

Extended abstract

## **Combining part-time and full-time work with caring responsibilities and perceived stress during the COVID-19 pandemic: Results from the Netherlands**

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### *Introduction*

Research on the relationship between stress and health outcomes shows that stress has been associated with adverse physical and mental health outcomes.<sup>1</sup> For example, higher perceived stress levels have been linked to many unhealthy behaviours such as unhealthier diets, less frequent exercise, and smoking.<sup>2</sup> Psychological stress has also been linked to depression and cardiovascular disease.<sup>3</sup> Gender differences have been observed, where women were more likely to report higher levels of stress than men.<sup>1,4,5</sup> For example, using a Swiss population sample, Gehring and colleagues<sup>1</sup> found that more than 40 percent of women reported to be stressed, compared to 34 percent of men. After taking into account factors such as age, parenthood and employment status in a multivariate logistic regression model, the difference remained (i.e. an odds of 1.54 for women compared to men). Individuals with a lower socioeconomic status reported higher stress levels than those with a higher socioeconomic status,<sup>6</sup> and lower socioeconomic status has been indirectly linked to unhealthy behaviours through greater stress.<sup>7</sup> In addition to socioeconomic status, marital status has also been related to perceived stress levels: single and previously married women were more likely to report high levels of perceived stress than their married counterparts.<sup>4</sup> Similarly, parenthood also has an influence on an individual's stress levels: those with children at home were more likely to report being stressed than those without children at home, however it was not related to the number of children at home.<sup>4</sup> In one study, being a mother in and of itself was not associated with worse stress levels, but the interaction between parental and marital status showed that higher stress levels were found especially among mothers who were either single or previously married.<sup>4</sup> Different results were found for men, where single men reported the lowest stress level and being a father was associated with higher reported stress irrespective of their marital status.<sup>4</sup> Studies further show that lone parents have more difficulty combining paid work with care activities.<sup>8</sup> During the pandemic, highly educated mothers without a partner experienced a significantly worse work-life balance than those with a partner.<sup>9</sup>

Results from the second wave (June) of the COGIS-NL study, the COVID Gender (In)equality Survey Netherlands,<sup>10</sup> showed that the initial differences in perceived work pressure between men and women evident during the April lockdown had dissipated.<sup>11</sup> Whereas perceived work pressure focuses rather narrowly on work-related stressors, perceived stress can be an indicator of broader psychological wellbeing. Moreover, this comparison of perceived work pressure between men and women did not account for gender differences in potential confounding factors, such as the number of work hours or the perceived level of difficulties of combining work with care responsibilities. For example, results from the same study indicate that throughout the pandemic, a large proportion of men and women spent more time on childcare and household tasks than prior to the pandemic. But women were still spending more time on care for children and household tasks than men.<sup>10</sup> These differences in work hours and (increased) time spent on childcare and household tasks between men and women is not limited to the Netherlands; studies in the US, the UK, Germany, and Australia show similar results.<sup>12,13</sup> Unique to the Netherlands, however, is the greater proportion of individuals, particularly women, who work part-time (less than 35 hours each week).<sup>14</sup> A recent study showed that combining work and care during the first lockdown of the pandemic was more difficult for highly educated Finnish mothers than for highly educated Dutch mothers.<sup>9</sup> Dutch mothers were potentially better able to take on additional caring activities compared to Finnish mothers given the prevalence of part-time work rather than full-time work.<sup>9</sup> However, this study focused specifically on highly educated women, of whom it is known that they were more often able to work from home during the COVID-19 pandemic than their lower educated counterparts.<sup>15</sup> Therefore the question remains whether lower educated women had similar experiences with combining work and care responsibilities (or whether it was more challenging for

them), and how their working hours and combination of work and care responsibilities impacts their perceived stress. Moreover, part-time working hours vary greatly among women, with significant differences particularly among mothers in who works short part-time hours (less than 20 hours) and those who work longer part-time hours (20-35 hours).<sup>16</sup>

