



*What Role Do Occupational Differences Play in Subjective Working Conditions Throughout the COVID-19 Pandemic?**

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Evidence on the role of occupational differences in subjective working conditions during the pandemic is limited. However, an understanding of how such inequalities develop throughout the pandemic is needed to prevent an overall worsening of social inequality in society. We study occupational inequalities in subjective working conditions—work pressure and work-life balance—throughout the pandemic. We use four waves of the representative, probability-based COVID Gender (In)equality Survey Netherlands (COGIS-NL), collected between April 2020 and November 2020 in The Netherlands. The results show that higher work pressure is reported during the pandemic compared to before the pandemic, particularly among managers and professionals and white-collar workers. Occupational differences are also found in the probability of having difficulty combining work and care during the pandemic, with managers and professionals most likely to report having difficulty. These differences are no longer evident after controlling for respondent and job characteristics. This longitudinal evidence on occupational differences in subjective working conditions within the working population contributes to a better understanding of social inequalities arising and developing throughout the pandemic.

Introduction

The COVID-19 pandemic appears to have amplified existing social inequalities in paid employment (Austin and Donley 2022; Crowley, Doran, and Ryan 2021; Eurofound 2020; Villarreal and Wei Hsin 2022). Empirical evidence on *occupational* differences during the pandemic remains limited, however, and is focused on objective working conditions using cross-sectional data (e.g., the ability to work from home at the start of the pandemic; Montonovo et al. 2022; Sostero et al. 2020). Measures to curb the spread of the SARS-CoV2 virus have had different effects on different types of workers. Nevertheless, there have been few investigations into occupational differences in subjective working conditions such as perceived work pressure and perceived work-life balance, while this is important for the (long-term) wellbeing of workers. In the US, for instance, monthly resignation rates largely increased in 2021 (Jiskrova 2022), referred to as the Great Resignation. Many workers appear to have reassessed their jobs and careers during or due to the COVID-19 pandemic. Possible explanations include subjective working conditions during the pandemic, including difficulties in combining work and care (Jiskrova 2022). The few studies that examine subjective working conditions do not consider occupation (Dalessandro and Lovell 2022) or focus on specific occupations such as healthcare workers (mostly lower skilled workers;

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Romate and Rajkumar 2022) or academics (higher skilled workers; Johnson et al. 2021; Raabe et al. 2020). This research note contributes to the literature by presenting representative, longitudinal evidence from The Netherlands on occupational inequalities for three occupational groups—managers and professionals, white-collar workers, and blue-collar workers—on two key aspects of subjective working conditions: perceived work pressure and perceived work-life balance.

Literature Review

Occupational differences in subjective working conditions have been observed prior to the pandemic, but received only scant attention in the literature. For instance, several studies showed that between 1995 and 2015, work pressure increased among all occupations, but workers in blue-collar occupations experienced more work pressure overall (Lopes, Lagoa, and Calapez 2014b; Rigó et al. 2021; Wahrendorf, Dragano, and Siegrist 2013). Those in white-collar and high-skilled labor report more life satisfaction compared to blue collar workers and white-collar workers doing low-skilled labor (Hessels et al. 2018). Pre-pandemic studies also found that workers in different occupational groups have their own work-life balance challenges. Although workers in blue-collar occupations often have less job autonomy and less flexible work schedules, managers and professionals have more flexible work schedules, but are more likely to work long hours, both of which can be demanding (Chang, McDonald, and Burton 2010; Henly and Lambert 2014; Kossek and Lautsch 2018). Lopes, Lagoa, and Calapez (2014a) show that up to 2015, compared to other European countries, The Netherlands (together with the Scandinavian countries) witnessed an increase in higher work autonomy and is higher than in other European countries. Increased work autonomy was found for clerical workers (i.e., lower skilled white collar workers) in particular, but not for low-skilled manual workers in The Netherlands. In other European countries, work autonomy has decreased.

At first glance, the pandemic would appear to deepen these inequalities (Dingel and Neiman 2020; Mongey, Pilossoph, and Weinberg 2021; Shavit and Müller 1998), particularly along educational lines. Attention for educational differences has been great, as educational level is an important predictor for social inequalities (Brunello et al. 2016; Eikemo et al. 2008; Shavit and Müller 1998). For example, workers with primary or secondary education were more likely to become unemployed during the COVID-19 pandemic than workers with higher educational levels (Crowley et al. 2021; Eurofound 2020). The attention for potential inequality due to occupational differences is much more limited. While we recognize that educational differences matter, occupational differences are also likely to matter for social inequalities experienced during the pandemic.

