureau of Labor Statistics in 2012, sixteen percent of the population aged 15 years and over provided unpaid eldercare. This figure amounts to 39.6 million people. While these individuals may not provide care daily, according to the report, nearly a quarter (23%) of eldercare providers are engaged in caregiving on any given day for an average of 3.2 hours. The majority of eldercare providers are also women (56%), and individuals between the ages of 45 and 64 were most likely to be carers. As such, many of these individuals provide care and participate in the labour force at the same time. The report also highlights that more than one in five (22%) eldercare providers lives with children under 18 years of age.

The well-being of caregivers is an important area of focus, as there is a risk that caregivers who are unwell are unable to manage the care of recipients' needs or their own. While there may be many ways in which caregiving may impact caregiver well-being, one possible mechanism through which caregivers may experience poor health is time constraints, as caregiving pulls them away from time spent on other activities, such as self-care. In this study, we focus on how caregivers may compensate for the time spent on caregiving, as a decision to spend time on one activity has direct implications for time spent on other activities. In addition, engaging in the act of caregiving may also shape caregivers' experiences and subjective mood in other activities they may engage in, with implications for their well-being.

Caregiving and subjective well-being

In this paper, we focus on eldercare, the provision of care to a person who is over the age of 65. Longitudinal studies find that caregiver health and well-being worsens over time, and this is especially true when caregivers lack support, time, and financial resources (Kim and Knight 2008; Lee and Gramotnev 2007; Robison et al 2009; Wakabayashi & Donato 2006). The international scholarly literature in the USA and Great Britain has highlighted the time demands faced by unpaid eldercare providers, especially those who are simultaneously balancing responsibilities such as paid employment, childcare or assisting dependent adult children (e.g. Grundy and Henretta 2006; Marks 1998; Rozario et al 2004). In addition to facing time constraints, caregivers are more likely to engage in negative health behaviours, which may contribute to lower well-being (Hoffman et al 2012).

While time constraints may influence caregiver stress, the caregiving experience may also play a role. For instance, the act of caregiving may have spillover effects on one's experiences in

other activities, shaping his or her subjective emotions and mood throughout the day. This is consistent with the literature on spillover, highlighting the transmission of mood from one domain to another (Grzywacz et al 2002). Bolger et al (1989) also highlighted the contagion of stress across multiple roles and the importance of examining stress processes across day-to-day events and activities.

In addition, caregiving has been found to go beyond the practical act of caring and its associated time demands to also include 'emotional work' (Mac Rae 1998). In her qualitative study of family caregivers to persons with Alzheimer's disease in Canada, Mac Rae (1998) finds that caregivers often engage in emotional management, navigating their own emotions during interactions with the care recipient and reminding themselves that the (negative) actions of the care recipient are the result of the disease rather than the person.

At the same time, caregiving also constitutes an intrinsic reward for caregivers, as shown, for example, in past studies in the USA (Noonan and Tennstedt 1997; Robertson et al 2007). Studies highlight that caregivers may consider the act of helping a loved one to be a meaningful and positive experience, leading to higher self-esteem (Noonan and Tennstedt 1997) and positive affect (Robertson et al 2007). Therefore, when the act of caregiving is viewed as its own reward, caregivers may report better moods and positive emotional well-being.

We aim to fill existing gaps in the literature by investigating the relationship between the provision of unpaid eldercare with time constraints and subjective mood. That is, while there is an existing literature on the duration of time spent by caregivers on unpaid care (van den Berg and Spauwen 2006; Yabroff and Kim 2009), we know less about the ways in which they compensate for the time devoted to providing care via other activities. In this study, we first draw on time diary data (which has reports of all the activities performed over a 24-hour cycle)

to examine the ways in which caregivers may spend their time differently than non-caregivers. Second, as the time diary also has information on respondents' mood (of sadness, happiness, etc.) in three randomly selected activities throughout the day, we examine possible differences in caregivers' versus non-caregivers' subjective mood in their daily activities. Third, we triangulate responses from questions about providing regular eldercare, with responses on providing care in the previous day. As a result of these steps, respondents may be in one of three categories: 1) those who report no eldercare, 2) those who report regular eldercare, but did not report providing care on the previous day, and 3) those who report regular eldercare *and* also report providing care on the previous day. Thus we consider not only differences in time constraints and well-being between regular caregivers (at least once a week) and non-caregivers, but also how daily experience may differ for caregivers on days in which they do and do not provide care.

