



**Leading in Unprecedented Times: A Study on Leader Wellbeing whilst Involuntarily  
Working from Home during the COVID-19 Pandemic**

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### **Abstract**

The outbreak of the COVID-19 pandemic brought on persistent worldwide challenges in both private and work-domains. This paper investigates the effects of the pandemic on the general wellbeing of leaders through pandemic-related changes in job demands and job resources. The context of this study is that employees were working from home (WFH) on an official government mandate that was implemented in March 2020. The sample was obtained in February 2021 from a Dutch University and utilized data of 1715 university employees. In the final analyses 1487 participants were included amongst which 338 leaders (154 females, 174 males). This study utilizes a dual-pathway model to analyze the direct relationship between leadership role occupation and wellbeing, as well as the indirect relationship between these two variables through job demands and available job resources. In the final analyses there was no direct effect discovered of leadership role occupancy on general wellbeing. The relationship between leader role occupation and job demands was found significant and positive. A strength of this study is that a large sample of participants was utilized, all of which coming from within the same company and within the same relevant time period. Future research is needed to fully comprehend the impact of the pandemic on the wellbeing of both leaders and non-leaders. Further investigation could be directed at analyzing how and why leaders experienced significant increases in job demands but no significant decrease in subjective wellbeing.

*Keywords:* Leadership, COVID-19, pandemic, working from home (WFH), wellbeing

## **Leading in Unprecedented Times: A Study on Leader Wellbeing whilst Involuntarily Working from Home during the COVID-19 Pandemic**

The outbreak of the global COVID-19 pandemic (also referred to as SARS-CoV-2 or the coronavirus) brought persistent and existential challenges for people all over the world in both their private and work-domains. In many countries a variety of containment measures, such as a mandated quarantine, a total or partial lockdown, an evening curfew, and/or the recommendation to work from home as much as possible, triggered feelings of stress and uncertainty (Qiu et al., 2020). Millions of workers were forced to either stop working or switch to teleworking (Bouziri et al., 2020). Organizations struggled with adapting to the measures. Available resources shifted and the pressure on companies arose. Leaders had to make the best decisions not just for their own employees and the financial health of the company, but for the safety of society as a whole. The upheaval of society due to the pandemic reached further than just the workplace, as in the context of the pandemic societal injustices came to the light and movements such as '*Black Lives Matter*' gained great momentum (Anas & Greenwood, 2021). It is important to state that this paper will solely focus on the impact of the pandemic in the organizational field. However, these societal disruptions and changes should be taken into account, as all these external pressures were potential stressors that employees could carry into the workplace. In some examples, these external stressors from the pandemic could have a great and lasting impact on both an individuals' mental and physical health. Leaders faced the burden of making the correct decisions without the necessary information available. They were all operating in unprecedented times. Furthermore, under scrutiny of the public eye, bad decisions would immediately be noticed and even condemned (e.g., Adriaanse, 2020).

A Dutch example of a leader succumbing to pandemic related pressures is the case of the political leader Bruno Bruins in the Netherlands. Bruins was responsible for the

department of Health and Sport in March 2020. During the first weeks of the virus outbreak, he struggled noticeably while leading the Dutch' first response to COVID-19. Eventually he collapsed in the middle of a political debate, had to step down from his position and was replaced by Hugo de Jonge. Later Bruins described how he had to 'fight' to secure enough protective masks for Dutch citizens and received enormous backlash when he could not give an affirmative answer whether he had obtained enough masks for the entire country (Rijlaarsdam & van den Dool, 2020). Additionally, it came to light that he was blackmailed by numerous pharmaceutical companies (Wester, 2020). Presumably Bruins might have received blackmail and faced scarcity of resources in the pre-pandemic phase of his career as well. It is therefore difficult to claim that he collapsed from specifically pandemic related work-demands. Nevertheless, a minister collapsing should be taken as a red flag that signals that there is something worth investigating. Not every leader in this pandemic era has faced similar pressures as Bruins, who had the job of protecting the health of 17 million people from a previously unknown virus. Nonetheless, the case of Bruno Bruins does illustrate quite clearly how pandemic related demands can bring about both mental and physical consequences for leaders' health.