Studies looking at work-life balance or how individuals combine their work and family life often focus primarily on parents. As a result, individuals without children but with caring responsibilities (for example, those who provide care to a sick family member) are often overlooked. The June results from the CoGIS-NL study show that individuals without children under 18 years old in the household but who combine work with other caring responsibilities experienced more difficulties combining work with care responsibilities during the pandemic (21%) than before the pandemic (10%).<sup>10</sup> Work and caregiving responsibilities are two key causes of stress. Multiple studies suggest the COVID-19 pandemic likely adds to the stress experienced from work and care. For example, having to work from home instead of an office can be a source of stress as the boundaries between work and private life become blurred. Many other workers, such as those in essential occupations, are often unable to work from home, and may experience a higher risk of exposure to the SARS-COV2 virus, which can also be a potential stressor.

This paper examines how perceived stress levels of Dutch men and women were affected by combining work with caregiving activities during the COVID-19 pandemic, and in particular how the number of working hours influenced this relationship. Based on previous research, we have formulated the following hypotheses: 1) Perceived stress levels are, on average, higher for individuals who combine care responsibilities with full-time work than for those who combine it with part-time work. 2) The time constraints of working full-time and having caregiving responsibilities means the association between combining work and care responsibilities and perceived stress will be stronger for full-time employed than for part-time employed individuals. 3) The association between combining work and care responsibilities and perceived stress is moderated by educational level. 4) Women have greater caregiving responsibilities than men, which can lead to worsened work-care combinations and/or higher perceived stress. Consequently, the association between combining work and care and perceived stress differs for men and women. 5) The association between combining work and care and perceived stress is stronger for single individuals than for individuals with a partner.

### *Data and methods*

Data for the COGIS-NL study was collected within the LISS panel, the Longitudinal Internet studies for the Social Sciences.<sup>17</sup> The panel consists of approximately 7,500 individuals from 5,000 households using a probability sample of Dutch households based on register data from Statistics Netherlands.<sup>17</sup> All panel members with at least one child under 18 living at home either in paid employment or with a partner in paid employment were invited to take part in the first wave of the study (n=1,234). Of the 1,234 initial household members, 868 (71.3%) responded and 863 respondents completed the survey.<sup>18</sup> Respondents were aged 24 to 62 years. This initial sampling only included individuals with children at home, but all future waves of data collection included an additional sample of respondents aged 29 to 57 years, without children in the household with either a paid job or a partner with a paid job. This additional sample included an equal number of men and women. Sample sizes for the second (June), third (September), and fourth (November) wave were 1,213, 1,237, and 1,089, respectively.

The quality of data obtained for some studies conducted during the COVID-19 pandemic may be questionable for a multitude of reasons. For example, the sample might be skewed towards higher educated individuals or younger individuals as many data collections moved online or relied on convenience sampling. There are currently four waves of the COGIS-NL data available (fifth one in development). As COGIS-NL is a probability-based sample drawn from register data,<sup>17</sup> the quality of the data is safeguarded and population representativity is ensured.

The outcome variable is perceived stress level and was measured by asking the respondents how much stress they were currently experiencing in their daily lives (all things considered). Answer categories ranged from 0 (no stress at all) to 10 (a lot of stress). Our exposures are *age* (25 to 34 years; 35 to 44 years; 45 to 54 years; and 55 to 64 years), *education* (low, mid and high), *living with a partner* (yes; no), *partner's main activity* (working in essential occupation; working in non-essential occupation; not in paid employment), *partner's work location* (working from home), *number of children* (under the age of 18 years living in the household: 0, 1, 2, 3+), *age of youngest child* (0 to 3 years, 4 to 8 years, 9 to

12 years, 13 to 17 years), *number of children at home due to the pandemic* (closed schools), *employment status* (employees; working in family business; self-employed), *essential occupation* (yes; no), *number of working hours* (0; 1 to 20; 20 to 35; and 35 or more hours a week), *work location* (working from home) and *difficulty of combining work and care* (very easy/easy; not difficult or easy; very difficult/difficult).