In adopting this approach, we address the following research questions:

1) How does time use differ between adults engaged in regular unpaid eldercare and those not engaged in any such caregiving? In addition, what is the association between providing regular eldercare and subjective emotions in daily activities?
2) Comparing regular caregivers on days in which they provide care versus caregivers on days in which they do not provide care, do their time use and subjective mood also differ? This tests whether individuals who already provide regular eldercare may also experience the proximal strain of caregiving on the days in which they provide care.

DATA AND METHODS

Data used in this paper are from the American Time Use Survey (ATUS). The ATUS is an ongoing, repeated, cross-sectional time diary study funded by the U.S. Bureau of Labor Statistics

and fielded by the U.S. Census Bureau. Since 2003, the survey has been conducted annually. The sample comprises a subset of households that previously participated in the Current Population Survey (CPS). The CPS is a monthly household survey of the civilian, non-institutionalized population. One member of each selected household is randomly assigned to complete a time use diary and report all of the activities performed over a 24-hour cycle from 4 am one day to 4 am the next day. Sociodemographic information on the respondent and other household members is also collected. In addition to the time use diary, specific modules are included in the survey to gather information about a particular topic annually. Since 2011, information about care or assistance provided to an adult has been included. This extends to information regarding care provisions for reasons of aging[1] in the 3 months prior to the survey. Beginning in 2012, a well-being module was also included in the survey. In this module, respondents were asked to report their subjective mood in terms of happiness, pain, tiredness, sadness and stress for 3 randomly selected activities during the 24-hour window (see Lee et al 2016). In this study, we pool two cross-sectional waves of data, from year 2012 and 2013.

Our initial sample comprised the 23,828 individuals who were the ATUS respondents for 2012 and 2013, which are the years with information available for the eldercare and well-being modules. From the initial sample we removed 499 cases that did not answer the Eldercare module (23,828 – 499 = 23,329). Given our focus on eldercare in this paper, we only include respondents who report that at least one of the recipients of care is 65 years old or older. For this reason, 887 respondents were removed from our sample (23,239 – 887 = 22,442). Additionally,

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[1] According to the ATUS questionnaire, a condition related to aging is an ongoing ailment or physical or emotional limitation that typically affects older people. Examples may include becoming more frail; having difficulty seeing, hearing, or physically moving; becoming more forgetful; tiring more quickly; or specific medical ailments that are more common among older adults. It also refers to existing conditions that become progressively worse as one ages.

given our interest in regular caregiving, we limited our definition of care providers to respondents who provide eldercare daily or at least once a week. This was motivated by the idea that regular caregivers may need to make adjustments to their schedule and time devoted to different activities, whereas we may not observe such changes in individuals who only provide care infrequently. In doing so, we exclude 1,428 respondents who report providing care monthly, or occasionally (22,442 - 1,428 = 21,014). As a result, the category of non-provider (our reference group) is composed of individuals who did not provide *any* eldercare in the last three months, while the category of provider includes those who provided eldercare at least weekly for a person 65 years old and over in the last three months. Of the remaining respondents in our sample, 1,491 did not answer the well-being module (21,014 - 1,491 = 19,523). Statistical tests of differences (i.e. t-tests) reveal that the characteristics of these respondents do not differ from respondents in our analytic sample. The final sample is composed of 19,523 individuals, where 2,153 people provided eldercare, and 17,370 people did not provide such care. While unequal sample sizes may be of concern in some instances, given the large sample sizes in these two groups, we would not expect that to have an impact on our analysis.

Dependent variables

    Time in daily activities. This measure draws on time diary data, from reported time spent on four activities of interest (personal care; social activities and sports; housework; and employment). This examines whether being engaged in eldercare may be associated with spending more or less time in these activities.

    Subjective mood. Respondents were asked to report their subjective mood in terms of happiness, pain, tiredness, sadness and stress for three randomly selected activities during the 24-

hour window (see Lee et al 2016). These variables were measured on a seven-point scale from 0 to 6, with 0 being the lowest level of reported mood and 6 being the highest.

Independent variables

Regular eldercare comes from a question where respondents are asked, 'Not including financial assistance or help you provided as part of your paid job since the 1st of (3 months before) have you provided any care or assistance for an adult who needed help because of a condition related to aging?'