A key difference between workers of varying occupational groups is related to measures taken to slow the spread of the virus, including lockdowns, the closure of businesses, and government mandates to work from home. For example, work-from-home mandates were less relevant for workers in many blue-collar occupations; white-collar workers and managers and professionals were more likely to work from home (Sostero et al. 2020). Differences in work location are largely due to the type of jobs performed, whereby jobs with physical handling tasks often cannot be done from home, like working in healthcare, packaging products for shipping or stocking store shelves (Austin and Donley 2022; Eurofound 2020; Leap, Stalp, and Kelly 2022; Sostero et al. 2020). The nature of these jobs implies that workers employed in these occupations were more likely to face higher risks of

exposure to COVID-19, to experience reduced working hours, and/or suffer income or job loss during the pandemic (Dingel and Neiman 2020; Leap et al. 2022; Mongey et al. 2021; Naumann et al. 2020; Romate and Rajkumar 2022; Zimpelmann et al. 2021). Initial pandemic evidence also suggests that workers in occupations labeled as essential were particularly less likely to work from home, whereas workers in sectors such as tourism and hospitality either lost their jobs or faced reduced working hours (Austin and Donley 2022; Eurofound 2020; Mongey et al. 2021; Romate and Rajkumar 2022; Sostero et al. 2020). The situation of workers in blue-collar occupations stands in stark contrast to workers in sectors such as IT and communication, energy supply, education and real estate, where working from home was most common during initial lockdowns (Raabe et al. 2020; Sostero et al. 2020). Higher skilled workers, often doing office work, experienced higher earnings and more job security (Adams-Prassl et al. 2020; Eurofound 2021; Raabe et al. 2020; Sostero et al. 2020).

In short, during the pandemic, the type of occupation greatly determined who was able to work from home and who was not. Nevertheless, existing literature and theories focusing on occupational differences in subjective working conditions during COVID-19 are limited. Our study therefore aims to answer the question to what extent occupation affects perceived work pressure and work-life balance during COVID-19.

The Dutch Context

Pre-Pandemic Labor Market in The Netherlands

Since the 1990s, The Netherlands has turned toward labor market flexibilization, or flexicurity, as a means of securing economic competitiveness, and the one-and-a-half earner model for caregiving (Bekker and Wilthagen 2008; Plantenga 2002). Consequently, the Dutch labor market became increasingly flexible between 2007 and 2015, with an increase in the share of self-employed and the share of employees with a temporary contract (Eurofound 2017; European Commission 2016). Evidence indicates that this increase in flexibility has been more detrimental to job security among blue collar and white collar workers compared to professionals and managers (Gielen and Schils 2014). In addition, wage inequality has grown in The Netherlands in the same period, while employees in high-paying occupations are increasingly employed in different firms and sectors compared to employees in low-paying occupations (Janietz and Bol 2020).

A large share of employees works non-standard hours. Non-standard hours were reported as a source of perceived work pressure, especially among blue collar workers (Houtman, Smulders, and van den Berg 2006; Wiezer, Smulders, and Nelemans 2005). Compared to other European countries, a relatively large share of Dutch employees experienced work pressure from having to work at a high work pace or under tight deadlines prior to the COVID-19 pandemic (Houtman et al. 2006; Lopes et al. 2014b). Flexibility in the Dutch labor market also stems from working from home. The Netherlands was among the EU countries with the highest shares of telework *prior to* the pandemic. Overall, more than one third of employees sometimes or regularly worked from home in 2019. Among knowledge workers and IT professionals this percentage was more than 50% in 2018 (Milasi, González-Vázquez, and Fernández-Macías 2021).

Pandemic Measures in The Netherlands

The Dutch government first took measures to stop the spread of the COVID-19 virus in March 2020, commencing with the first national lockdown from 12 March onwards. Over the course of the first year of the pandemic, containment measures were introduced and rescinded at multiple time points, as shown in Figure 1. As part of these containment measures, the government distinguished between essential and non-essential occupations. Essential workers (defined by the government as workers in occupations such as care, childcare, and education, but also public transport, the food chain, transport industry, waste/garbage collection and processing, media and communication, emergency services, necessary government processes) were allowed to work on location if needed. During lockdowns, all non-essential workers were required to work from home if possible and schools and day cares were closed. Schools remained fully closed until 11 May 2020, creating difficulties for parents to combine work and care. Emergency school and day care services were available in limited measure for workers in essential occupations only. These workers were more often lower educated, more likely to work in the (semi) public sector, more likely to be women and less likely to work from home (Yerkes et al. 2020a, 2020b).