#### *Analysis (and future steps)*

First, some exploratory analyses to study the distributions, both for the total population as well as for stratified groups, are done. Averages of perceived stress level by care responsibilities, work (full-time vs part-time) and its combination for the population by gender, marital status and education (Hypothesis 1) will be computed. Then, cross-sectional regressions with care responsibilities, work, its interaction term as well as interactions (or stratified analysis) by gender, marital status, and education (Hypotheses 2 to 5) for June (wave 2) will be performed. The exact model choice will depend upon further discussion. For a longitudinal approach, analyses taking into account previous data from March (wave 1 of the COGIS-NL panel, as well as other data from the LISS panel) and data from September and November of 2021 (wave 3 and 4 of the COGIS-NL study, respectively) are considered.

#### *First preliminary results*

Table 1 shows 1) the distributions of perceived stress and the other variables, and 2) the average perceived stress levels for the full population and for men and women separately. A first exploration shows that the June sample is in general higher educated (58.2%), living with a partner (76.6%), and working as an employee (79.8%). But clear gender differences are observed for type of occupation, where women are more likely to be working in an essential occupation than men (53.5% versus 33.1%), and number of hours, where part-time work is more common among women (0 to 20 hrs: 13.9%; 20 to 35 hrs: 44.6%) than men (0 to 20 hrs: 6.2%; 20 to 35 hrs: 17.9%).

Differences in the average perceived levels of stress are observed for both men and women. For example, stress levels were lower (3.61) among men for whom combining work and care activities was (very) easy than for men for whom it was (very) difficult (5.70). Average stress levels seemed lowest among women working 20 to 35 hours (4.23) than for those working less (0-20 hours, 4.89) or more (full-time, 5.18) hours. A similar pattern was found for men. Additionally, when considering individuals whose partner worked in an essential occupation, perceived stress levels were higher for women (4.96) than for men (3.90).

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Table 1. Description of the sample and average perceived stress levels in June