Eldercare previous day comes from the question in which respondents are asked, 'Did you provide any care or assistance yesterday?' This provides data on which respondents actually provided care during the day on which the time diary was completed. Further, our method enables us to examine the times and duration of any eldercare and whether eldercare viewed as a primary or secondary activity. The latter is assessed through respondents' reports of engaging in other activities while also providing eldercare. That is, respondents could be engaged in multiple activities. The only two exceptions are when individuals are engaged in personal care activities or personal care services. Respondents are *not* able to report that they were engaged in eldercare while also engaged in personal care activities or personal care. For a full list of all of the possible activities respondents could be engaged in, please refer to Appendix A. In our regression models, we control for these factors, such as time and duration of care, and for whether eldercare was a primary or secondary activity.

ANALYSIS PLAN

For analysis, we created two files: one at the respondent level (n=19,523) which allows us to examine possible differences in time spent in daily activities over a 24-hour window, and one at the activity level, which allows us to examine respondents' subjective mood in up to three activities during the same time period. In the respondent-level file, each row corresponds to one individual. In the activity-level file, each row corresponds to one activity from the diary of activities (Lee et al 2016). In our sample, 19,037 individuals reported their well-being in all three activities: however, 458 respondents reported on only two activities, while 28 respondents only reported only on one activity. In total, 58,055 cases are included in the activity-level file. For each individual, we control for socio-demographic characteristics that may affect well-being and time (Lee et al 2016). These include age, gender, health, education, marital status, race, employment status and the presence of children in the household. For the analysis pertaining to respondents' mood, we cluster standard errors at the respondent level, as each individual may contribute more than one observation. Clustering standard errors at the respondent level allows us to account for the fact that respondents may contribute multiple observations to the episode file. Therefore, rather than treating each observation as independent, we take into account the correlated nature of the data.

We first describe our sample along various demographic characteristics (Table 1). We then examine the bivariate association between caregiver status and time spent on selected activities (Table 2). Next, we use multivariate regression models to examine whether caregiving is associated with time spent on personal care, social activities and sports, housework and employment, comparing weekly caregivers with those who do not provide eldercare (Table 3). We then analyse the association between caregiving and respondents' mood in their daily activities, comparing weekly caregivers with those who do not provide any care (Table 4).

Further, we also compare weekly caregivers on days in which they provided care with weekly caregivers on days in which they did not provide care (Tables 5 and 6).

DESCRIPTIVE RESULTS

Differences between care providers and non-providers

In Table 1, we report the main socio-demographic characteristics of eldercare providers compared to individuals who do not provide any eldercare. Eleven percent of our sample report providing unpaid daily or weekly eldercare for a person aged 65 years and older in the three months prior to the survey. We find that women, older respondents and married respondents constitute a larger proportion of eldercare providers in our sample. Eldercare providers also tend not to have children in the household. However, in our analytic sample, we find no differences in race, employment status and self-rated health.

[Table 1 and 2 about here]

Eldercare providers and non-providers' well-being and time use

Table 2 reports on eldercare providers' and non-providers' time spent on selected activities. Eldercare providers report 0.4 fewer hours per day engaged in personal care and 0.3 fewer hours engaged in social activities, figures equivalent to approximately 24 and 18 minutes, respectively. They also report spending 0.4 hours (24 minutes) more performing housework.

MULTIVARIATE MODELS

Eldercare providers and time

In Table 3, we present the coefficients from OLS (ordinary least squares) models on time spent on different activities. Each model corresponds to one group of activities. The results partly confirm the information reported in Table 2. When we control for socio-demographic characteristics, eldercare providers spend less time in personal care, social activities and paid work, and they spend more time in housework. Eldercare providers spend approximately 0.278 fewer hours (=17 minutes) per day in personal care ($p<0.001$), 0.222 fewer hours (=13 minutes) in social activities ($p<0.05$) and 0.184 fewer hours (=11 minutes) in paid work ($p<0.1$). They also spend 0.199 more hours (=12 minutes) engaged in housework ($p<0.01$).