The Dutch government developed various policies to protect workers from the consequences of these containment measures, including policies to protect the self-employed as well as a short-time work scheme (termed NOW). The Dutch NOW policy differed from job retention schemes in other countries as it provided employers with a temporary wage subsidy

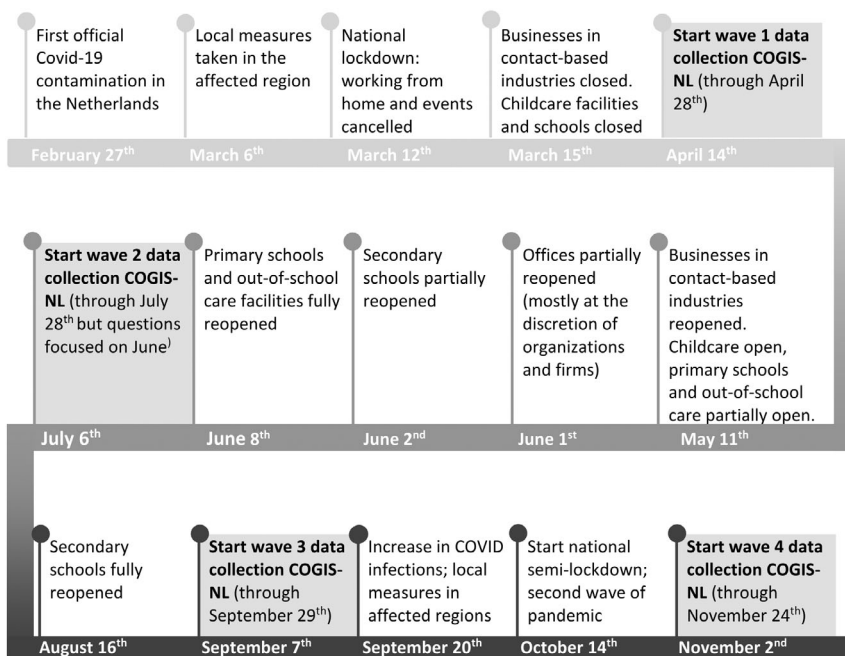


Figure 1 Timeline of data collection in relation pandemic measures in 2020 in The Netherlands.

based on reductions in sales (not working hours) (OECD 2020). Employers who received this subsidy were required to pay workers 100% of their usual wage. These protective policies allowed employers to avoid lay-offs, particularly in sectors where work was often not possible (e.g., restaurants and catering) (Cantillon, Seeleib-Kaiser, and Van der Veen 2021). Comparatively, workers in The Netherlands were relatively less likely to face severe reductions of working hours than workers in other countries (Eurofound 2020). In addition, protective measures were introduced to protect workers who had to work on location. This generally included the need to maintain 1.5 m of distance at work, which led to the introduction of plastic dividers at factories and workstations, for example (Akkerman et al. 2021; Berntsen et al. 2023). Note that during the first lockdown, work in occupations requiring person-to-person contact (e.g., hairdressing) was not allowed, with the exception of (para) medical occupations (RIVM 2023). Use of masks was less common in The Netherlands during the first months of the pandemic and only became introduced to some occupations (e.g., education) in October of 2020 (RIVM 2023).

Data and Methods

To study subjective working conditions during the COVID-19 pandemic, we fielded the COVID Gender (In)equality Survey Netherlands (COGIS-NL) (Yerkes et al. 2020a), which was embedded in the LISS (Longitudinal Internet Studies for the Social sciences) panel administered by CentErd data (Tilburg University, The Netherlands). The LISS panel is based on a true probability sample of households drawn from the population register and has been running since 2007 (Scherpenzeel and Das 2010). Respondents, in total about 7,500 individuals, participate in monthly internet surveys covering a broad range of topics such as work, education, income, values, and personality. All data and codebooks are available through the LISS data archive. We used four waves of data, which were collected among a sub-sample of the LISS panel. Wave 1 was collected in April 2020—1 month after the start of the first lockdown in The Netherlands—among respondents with at least one employed household member and at least one co-resident minor child (under the age of 18). Three successive waves collected in July, September, and November 2020. At wave 2 the sample was broadened to include all LISS panel members with at least one employed household member without co-resident minor children, within two standard deviations of the average age of respondents with co-resident minor children in wave 1. All respondents participating in at least one wave were invited to take part in successive waves of the *COGIS-NL* survey. Response rates were 70% (wave 1), 76% (wave 2), 79% (wave 3), and 75% (wave 4) (based on completed surveys, more information available from the Longitudinal Internet Studies for the Social Sciences (LISS) panel archive (Scherpenzeel and Das 2010) and the study website (cogisnl.eu). Additionally, we used the LISS core module on Work and Schooling, which is collected annually among all LISS panel members to measure occupational information and sector. We used wave 14, collected in April–May 2021.

As we were focused on work pressure and work-life balance, we include only respondents who were working. In all waves, 6–12% of the sample was not employed.¹ Note that very few respondents in the sample were unemployed as a result of the pandemic (Yerkes et al. 2020b). Our analytical sample ranged between 736 and 1,115 respondents dependent upon on the wave. Following, we excluded respondents with missing values on the covariates.² As a last step, we excluded missing values on the two dependent variables.³ The final analytical sample size for work pressure is 660 (wave 1), 852 (wave 2), 909 (wave 3),

and 801 (wave 4) and for work-life balance 689 (wave 1), 827 (wave 2), 860 (wave 3) and 748 (wave 4). Descriptive statistics by wave can be found in Table 1.