The present study aims to contribute to the understanding of the complex mechanism of leader wellbeing in the context of the pandemic. By analyzing the direct relationship between leadership role occupation and wellbeing as well as the indirect relationship between the two variables through job demands and available resources, this paper strives to contribute to expanding the body of literature on leadership, wellbeing and COVID-19.

In both academic literature as well as in the mainstream media, the discussion about the role of leaders in the pandemic was mainly directed towards the behaviors that leaders should show to support the wellbeing of their subordinates (see e.g., Tiggelaar, 2021; Usman et al., 2021; Bajaba et al., 2021). However, little attention has been paid to how the leaders

themselves were coping with these unprecedented stressors and challenges (Stoker et al., 2021). This is unfortunate, as the wellbeing of a leader affects their leadership behaviors and thus the wellbeing of their employees (Li et al., 2018). Therefore, an undeniably important middle step is to inquire about, as well as ensure, the wellbeing of leaders before demanding any specific leadership behavior from them. Joseph et al. (2015) showed that a ‘happy leader is a good leader’, using the emotional contagion theory to demonstrate that a leader can either negatively activate or positively motivate the follower through their own affective state. Positive emotions contributed to the leader being viewed as more successful and effective.

Research shows that occupying a leadership position can have both negative and positive effects on wellbeing. Being a leader, in ‘non-pandemic circumstances’, is a mixed blessing according to Li. et al. (2018). According to their research, occupying a leadership position can both have positive as well as negative effects on a leader’s wellbeing. This is dependent on two distinct pathways, which are job demands and job control. As a result of the pandemic, both the work demands and controlled resources might have changed. It is interesting to investigate what different effects this will have on the general wellbeing of the employees who occupy leadership positions. Although it is not a new phenomenon, teleworking, or working from home (WFH) has grown in scale due to the COVID-19 pandemic (Stoker et al., 2021). A mix between on- and off-site working, also referred to as *blended working*, has been a growing trend pre-pandemic. It has been considered beneficial for workers’ performance by increasing their job autonomy (Van Yperen et al., 2014). The success of blended working has been mixed and contingent on different factors, such as workers’ individual psychological need strength (Van Yperen et al., 2014).

The effects of working from home in the pandemic could be very different compared to previous, pre-pandemic studies, as the forced working from home mandate happened very suddenly. It did not leave sufficient time or financial means for many companies to prepare

accordingly to this new shift. The body of research investigating the effects of the pandemic as well as WFH and blended working is still limited, but it is steadily growing.

### **Leadership Role Occupancy and Job Demands**

A leader is an individual who has supervisory responsibilities or holds a supervisory position (Li et al., 2018). Li and colleagues (2018) demonstrated that a leader both has more pressures (job demands) as well as more access to resources (job control) than a non-leader. Job demands are defined as those aspects of the job that require sustained physical, cognitive, or emotional effort and are associated with work motivation, performance, and wellbeing (Demerouti et al., 2001). Job resources are defined by Demerouti et al. (2001) as aspects of a job that might be functional in achieving work goals, reduce job demands and/or stimulate personal growth and development. These resources can be physical, psychological, social or organizational. In Li et al. 's model, the effect of occupying a leader position on wellbeing depends on the relative strengths of the two detrimental and salutary pathways. The strongest pathway will have the strongest influence on individuals' wellbeing. This study further expands on this model, including demands and resources from a perspective of WFH and the COVID-19 crisis.