[Table 3 about here]

Eldercare providers and mood

In Table 4, we present results for measures of mood during daily activities, controlling for socio-demographic characteristics, main activity and duration. Here, we observe that eldercare providers report higher stress and lower happiness during randomly selected daily activities, as compared to individuals who do not report providing eldercare. On a scale from 0 to 6, being an eldercare provider is associated with 0.192 points higher for level of stress ($p<0.01$). Eldercare providers also report 0.405 points lower happiness in daily activities ($p<0.001$).

[Table 4 about here]

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Eldercare providers and their time and mood on days providing care

In this section, we are interested in differences in time spent on selected activities and in mood between eldercare providers who provided care on the diary day and those who did not do this. Therefore, in the following models, the sample is limited to eldercare providers.

For time spent on selected activities, eldercare providers on the diary day report almost 0.8 hours less in paid work (p<0.001) and 0.406 hours more in housework (p<0.01). This second result is especially relevant because it suggests that eldercare providers must multi-task when they provide eldercare. Multi-tasking is usually associated with an increase in negative emotions, stress and psychological distress (Offer and Schneider, 2011).

[Table 5 about here]

Regarding mood, we observe that eldercare providers report higher levels of sadness if they provided eldercare on the diary day. We observe 0.216 points higher (p<0.05) for sadness. For comparison, in the same model, we observe that respondents who report 'good' health compared to 'bad' health report approximately 0.8 points lower for sadness (not shown; detailed data available from authors). For other subjective moods, we do not observe differences in pain, tiredness and happiness, although significant differences are found for stress at p<0.1, with 0.293 points higher for stress level if respondents reported providing eldercare on their diary day.

[Table 6 about here]

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CONCLUSIONS

In this paper, we have examined the relationship between the provision of unpaid eldercare and time constraints and subjective mood. While existing literature has investigated possible mechanisms linking eldercare and subjective well-being, we take advantage of a unique dataset to examine whether this relationship may be explained by eldercare providers' time spent on various activities and their mood during selected activities throughout the day.

Our study extends the existing literature in two different directions: 1) we consider time spent on various activities as one way to understand how caregivers may be affected by providing care; and 2) we examine subjective mood in daily activities as another relevant factor, testing whether eldercare providers experience spillover effects from providing eldercare on other daily activities. As the population ages and more unpaid care needs are expected, a further understanding of the link between eldercare and well-being may become increasingly important, as it could provide insights into interventions that could alleviate caregiver stress. Previous studies have shown that existing interventions targeted at caregivers have different goals (Sörensen et al 2002). Studies have shown that psychoeducational interventions are aimed at providing resources to caregivers, and equipping them with knowledge and information regarding disease-related problems so they can adequately respond to issues which arise in their caregiving situation (Brodaty and Gresham 1989; Chiverton and Caine 1989; Gallagher-Thompson et al 2001; Ostwald et al 1999). Supportive interventions are focused on providing professional or peer support networks for caregivers, and opportunities for caregivers to voice and address the issues and experiences around caregiving which they may face (Demers and Lavoie 1996). Studies have also highlighted the value of respite care for caregivers, showing, for

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example, that in-home respite, and adult day care to be beneficial for caregivers' lower levels of subjective burden and higher morale (Kosloski and Montgomery 1993).

Our study highlights both the immediate and longer-term consequences of unpaid caregiving. While much of the existing literature compares individuals based on their caregiver status (Amirkhanyan and Wolf 2006; Borg and Hallberg 2006; Robison et al 2009), we find that, even for respondents who already provide care on a weekly or daily basis, providing care has proximal consequences in terms of higher levels of sadness, less time in paid work and more time in housework on days when they report providing care. This highlights that while providing regular care is associated with worse subjective well-being and time constraints, this situation is further compounded on the specific days that care is provided. It also highlights the temporal dimension in the stress associated with unpaid caregiving, indicating that caregivers may experience both general and proximal strain.

The study reported here has various limitations due to the dataset used, which despite its suitability for our study nevertheless has some disadvantages. First, since cross-sectional data only allows for detecting associations between variables, which cannot be extrapolated to causal effects between independent and dependent variables, our study cannot infer causality between being an unpaid eldercare provider and the eldercare provider's subjective mood. Selection effects are also another concern, since healthier individuals tend to provide eldercare. We attempted to rectify this by controlling for respondents' self-reported health. Further, we also selected individuals who were already providing eldercare at least once a week and compared their subjective mood on days they provided care, versus other caregivers, on days they do not provide care. Further, a limitation of this study is that the decision to spend time on one activity automatically constrains decisions to spend time on any other activity. As such, decisions about

time spent on different activities are in fact interdependent. However, note that we utilized a measure captures whether individuals are regular caregivers, rather than their actual care hours.