We examined differences in perceived work pressure and perceived work-life balance across three occupational groups: managers and professionals, white-collar workers, and blue-collar workers (reference category). This occupational variable was based on the International Standard Classification of Occupations (ISCO 08; ILO, 2012). Where possible, missing values on occupation were replaced by values from the 2020 LISS Work and Schooling module ($N = 197$). A remaining 135 missing values were excluded.

Perceived work pressure and perceived work-life balance reflected respondents' subjective employment experiences. Work pressure was measured using the question: "How much work pressure do you experience now, compared to the situation prior to the COVID-19 pandemic?" Answer categories included the following: (1) I am not experiencing any work pressure at the moment, but I did prior to the COVID-19 pandemic; (2) I am not experiencing any work pressure at the moment, nor did I prior to the COVID-19 pandemic; categories 3–7 were as follows: I am currently experiencing much less (3); slightly less (4); the same amount (5); slightly more (6); much more (7) work pressure than prior to the COVID-19 pandemic." Work-life balance was measured as follows: "How easy or difficult was it for you to combine your paid work with care responsibilities (including home schooling/home-work support) since the general closure of schools and childcare centres?" (1) Very easy, (2) quite easy, (3) neither easy nor difficult, (4) quite difficult, or (5) very difficult.⁴

Educational level is an important predictor for social inequalities (Brunello et al. 2016; Eikemo et al. 2008; Shavit and Müller 1998). As noted above, workers with primary or secondary education were more likely to become unemployed than workers with higher educational levels during the COVID-19 pandemic (Crowley et al. 2021; Eurofound 2020). To disentangle occupational and educational differences, we included educational level (low (primary or lower secondary education = reference category), medium (upper secondary education), and high (tertiary education)).

We also account for several other covariates potentially confounding the relationship between occupation and work pressure or work-life balance: sector (public, private sector, and other = reference category), work location: (partly) working from home, working outside the home (reference category), and other (including those who have always worked from home and those who did not have any work due to the pandemic), essential occupation (self-reported based on a list of government-defined occupations; non-essential = reference category), essential occupation partner (no partner, partner without essential occupation (reference category), partner with essential occupation), the presence of co-resident minor children in the household, gender (male = reference category), and age. Finally, we included wave dummies to control for differences across the waves.

We present descriptive figures supported by hierarchical multinomial logistic regression analyses. Multinomial logistic regressions are preferred over an ordered logit link function because they do not assume proportional odds between pairs of outcome groups and thus allow for the separate estimation of the effects of independent variables on decreases and increases in the outcome variable. As we are interested in studying differences between occupational groups, which is a mostly time-invariant characteristic within the observation period, we use person random effects. To address concerns about the comparability of logistic coefficients across statistical models, we report average marginal effects (AMEs) in the presented tables (Mood 2010). We note that with multinomial models, AMEs should be

Table 1 Descriptive statistics by wave

	W1		W2		W3		W4	
	Apr-20		Jun-20		Sept-20		Nov-20	
	<i>N</i>	%/mean	<i>N</i>	%/mean	<i>N</i>	%/mean	<i>N</i>	%/mean
Occupation								
Manager & Professional	272	39.31	378	39.38	393	39.58	342	38.82
White collar	320	46.24	453	47.19	464	46.73	419	47.56
Blue collar	100	14.45	129	13.44	136	13.70	120	13.62
Education								
Lower	69	9.97	97	10.10	110	11.08	97	11.01
Medium	271	39.16	366	38.13	366	36.86	343	38.93
Higher	352	50.87	497	51.77	517	52.06	441	50.06
Sector								
Unknown	160	23.12	171	17.81	173	17.42	146	16.57
Public	200	28.90	273	28.44	291	29.31	262	29.74
Private	332	47.98	516	53.75	529	53.27	473	53.69
Work location								
(partly) working from home	333	48.12	372	38.75	333	33.53	326	37.00
Working outside the home	292	42.20	498	51.88	603	60.73	501	56.87
Other	67	9.68	90	9.38	57	5.74	54	6.13
Essential occupation								
No	366	52.89	533	55.52	550	55.39	468	53.12
Yes	326	47.11	427	44.48	443	44.61	413	46.88
Essential occupation partner								
No partner	64	9.25	237	24.69	243	24.47	212	24.06
Partner without essential occupation	407	58.85	491	51.15	512	51.56	428	48.58
Partner with essential occupation	221	31.94	232	24.17	238	23.97	241	27.36
Co-resident minor children								
No	0	0.00	417	43.44	424	42.70	375	42.57
Yes	692	100.00	543	56.56	569	57.30	506	57.43
Gender								
Male	326	47.11	471	49.06	486	48.94	442	50.17
Female	366	52.89	489	50.94	507	51.06	439	49.83
Age	692	42.92	960	43.29	993	43.61	881	43.70
Dependent variables								
Work pressure								