Leadership roles in general include a broad range of tasks, such as interacting with external stakeholders, building and maintaining relationships with subordinates, peers and higher-level leaders, managing change and completing tasks (Yukl, 2012). Supervisory work can be very complex, fragmented and urgent (Mintzberg, 1971). During the COVID-induced WFH, leaders have been forced to adapt rapidly to a form of e-leadership (Contreras et al., 2020). Working from home is also referred to as teleworking and can be described as a decentralized working practice that depends on the use of information and communication technologies (ICT; Gálvez et al., 2020). Work is carried out via the internet, using e-mail, chat, web-conferencing tools, and other digital sharing platforms. The telephone and fax can

also be grouped under teleworking devices. These different forms of digital communication, information management and virtual relationship management require distinctly different skills than face-to-face exchanges do (Contreras et al., 2020). There is a significant change in work methods, as work is not limited to a certain location, time or communication platform (Contreras et al., 2020). The leader needs to not only be technologically savvy, but also needs to decide what platforms are best suited for their employees to efficiently exchange information on a daily basis (Contreras et al., 2020). Additionally, not only the verbal communication matters in the digital space, but the leader needs to master the non-verbal communication as well, meaning non-lexical tokens, and typography such as the use of emoticons (Darics, 2020). Besides good basic e-communication skills and technological savviness, the digital leader needs to create a sense of trustworthiness and friendliness as well as a pleasant work environment, ensure team commitment and accountability, and have change management skills (Contreras et al., 2020; Liu et al., 2018).

In addition to the demands of (e-)leadership, working from home can also pose some challenges for employee wellbeing. These challenges are applicable to both leaders and non-leaders. Because the working from home mandate was implemented quite suddenly, companies generally did not have sufficient time to prepare the necessary materials or guidance for the at-home-workspace. Employees often did not have these resources available at home, thus finding themselves exposed to non-ergonomic working equipment and potential risks of musculoskeletal disorders (Bouziri et al., 2020). The term ‘Zoom fatigue’ was coined quickly, referring to the extreme fatigue experienced during all-day video meetings. Online video conferencing takes up more cognitive load, enhances self-evaluation through seeing the constant mirror image of oneself, constrains physical mobility and feels unnatural through excessive amounts of ‘eye contact’ with the virtual members of the meeting (Bailenson, 2021). Furthermore, the negative effects of social isolation as well as the psychosocial

demands that may come from caretaking demands and the blurring of work-non work boundaries can be detrimental to the employees' wellbeing (Bouziri et al., 2020). The points mentioned above lead to the following first hypothesis:

**Hypothesis 1.** Occupying a leadership role is positively related to an increase in job demands in the context of the pandemic.

### **Leadership Role Occupancy and Job Resources**

Hill (2007) suggests that ascending into leadership roles may enhance one's level of job control. Leaders gain more autonomy as well as a greater sense of control (Li et al., 2018). Additionally, feelings of power or control that come from a leadership position are linked to greater behavioral activation and lower behavioral inhibition (Anderson et al., 2012). It has not yet been investigated if a position of (e-)leadership amidst a pandemic is positively related to access to distinct job resources. It could be that leaders have more access to specific pandemic-related, in-company information than non-leaders, or perhaps more often have access to ergonomic workplace materials or even a separate workspace. According to social network theory, people who have more power are typically better connected through 'nodes'. These nodes are other people with information and resources that the actor needs in order to be successful in the workplace (Perry-Smith & Mannucci, 2017). According to this theory, the more 'nodes' one has in their network, the higher one's influence is over others and their resources. This access increases opportunities for power and success. Following this line of argumentation, a leader generally has more power than a non-leader and therefore more potential access to information and resources. These arguments lead to the following second hypothesis:

**Hypothesis 2.** Occupying a leadership role is positively related to an increase in job resources in the context of the pandemic.