We also acknowledge that some respondents may engage in multiple forms of care. While it would be fruitful to consider other types of care activities, the ATUS does not provide a similar module on childcare. Nevertheless, in an attempt to gauge the likelihood of providing childcare, we controlled for children in the household, finding that respondents with children at home also tend to report less time in personal care, and social activities and sports, and more time on housework.

In sum, our findings point to the fact that, compared with those who do not provide eldercare, eldercare providers have a more negative perception of their mood during (three randomly selected) daily activities. On average, they report higher levels of stress, more pain and lower happiness during daily activities, compared to those who do not provide any eldercare. Further, on days they provide care, they also report higher levels of sadness. This suggests that care providers' mood may be influenced by their proximal experience of providing care for an elderly person, another factor relevant to understanding of caregiver strain.

Our finding that eldercare providers also spend less time in personal care, as well as social activities and sports, points to the potential value of respite care. Although perhaps a short-term solution, other studies have shown that respite care generally gives caregivers an opportunity to attend to everyday activities; in theory this type of support can provide a break for caregivers ranging from hours, to days and weeks. Our findings also highlight both general and proximal strain associated with unpaid caregiving. Further research that unpacks both context and mechanisms in which the caregiver role and the act of caregiving may affect unpaid caregivers would be especially important. In addition, while we draw on only one national context, the

United States, future comparative studies may help develop broader understandings of how national policies and old age transfers may affect caregiver well-being (Ruppanner and Bostean 2014). Specifically, the finding in one study of European countries, that caregivers report better well-being in countries with more generous old age transfers, is of potential international interest (Ruppanner and Bostean 2014). Research that draws on international data may also provide fruitful additional insights into policy and its influence on how unpaid caregivers spend their time and the effects of this on their subjective wellbeing.

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Table 1 Sample description

		Providers		Non-providers		
		N	%	N	%	sig
N		*2153*	*11*	*17370*	*89*	
				19523		
Sex	Male	818	38.0	8765	44.9	***
	Female	1335	62.0	10758	55.1	***
Age	*Mean*	*52.2*		*47.6*		
	<30	210	9.8	3007	17.3	***
	30-49	648	30.1	6715	38.7	***
	50-64	829	38.5	4034	23.2	***
	65+	466	21.6	3614	20.8	
Marital Status	Married	1119	52.0	8290	47.7	***
	Widowed	177	8.2	1605	9.2	
	Divorced or separated	390	18.1	3013	17.4	
	Never married	467	21.7	4462	25.7	***
Education	Less college	752	35.0	7051	40.6	***
	Some college	1401	65.0	10319	59.4	***
Race	White	1727	80.2	13711	78.9	
	Non-white	426	19.8	3659	21.1	
Employment Status	Employed	1296	60.2	10393	59.8	
	Unemployed	100	4.7	903	5.2	
	Not in labor force	757	35.1	6071	35	
Children in the household	No children	1546	71.8	11266	64.9	***
	Children, youngest 0-2 years old	92	4.3	1702	9.8	***
	Children, youngest 3-5 years old	82	3.8	1258	7.2	***
	Children, youngest 6-17 years old	433	20.1	3144	18.1	*
Health	Poor	400	18.6	3103	18.6	
	Good	1753	81.4	14267	51.4	

Source: Authors' calculations from 2012-2013 ATUS data obtained from ATUS-X (Hofferth et al 2015).
*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$. Oneway ANOVA tests.

Table 2. Time spent on selected activities

Measures	Total	Eldercare providers	Non-providers	Sig
Time variables (Hours per day)				
Personal care	9.6	9.3	9.7	***
	(2.4)	(2.2)	(2.4)	
Social activities and sports	5.4	5.2	5.5	**
	(3.6)	(3.4)	(3.7)	
Household activities	1.9	2.3	1.9	***
	(2.3)	(2.4)	(2.3)	
Work (only employed)	4.2	4.0	4.2	
	(4.4)	(4.4)	(4.4)	

Source: Authors' calculations from 2012-2013 ATUS data obtained from ATUS-X (Hofferth et al 2015).
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$. Oneway ANOVA tests.