Table 1
(continued)

	W1		W2		W3		W4	
	Apr-20		Jun-20		Sept-20		Nov-20	
	<i>N</i>	%/mean	<i>N</i>	%/mean	<i>N</i>	%/mean	<i>N</i>	%/mean
Less	147	22.27	104	12.21	81	8.91	56	6.99
As much	276	41.82	436	51.17	539	59.30	446	55.68
More	237	35.91	312	36.62	289	31.79	299	37.33
Work-life balance								
Easy	265	38.46	388	46.92	460	53.49	417	55.75
Neither	223	32.37	277	33.49	285	33.14	253	33.82
Difficult	201	29.17	162	19.59	115	13.37	78	10.43

interpreted as the estimated percentage point increase in the absolute probabilities of an outcome, contrary to logistical coefficients that estimate the change in probability of one outcome state compared to another.

Results

Work Pressure

Descriptive analyses (see Figure 2a) show occupational differences for the working population experiencing work pressure compared to prior to the pandemic. Approximately half of workers experience the same amount of work pressure as before, the share being highest among blue-collar workers. A substantial share of workers experiences more work pressure during the pandemic; managers and professionals and white-collar workers more so than blue-collar workers. Hardly any occupational differences are evident among those workers experiencing less work pressure at the start of the pandemic (about one fifth of the sample).

The share of workers who experiences more work pressure varies throughout the pandemic across all occupations. Among managers and professionals, work pressure decreases between April and September. For white collar workers, the share that perceives more work pressure increases between April and June, but decreases again to about a third in September and remains stable in November. A similar pattern is found for blue collar workers, although the share perceiving more work pressure than before the pandemic is lower than among other occupations. The decrease between June and September and increase in November may be explained by pandemic measures: most measures were rescinded in September, but reintroduced throughout October and November, with The Netherlands entering a second semi-lockdown late October (see Figure 1).

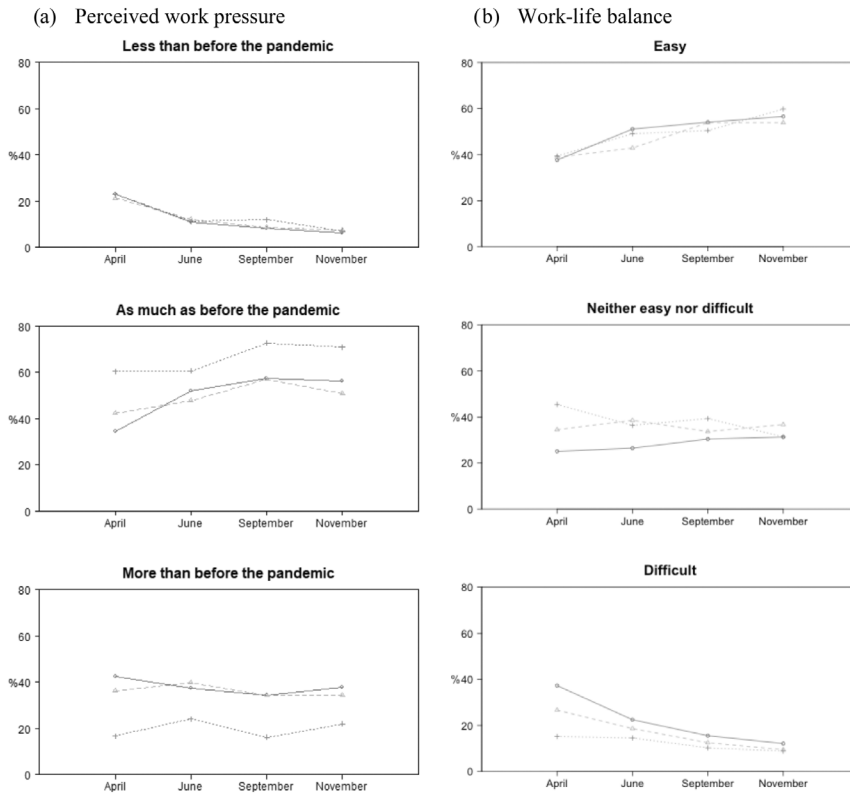


Figure 2 Subjective working conditions by occupation; April–November 2020 (a) Perceived work pressure (b) Work-life balance. Note: Circle = Manager and professional; Triangle = White collar; Plus = Blue collar.