### **Indirect Influence of Leadership Role Occupancy on Wellbeing through Job Demands**

Danna and Griffin (1999) refer to wellbeing as a broad and holistic concept that takes into account the whole person. In this study, a broad definition of wellbeing is used, including psychological indices as well as the feeling of social isolation and concentration. The external threat of the pandemic has brought about an array of negative consequences for both mental and physical health (Pfefferbaum & North, 2020). Drew and Martin (2020) have referred to the COVID-19 outbreak as a 'critical incident', meaning a stressful event or trauma that can interfere with an individual's ability to cope with everyday stressors. Amongst the major stressors of the pandemic are high levels of uncertainty, loss of personal control through the imposition of public health measures that limit personal freedom, financial insecurities, fear for one's own health or the health of loved ones, and potential confusion due to conflicting messages from authorities (Pfefferbaum & North, 2020). Numerous emotional outcomes from these stressors are, according to Pfefferbaum and North (2020): stress, depression, irritability, insomnia, fear, confusion, anger, frustration, boredom, and stigma associated with quarantine. Some of these effects persisted after the quarantine was lifted. Specific stressors included greater duration of confinement, having inadequate supplies, difficulty securing medical care and medications and resulting financial losses. McEwen (2007) demonstrated in the allostatic load model that exposure to recurring and persistent stressors over time can impair the body from returning to a normal resting state and create a chaotic state. McEwen (2007) refers to this phenomenon as allostatic overload. As time passes in this chaotic state, the body can have elevated levels of hormone cortisol and feelings of anxiety which pose great risks for one's health. In a likewise manner, other bodily abnormalities can develop as a cause of prolonged stress, such as a high blood pressure. Demerouti et al. (2001) demonstrated in their model that job demands such as time pressure, physical workload, recipient contact and the work

environment could lead to exhaustion and eventually can bring about employee burnout. The aforementioned arguments lead to the third hypothesis:

**Hypothesis 3.** Occupying a leadership role is indirectly and negatively related to wellbeing outcomes through increased job demands in the context of the pandemic.

#### **Indirect Influences of Leadership Role Occupancy on Wellbeing through Job Resources**

Demerouti and colleagues (2001) argue that access to job resources can act as a protective factor against a high workload. Job resources can help one to be functional in achieving their goals, reduce the physiological and psychological costs of work demands and stimulate personal growth and development. Ryan and Deci (2008) showed that crucial factors for personal growth, development and eventually a feeling of happiness and activation are: the need to feel competent, the need for relatedness and the need for autonomy. In the workplace, these job resources include the following factors: good social interactions, sufficient work materials and time to reach one's goals and the freedom to control one's work. Li et al. (2018) demonstrate how the amount of perceived control and influence that comes with a leadership position is connected positively to an individual's wellbeing. Especially in a time of crisis, managers could become more controlling and delegate less (Stoker et al., 2021). This relates to Stoker and colleagues' threat-rigidity hypothesis (2019), where in the face of threat the top-down flow of resources and information become more restricted to prevent potential losses. This could lead to managers and leaders hoarding more resources and (temporarily) blocking the flow of information. Combining the argument that leadership leads to increase access to job resources with the abovementioned theories, the following fourth hypothesis comes forth:

**Hypothesis 4.** Occupying a leadership role is indirectly and positively related to wellbeing outcomes through increased job resources in the context of the pandemic.