		Sample size (Percentages)			Average perceived stress (Standard error)		
		Women	Men	Total			
<b>Perceived stress</b>	0 – No stress at all	42 (6.9)	51 (9.8)	93 (8.3)			
	1	46 (7.6)	36 (6.9)	82 (7.3)			
	2	56 (9.3)	76 (14.6)	132 (11.7)			
	3	62 (10.3)	62 (12.0)	124 (11.0)			
	4	44 (7.3)	45 (8.7)	89 (7.9)			
	5	87 (14.4)	48 (9.3)	135 (13.0)			
	6	86 (14.2)	81 (15.6)	167 (14.9)			
	7	112 (18.5)	62 (12.0)	174 (15.5)			
	8	43 (7.1)	33 (6.4)	76 (6.8)			
	9	9 (1.5)	7 (1.4)	16 (1.4)			
		10 – A lot of stress	9 (1.5)	11 (2.1)	20 (1.8)		
<b>Gender</b>		611 (53.6)	528 (46.4)		4.74 (0.11)	4.29 (0.12)	
<b>Age</b>	25 to 34 years	142 (23.2)	81 (15.4)	223 (19.6)	5.11 (0.20)	4.37 (0.28)	4.92 (0.16)
	35 to 44 years	214 (35.0)	171 (32.5)	385 (33.8)	5.01 (0.19)	4.47 (0.20)	4.73 (0.13)
	45 to 54 year	214 (35.0)	216 (41.0)	430 (37.8)	4.30 (0.18)	4.06 (0.20)	4.18 (0.13)
	55 to 64 years	40 (6.6)	59 (11.2)	99 (8.7)	4.28 (0.40)	4.53 (0.37)	4.45 (0.26)
<b>Educational level</b>	Low (basisonderwijs, vmbo)	99 (13.3)	76 (12.0)	175 (12.7)	4.04 (0.30)	4.30 (0.41)	4.15 (0.25)
	Mid (havo/vwo, mbo)	206 (27.7)	193 (30.6)	399 (29.0)	4.67 (0.22)	4.12 (0.22)	4.40 (0.16)
	High (hbo, wo)	438 (59.0)	362 (57.4)	800 (58.2)	4.95 (0.13)	4.39 (0.15)	4.69 (0.10)
<b>Living with partner</b>	Yes	571 (76.9)	482 (76.4)	1053 (76.6)	4.66 (0.12)	4.24 (0.14)	4.46 (0.09)
	No	172 (23.2)	149 (23.6)	321 (23.6)	5.01 (0.22)	4.47 (0.26)	4.77 (0.17)
<b>Number of children</b>	0	252 (41.2)	224 (42.5)	476 (41.8)	4.71 (0.16)	4.45 (0.18)	4.62 (0.12)
	1	98 (16.0)	74 (14.0)	172 (15.1)	5.13 (0.27)	3.65 (0.28)	4.50 (0.20)
	2	165 (27.0)	147 (27.9)	312 (27.4)	4.82 (0.21)	4.43 (0.22)	4.61 (0.15)
	3+	96 (15.7)	82 (15.6)	178 (15.6)	4.31 (0.28)	4.19 (0.34)	4.25 (0.21)
<b>Age of youngest child</b>	0 to 3 years (day care)	78 (22.2)	68 (23.0)	146 (22.6)	4.96 (0.30)	4.40 (0.32)	4.67 (0.21)
	4 to 8 years (lower primary school)	93 (26.5)	81 (27.4)	174 (26.9)	5.49 (0.26)	4.31 (0.29)	4.92 (0.20)
	9 to 12 years (upper primary school)	69 (19.7)	57 (19.3)	126 (19.5)	4.59 (0.32)	4.30 (0.43)	4.48 (0.25)
	13 years and older (secondary school)	111 (31.6)	90 (30.4)	201 (31.1)	4.21 (0.27)	3.80 (0.28)	4.01 (0.19)
<b>Employment status</b>	Employee	555 (74.8)	541 (85.8)	1096 (79.8)	4.84 (0.12)	4.30 (0.13)	4.57 (0.09)
	In family business	14 (1.9)	7 (1.1)	21 (1.5)	5.42 (0.47)	4.33 (0.88)	5.06 (0.43)
	Self-employed	51 (6.9)	58 (9.2)	109 (7.9)	4.05 (0.38)	4.30 (0.41)	4.18 (0.28)
	Other	122 (16.4)	25 (4.0)	147 (10.7)	4.55 (0.30)	4.19 (0.74)	4.50 (0.28)
<b>Type of occupation</b>	Essential occupation	292 (53.5)	168 (33.1)	460 (43.6)	4.77 (0.15)	4.42 (0.22)	4.68 (0.12)
	Non-essential occupation	254 (46.5)	340 (66.9)	594 (56.4)	4.71 (0.16)	4.18 (0.14)	4.39 (0.11)
<b>Partner's main activity</b>	Yes, works in an essential occupation	114 (24.6)	157 (38.9)	271 (31.2)	4.96 (0.26)	3.90 (0.23)	4.39 (0.17)
	Yes, works in a non-essential occupation	310 (66.8)	169 (41.8)	479 (55.2)	4.59 (0.15)	4.43 (0.20)	4.52 (0.12)
	Not working	40 (8.6)	78 (19.3)	118 (13.6)	4.38 (0.43)	4.35 (0.28)	4.34 (0.23)
<b>Number of work hours</b>	Part-time (0 to 20 hours)	65 (13.9)	28 (6.2)	93 (10.0)	4.89 (0.30)	4.43 (0.56)	4.75 (0.27)
	Part-time (20 to 35 hours)	208 (44.6)	82 (17.9)	290 (31.4)	4.23 (0.17)	3.98 (0.30)	4.18 (0.15)
	Full-time (35 or more hours)	193 (41.4)	347 (75.9)	540 (58.5)	5.18 (0.18)	4.30 (0.14)	4.59 (0.11)
<b>Difficulty of combining work and care</b>	Very easy / Easy	240 (44.4)	231 (46.0)	471 (45.2)	4.38 (0.17)	3.61 (0.17)	4.04 (0.12)
	Neither easy nor difficult	175 (32.4)	144 (28.7)	319 (30.6)	4.83 (0.18)	4.93 (0.21)	4.85 (0.13)
	Difficult / Very difficult	63 (11.7)	47 (9.4)	110 (10.6)	4.87 (0.29)	5.70 (0.36)	5.87 (0.22)

Note: Sample size (percentages) and average perceived stress levels (standard error)