These descriptive results are confirmed in multivariate analyses (Table 2). Occupational differences related to experiencing less work pressure are not found. Model 1a shows negative and significant occupational effects on perceiving *equal* work pressure compared to before the pandemic, meaning that managers and professionals (15 percentage points (p.p.) lower) and white-collar workers (16 p.p. lower) are less likely than blue-collar workers to perceive equal work pressure compared to before the pandemic. Managers and professionals (17 p.p. higher) and white-collar workers (17 p.p. higher) are also more likely than blue-collar workers to report *more* work pressure. These effects for managers and professionals and for white-collar workers are weaker but remain significant for reporting an equal amount and more work pressure after adding the control variables in Model 1b. Model 1b shows that managers and professionals (10 p.p.) and white-collar workers (11 p.p.) are less likely to perceive equal work pressure than blue collar workers. Model 1b also shows that managers and professionals (13 p.p.) and white-collar workers (12 p.p.) are more likely to report more work pressure than blue collar workers. Looking at respondent and work characteristics in Model 1b, we find that in addition to these occupational differences, having a higher

Table 2 Results from hierarchical multinomial multilevel models on perceived work pressure, average marginal effects (AME).

	Model 1a			Model 1b		
	Less dy/dx (SE)	As much dy/dx (SE)	More dy/dx (SE)	Less dy/dx (SE)	As much dy/dx (SE)	More dy/dx (SE)
Occupation (Blue collar = ref.)						
Manager & Professional	-.0181 (.0236)	-.154*** (.0331)	.172*** (.0303)	-.0289 (.0291)	-.0956** (.0405)	.125*** (.0379)
White Collar	-.0121 (.0234)	-.157*** (.0324)	.169*** (.0296)	-.0206 (.0265)	-.0998*** (.0364)	.120*** (.0358)
Educational level (Low = ref.)						
Medium				-.0160 (.0280)	-.0811** (.0386)	.0971*** (.0358)
High				-.0234 (.0296)	-.114*** (.0410)	.138*** (.0381)
Sector (other = ref.)						
Public				.0248 (.0218)	-.0570* (.0329)	.0321 (.0320)
Private				.0115 (.0189)	-.0464 (.0300)	.0350 (.0294)
Work location (outside of the home = ref.)						
(partly) working from home				.0178 (.0146)	-.00155 (.0227)	-.0163 (.0215)
Other				.0917*** (.0313)	.0305 (.0409)	-.122*** (.0360)
Essential occupation				-.0280* (.0149)	-.0847*** (.0229)	.113*** (.0222)
Essential occupation partner (partner without essential occupation = ref.)						
No partner					-.0247 (.0298)	.0328 (.0295)
Partner with essential occupation				-.00764 (.0163)	.00460 (.0248)	.00304 (.0239)
Presence of co-resident minor children						
Gender (male = ref.)				-.00185 (.0181)	-.0293 (.0258)	.0312 (.0252)
Age				.0135 (.0161)	-.0413* (.0239)	.0278 (.0236)
Wave (1 – April = ref.)				-.000747 (.000959)	.000740 (.00142)	7.19e–06 (.00140)
W2 – June	-.103*** (.0158)	.0828*** (.0215)	.0204 (.0197)	-.104*** (.0169)	.0777*** (.0226)	.0262 (.0205)
W3 – September	-.136*** (.0153)	.167*** (.0211)	-.0304 (.0191)	-.133*** (.0165)	.164*** (.0225)	-.0311 (.0203)
W4 – November	-.153*** (.0155)	.137*** (.0219)	.0161 (.0200)	-.150*** (.0165)	.132*** (.0229)	.0182 (.0208)
N	3,222					

Standard errors in parentheses. Two-tailed tests; * $p < .05$, ** $p < .01$, *** $p < .001$.

educational level and an essential occupation were also predictors of reporting more work pressure compared to before the pandemic. Over time, we find that between June and November, workers were less likely to report a decline in work pressure and more likely to perceive *the same amount of* work pressure compared to the start of the pandemic (April). No significant effects were found for reporting an increase in perceived work pressure. These findings appear in line with the results displayed in Figure 2a. In particular, reports of perceiving more work pressure than before the pandemic appear to be rather stable during the first year of the pandemic.

Work-Life Balance

Occupational differences in perceived work-life balance are less evident. A substantial (about 40%) and increasing group perceives the combination of work and care as easy during the first months of the pandemic, with only small occupational differences. As shown in Figure 2b, the group that perceives this combination as neither easy nor difficult varies somewhat across occupations at the beginning of the pandemic, but differences decrease by November 2020. At the start of the pandemic, a considerable group indicates having difficulties combining work and care, particularly managers and professionals (37%). The share of workers who report having difficulty in combining work and care decreases throughout the pandemic. Although managers and professionals remain the occupation most likely to report having difficulties in combining work and care, by November 2020, occupational differences almost disappeared.