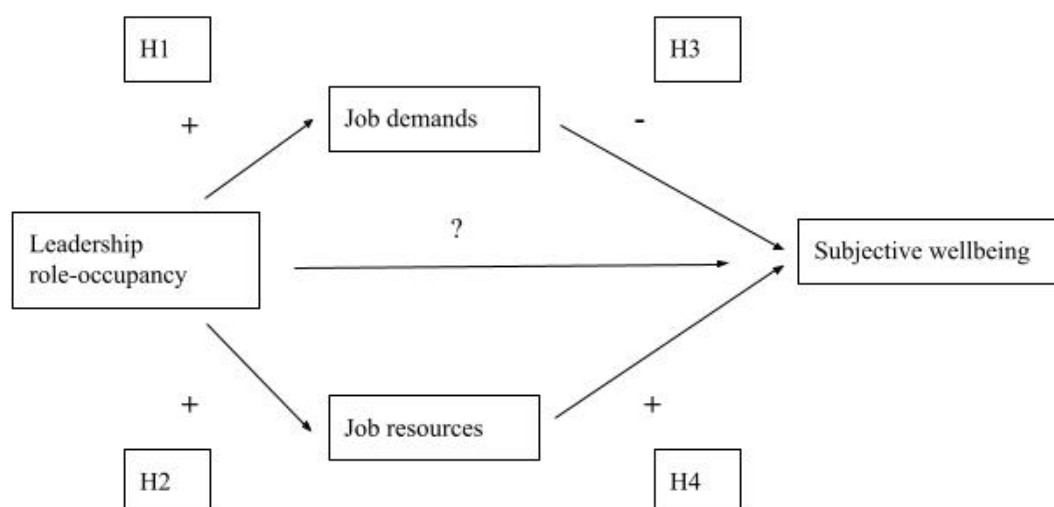
### A Dual-Pathway Model Linking Leadership Role Occupancy and Wellbeing

As stated previously, occupying a leadership role can have either a positive or negative effect on a leaders' wellbeing, depending on which pathway has the strongest influence. The combination of intrinsic (within the company) and extrinsic (societal and global) factors add a new dimension to the dual-pathway model of Li et al. (2018).

MacKinnon and colleagues (2007) would note about Li et al.'s model that it is an inconsistent mediation model, as at least one mediated effect has a different sign than other mediated or direct effects in a model. In this article the authors MacKinnon et al. state that "although knowledge of the significance of the relation of X to Y is important for the interpretation of results, there are several examples in which X to Y relation may be nonsignificant, yet mediation exists" (p.602). In this manner, the direct relationship between leadership role occupancy and wellbeing has been indicated with a question mark. This is reflected in the literature on leadership and wellbeing, as studies have found both negative and positive relationships between the two constructs, most likely due to different inferring variables.

#### Figure 1.

*Hypothesized research model*



## Method

### Participants and Procedure

This study uses the data from a survey study that took place in the Netherlands in February 2021. At this point in time there was a government-mandated lockdown, a curfew and most people had been partially or fully working from home for almost a year (retrieved from <https://www.rijksoverheid.nl/onderwerpen/coronavirus-tijdljn>). This survey study was conducted by S. Scheibe, J. de Bloom and A.J. Modderman amongst the employees of a Dutch university. The link to the survey was distributed through an email to all university employees, directing them to the survey displayed on the digital platform Qualtrics (Qualtrics XM - Experience Management Software, 2021). The participants could choose to complete the survey in English or in Dutch. At the time of data collection, the employees had worked from home as much as possible since March 2020 and had had some time to grow accustomed to this type of work setting. There were 25 closed and open questions in total, all relating to the experience of working from home amidst a pandemic. A similar survey was sent out to this pool of prospective participants at the start of the pandemic, in July 2020. Only the data from February 2021 will be used in this study, and the principal investigator S. Scheibe has granted permission to use the data for this thesis. Participants were informed of the voluntary nature of this study as well as assured anonymity of their data. This means that the gathered data points could not be traced back to a single individual who participated in the study. This procedure was in accordance with the European data privacy law (GDPR).

In total, 2029 people filled out the survey until the end. A total of 1715 respondents (1210 females, 748 males, 6 other, 88 rather not say) agreed that their data could be used for research purposes. Amongst this group of participants, 338 employees (154 females, 174 males) reported to occupy a leadership position. The following demographic characteristics were assessed: gender, nationality, job type, age (in 5 categories), living situation, caretaking

of children under 16, and caretaking of others (i.e., disabled relatives, friends, acquaintances). The demographic characteristics of the sample are displayed in figure 1. Participants who filled in nothing or 'rather not say' on any of the items used in the analyses were excluded. In the next section, the measures will be discussed. The qualitative data from the open questions was coded by five trained students. This data will not be analyzed in this thesis but can be used as illustrative examples in the discussion section. This study exclusively focused on analyzing the quantitative data from this data set.