Table 3 Multivariate Regressions Models for Time Spent on Selected Activities (Hours per day)

Variables	Personal care	Social activities and sports	Housework	Work
Eldercare provider	-0.278***	-0.222*	0.199**	-0.184+
	(0.061)	(0.094)	(0.070)	(0.102)
Constant	9.929***	5.095***	0.499***	5.108***
	(0.124)	(0.161)	(0.085)	(0.169)
Observations	19,523	19,523	19,523	19,523
R-Squared	0.072	0.197	0.126	0.356

Source: Authors' calculations from 2012-2013 ATUS data obtained from ATUS-X (Hofferth et al 2015).
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$
Control variables: age, gender, health, education, employment status, race, marital status, own children at home

Table 4. Multivariate Regressions Models for Mood during Activities, for Regular Eldercare Providers (Scale 0-6)

Variables		STRESS	PAIN	TIRED	HAPPY	SAD
	Eldercare provider	0.192*	-0.018	0.081	-0.405***	-0.108+
		(0.084)	(0.073)	(0.100)	(0.114)	(0.060)
Constant		3.286***	3.324***	5.013***	4.519***	2.467***
		(0.539)	(0.290)	(0.621)	(1.178)	(0.498)
	Observations	58,055	58,055	58,055	58,055	58,055
R-squared		0.013	0.027	0.010	0.010	0.011

Source: Authors' calculations from 2012-2013 ATUS data obtained from ATUS-X (Hofferth et al 2015).

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Control variables: age, gender, health, education, employment status, race, marital status, own children at home, main activity, duration of the activity.

Table 5. Multivariate Regressions Models for Time Spent on Selected Activities for Eldercare Providers, on days they provided care (Hours per day)

Variables	Personal care	Social activities and sports	Housework	Work
Eldercare provider day of questionnaire	-0.047	-0.099	0.406**	-0.823***
	(0.116)	(0.190)	(0.154)	(0.189)
Constant	10.496***	4.743***	0.843**	3.519***
	(0.308)	(0.418)	(0.326)	(0.472)
Observations	2,153	2,153	2,153	2,153
R-squared	0.071	0.175	0.118	0.359

Source: Authors' calculations from 2012-2013 ATUS data obtained from ATUS-X (Hofferth et al 2015).

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Control variables: age, gender, health, education, employment status, race, marital status, own children at home, main activity, duration of the activity.

Table 6. Multivariate Regressions Models for Mood during Activities for Eldercare Providers, on days they provided care (Scale 0-6)

VARIABLES	SCSTRESS	SCPAIN	SCTIRED	SCHAPPY	SCSAD
Eldercare provider day of questionnaire	0.293+	0.030	0.344	0.055	0.216*
	(0.165)	(0.145)	(0.226)	(0.237)	(0.103)
Constant	2.491***	3.121***	4.661***	2.513**	1.586***
	(0.545)	(0.532)	(0.532)	(0.894)	(0.442)
Observations	6,405	6,405	6,405	6,405	6,405
R-squared	0.032	0.056	0.022	0.015	0.021

Source: Authors' calculations from 2012-2013 ATUS data obtained from ATUS-X (Hofferth et al 2015).

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Control variables: age, gender, health, education, employment status, race, marital status, own children at home, main activity, duration of the activity.

Appendix A. Main activities considered (n=58,055)

Code	Activity	N	%
1	Personal Care	353	0.61
2	Household Activities	9,918	17.08
3	Caring for and Helping Household Members	2,791	4.81
4	Caring for and Helping Non-Household Members	590	1.02
5	Work and Work-Related Activities	3,689	6.35
6	Education	477	0.82
7	Consumer Purchases	2,124	3.66
8	Professional and Personal Care Services	306	0.53
9	Household Services	68	0.12
10	Government Services and Civic Obligations	22	0.04
11	Eating and Drinking	9,253	15.94
12	Socialising, Relaxing and Leisure	11,801	20.33
13	Sports, Exercise and Recreation	1,037	1.79
14	Religious and Spiritual Activities	679	1.17
15	Volunteer Activities	393	0.68
16	Telephone Calls	617	1.06
18	Travelling	13,373	23.04
50	Data Codes	564	0.97