The multivariate analyses in Table 3 show that the probability of reporting that combining work and care was neither easy nor difficult is 10 p.p. lower for managers and professionals compared to blue-collar workers (Model 2a). Furthermore, we find that the likelihood of perceiving the combination of work and care to be difficult is 9 percentage points higher for managers and professionals and 5 percentage points higher for white-collar workers compared to blue-collar workers (Model 2a). However, after controlling for respondent and work characteristics (Model 2b), the effect sizes are strongly reduced and are no longer significant. Rather than occupation, it may have been other factors that affected perceived work-life balance. For example, in our analyses, we find that those workers who are higher educated were 8 p.p. more likely to report difficulties in combining work and care than those workers with lower education. Workers with co-resident minor children were *more* likely to report that combining work and care was easy (7 p.p.) and *less* likely that it was neither easy nor difficult (4 p.p.) compared to workers without co-resident children.

We find significant changes by wave for the easy and difficult work-life balance categories. Model 2b shows that compared to April, respondents were *more* likely to report that it was easy to combine and care in June (10 p.p.), September (18 p.p.) and November (19 p.p.), and *less* likely to report that it was difficult to combine work and care in June (10 p.p.), September (17 p.p.) and November (19 p.p.). These findings are in line with Figure 1b.

Additional analyses with white-collar workers as the reference category showed the probability that combining work and care was perceived as difficult is 4 percentage points higher for managers and professionals, but these significant differences were only found without controlling for respondent and job characteristics (not shown, results available upon request). No substantial differences were found between blue-collar and white-collar workers,

Table 3 Results from hierarchical multinomial multilevel models on work-life balance average marginal effects (AME)

	Model 2a			Model 2b		
	Easy dy/dx (SE)	Not easy/not difficult dy/dx (SE)	Difficult dy/dx (SE)	Easy dy/dx (SE)	Not easy/not difficult dy/dx (SE)	Difficult dy/dx (SE)
Occupation (Blue collar = ref.)						
Manager & Professional	.00938 (.0362)	-.101*** (.0330)	.0919*** (.0236)	.00262 (.0426)	-.0390 (.0383)	.0364 (.0307)
White Collar	-.0195 (.0354)	-.0289 (.0330)	.0484*** (.0223)	-.0120 (.0382)	-.00547 (.0345)	.0175 (.0272)
Educational level (Low = ref.)						
Medium				-.0326 (.0413)	-.00945 (.0380)	.0420 (.0267)
High				-.0134 (.0438)	-.0619 (.0401)	.0753*** (.0288)
Sector (other = ref.)						
Public				-.0124 (.0344)	.0172 (.0312)	-.00480 (.0246)
Private				.0313 (.0313)	-.0220 (.0280)	-.00936 (.0227)
Work location (outside of the home = ref.)						
(partly) working from home				.0461** (.0232)	-.0682*** (.0219)	.0221 (.0175)
Other				.0845** (.0376)	-.0385 (.0357)	-.0459* (.0248)
Essential occupation				-.0107 (.0238)	-.0164 (.0218)	.0271 (.0174)
Essential occupation partner						
(partner without essential occupation = ref.)						
No partner				.00927 (.0315)	-.0379 (.0275)	.0286 (.0236)
Partner with essential occupation				-.0370 (.0252)	.0169 (.0233)	.0200 (.0184)
Presence of co-resident minor children						
Gender (male = ref.)				.0672** (.0267)	-.0414* (.0241)	-.0258 (.0200)
Age				-.0310 (.0247)	.0220 (.0221)	.00903 (.0178)
Wave (1 – April = ref.)				.00256* (.00148)	-.000429 (.00132)	-.00213** (.00107)
W2 – June	.0900*** (.0214)	.0122 (.0220)	-.102*** (.0192)	.102*** (.0219)	.00268 (.0231)	-.104*** (.0205)
W3 – September	.163*** (.0213)	.00301 (.0218)	-.166*** (.0183)	.180*** (.0221)	-.0122 (.0230)	-.167*** (.0198)
W4 – November	.174*** (.0222)	.0178 (.0227)	-.192*** (.0185)	.189*** (.0226)	.00505 (.0237)	-.194*** (.0196)
N	3,124					

Standard errors in parentheses. Two-tailed tests; * $p < .05$, ** $p < .01$, *** $p < .001$.

or between the three occupational groups relating to the probability of perceiving the combination of work and care as easy or neither easy nor difficult.

Conclusions and Discussion

This study examined the development of occupational inequalities in subjective working conditions throughout the COVID-19 pandemic. Using representative longitudinal data for The Netherlands, collected at four points during the first year of the pandemic, we were able to study occupational differences in perceived work pressure and work-life balance. Recent studies already showed that lower educated, low-skilled workers were more likely to continue their work on location, whereas many higher educated, high-skilled workers were able to work from home (Eurofound 2020). Less attention was paid to occupational effects of the pandemic on subjective working conditions, especially from a longitudinal perspective.