## **Measures**

### ***Leader Role Occupation***

In this study no distinction was made between different levels of hierarchical leadership. Additionally, only formal leadership was assessed. Informal leadership refers to the amount of actual influence one has over others even if this person does not hold a leadership position, whereas formal leadership refers to the official holding of a leadership position, regardless of the amount of actual power that the leader holds over their subordinates (Keltner et al., 2003). This construct was measured by using the following item: "Are you a manager or supervisor?". The question could be answered with 'yes', 'no', or 'rather not say'. Only the participants who filled in 'yes' ( $n = 328$ , 19.7%) or 'no' ( $n = 1282$ , 74.8%) were included in the study ( $n = 1573$ ).

### ***Wellbeing***

Danna and Griffin (1999) conceptualize wellbeing not only as physical and psychological health but reach further towards a broader term that even includes life/non-work satisfaction. Subjective feelings of loneliness would fit into such a conceptualization, in addition to the mental and cognitive health that is assessed. The wellbeing score was obtained by aggregating across three items addressing mental health, social isolation, and attentional

focus during the workday as compared to the months before the corona outbreak. The lambda 2 score for this aggregated variable was 0.73. This is considered acceptable.

Participants rated their answers on a 5-point Likert-type scale, for example the social isolation item “Compared to the months before the coronavirus outbreak (March 2020), how often do you feel lonely?” the options ranged from 1 = much less often to 5 = much more often. The other items can be found in Appendix A.

### ***Job Demands***

In their US sample, Li et al. (2018) operationalized the variable job demands by using the item workload, amongst other components like time pressure and interruptions. In this study, workload will be used to indicate the amount of job demands. The item regarding workload in the questionnaire was: “Compared to the months before the outbreak of the coronavirus (March 2020), my workload over the past three months has been:” (1 = much lower to 5 = much higher).

### ***Job Resources***

The variable *job resources* was initially intended to be one variable, however in the analysis process it was decided to divide the four items into two separate variables, material resources and social resources. This was the best decision due to a low reliability score on all four items together, and the fact that two distinct themes were assessed in these items.

It’s important to state that even after sorting the four items into two variables, the reliability score was improved but still not up to par according to scientific research standards. The lambda 2 score for material resources was .17, which is a very low reliability score. The lambda 2 score for social resources was .50, which is a low reliability score. The decision to keep these variables in the analysis was taken by using formative variable construction, as opposed to using reflective measures (Diamantopoulos & Siguaaw, 2006). This formative construction of the variables entails that the reliability score of the items is not leading in the

decision to use the composed variable. Instead, a researchers' assumption based on literature and common sense is utilized to generate the variable. This assumption is then tested in the analyses. Looking at the existing items, it becomes clear that they hold valuable information and they are testing both material and social resources.

Material resources can include any object, such as a computer (Lee et al., 2020), high-speed internet or an ergonomic workstation. The items related to material resources were: "I have sufficient resources (such as a PC / desk / stable internet, etc.) to be able to do my work well at home." ("yes" or "no") and "I have sufficient information to be able to carry out my work at home (information from your supervisor, Faculty Board/Director, Board of the University, the UG website)." ("yes" or "no"). The items related to social support were "How satisfied are you with the contact with your colleagues/team during the coronavirus pandemic?" (1 = very dissatisfied to 5 = very satisfied) and "My manager is providing sufficient support during the coronavirus pandemic." (1 = completely disagree to 5 = completely agree). This last item, regarding supervisory support, is also included in the 'resources' section of Demerouti et al. 's job demands-resources model (2001).

### ***Control Variables***

Four control variables were added to the analysis. The first variable included was the participants' nationality. The formation of social relationships in the host country has been identified as one of the most important factors in expat adjustment (Johnson et al., 2003). As expats tend to have fewer social connections in their host country compared to their native coworkers, they are more vulnerable to mental health issues such as anxiety and stress. The isolation measures could have had a bigger impact on international employees' wellbeing. Additionally, some pandemic related restrictions could have had a different effect on international staff compared to native employees. For example, the restriction of (air) travel

was found to be a contributor of anxiety in Indian expats in the Middle East (Uvais et al., 2021), who could suddenly not visit family and loved ones in their home country.