Our study showed that the pandemic affected subjective working conditions, how subjective working conditions were affected differed across occupations, and that these effects changed across time. Work pressure increased among a substantial share of workers, but we found differences between managers and professionals and white-collar workers on the one hand and blue-collar workers on the other hand. The experience of greater work pressure for managers and professionals and white-collar workers in the early days of the pandemic is an interesting finding considering earlier—pre-pandemic—research showing higher levels of work pressure among lower skilled (often blue-collar) workers (Lopes et al. 2014b; Rigó et al. 2021; Wahrendorf et al. 2013).

We found few clear occupational differences relating to work-life balance, particularly toward the end of the first year of the pandemic (November 2020). While managers and professionals were more likely than blue-collar workers to have difficulty combining work and care at the start of the pandemic, these differences were much smaller by November 2020. Nevertheless, managers and professionals, also the group most likely to work from home during the pandemic, were most likely of all occupations to report having difficulty combining work and care. We note that occupational differences in work-life balance disappear when controlling for individual characteristics, such as gender, education and age, and job characteristics, such as work location. Although previous studies have focused more on the work-life balance of managers and professionals than low-skilled workers (especially blue-collar workers), our findings seem in line with previous studies that find that work-life balance can be challenging for all occupations (Chang et al. 2010; Henly and Lambert 2014; Kossek and Lautsch 2018).

Our study had some limitations. For example, we did not include controls for work hours, therefore controlling for whether work hours increased or decreased throughout the pandemic. Unfortunately, changes in work hours were only included in the first wave of the COGIS-NL study. We also note that our measure of work pressure, although providing a clear comparison of workers' subjective experience, does not distinguish between different sources of pressure (e.g., the need to meet targets or deadlines) or pandemic-based sources of work pressure (e.g., potential concerns about contracting COVID-19 at work). Another study shows that work pressure was more affected by work stressors than by home stressors at the start of the pandemic in April 2020 and in particular that working more hours and having an essential occupation increased perceived work pressure (André and van der Zwan 2023). More detailed information on workers' experiences of work pressure would nevertheless be a valuable addition to the literature.

The results of our study provide much-needed insights into the ways in which the COVID-19 pandemic impacted subjective working conditions. In particular, we clearly found different patterns and predictors for work pressure and work-life balance. There were different perceptions of work pressure among occupations and for a considerable group of workers, work pressure increased and remained high throughout the pandemic. For work-life balance, education appears to be a more important predictor of work-life balance difficulties than occupation, in particular those respondents with a higher educational level experienced difficulties in combining work and care. Furthermore, it appears that the start of the pandemic had the most substantial effect on work-life balance, while this was less evident for work pressure. While our analyses offer evidence of pandemic-related occupational differences in subjective working conditions, it is difficult to say whether these differences have led to an increase in social inequality and whether these differences hold in other working populations outside The Netherlands, in different COVID-19 pandemic contexts. Considering pre-pandemic findings that higher work pressure existed among lower occupations, our study may indicate that the gap in work pressure between higher and lower skilled workers may have become smaller since the pandemic. This finding offers promising inroads for post-COVID research on the working population. More research is also needed to examine how individual and job characteristics affect work-life balance differently for workers in lower and higher skilled occupations.

Ethical Approval

This study was evaluated and ethical approval was obtained from the Faculty of Social and Behavioural Sciences from Utrecht University (approval number: 20–269). Ethical approval for data collection rests with CentERdata, the LISS-panel administrator, who requires all respondents to sign a written, online informed consent form before participating in the panel.

Data Availability Statement

The datasets analysed during the current study are available in the DANS repository (wave 1: Doi: [10.17026/dans-x3d-e4fb](https://doi.org/10.17026/dans-x3d-e4fb); wave 2: Doi: [10.17026/dans-x46-f8zj](https://doi.org/10.17026/dans-x46-f8zj)). Waves 3 and 4 are not yet published but are available from the corresponding authors on reasonable request.

ENDNOTES

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¹Based on the question “Are you currently in paid employment?,” 104, 85, 88, and 87 respondents in waves 1–4 respectively were not employed.

²135 for occupation—only measured at 1 time point, respectively from wave 1 to 4: 4, 3, 3 and 2 missing values for education, and 0, 35, 35, and 22 for work location.

³For work pressure excluded missing values were 32, 108, 84, and 80 for waves 1–4 and for work-life balance this was respectively 3, 133, 133, and 133.

⁴For work pressure an additional category was added in waves 2–4: (8) not applicable. For work-life balance the question was slightly adapted from wave 2 onwards: How easy or difficult was it for you to combine your paid work with [care and support for the people around you/your care responsibilities] at this moment? And the category (6) “not applicable” was added. For both dependent variables, “not applicable” was coded as missing, which may explain the slightly higher number of missing values in waves 2–4.

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