Secondly, the effect of age will be controlled for in the analysis. Research suggests that dealing with stressful emotions and maintaining emotional stability in the workplace can improve as one ages (Doerwald et al., 2016). A stressful event like a pandemic and increased job demands could be regulated very differently in younger employees compared to their older coworkers, thus having different effects on their wellbeing.

Thirdly, job type will be controlled for, as academic staff and support staff had different labor demands. During lockdown, some job demands fell away for supporting staff who could not perform daily activities, such as maintaining the university buildings. Contrarily, job demands increased for a large part of academic staff that needed to design adequate online teaching environments for students in a very narrow time frame.

Lastly, gender is included as a control variable. Qiu et al. (2020) found that females in China were more at risk of distress due to the pandemic. This might be explained by the fact that women often cope with the responsibilities of both childcare and household maintenance and their paid work activities, which often results in higher levels of stress (Gálvez, Tirado & Alcaraz, 2020).



**Table 1.***Sample Characteristics*

Characteristic	Leader	Non-leader
	<i>n</i> (%)	<i>n</i> (%)
Gender		
Female	154 (46.9)	824 (66.2)
Male	174 (53.0)	421 (33.8)
Type of staff		
Academic staff	212 (64.2)	540 (43.5)
Support staff	118 (35.8)	700 (56.4)
International (non-Dutch)		
Yes	100 (30.5)	258 (26.0)
No	228 (69.5)	991 (79.3)
Cohabitation status		
Living alone	62 (18.6)	325 (25.8)
Living with others	272 (81.4)	933 (74.2)
Contract type		
Permanent	296 (89.7)	803 (65.9)
Temporary	34 (10.3)	416 (34.1)
Age, years (range 1: younger than 25 to 5: older than 55)		
Age, years (range 25 -)	1 (0.3)	83 (6.6)
Age, years (range 26 - 35)	34 (10.1)	460 (36.6)
Age, years (range 36 - 45)	99 (30.0)	273 (21.7)
Age, years (range 46 - 55)	108 (32.2)	249 (19.8)
Age, years (range 55 +)	93 (27.8)	192 (15.3)

Workdays a week		
4-5 days	325 (97.6)	1082 (86.0)
1-3 days	8 (2.4)	176 (14.0)
Children under 16 living at home		
Yes, 0 - 4 years	37 (9.3)	142 (10.3)
Yes, 4 - 8 years	53 (13.4)	120 (8.7)
Yes, 8 - 12 years	53 (13.4)	106 (7.7)
Yes, 12 - 16 years	53 (13.4)	116 (8.4)
No	200 (50.5)	900 (65.0)
Caretasks (sick or disabled relatives, friends, acquaintances)		
Yes	43 (13.3)	168 (13.4)

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*Note.* It was possible to select multiple options in the ‘Children under 16 living at home’ item. Only participants who answered yes or no were included in this sample. Participants who did not respond or selected ‘rather not say’ were not included in the sample.

### Results

Analyses were carried out in SPSS 27. Mediation analyses were performed by using PROCESS macro version 4.0 (Preacher & Hayes, 2008). Model 4 was selected, along with a 95% confidence interval and bootstrap 5000, which is the default setting. The analyses were calculated in two steps, model 1 included the three mediators, the independent variable and dependent variable. Model 2 included the mediators, independent variable, dependent variable and four control variables.

The direct effect of leadership role occupancy on wellbeing was found to be statistically significant in model 1,  $b = .056$ , CI95% [ .0088, .1038],  $p < .05$ . However, this significant relationship disappeared in model 2 when the control variables age, nationality, gender and job type were added.

All the following results discussed will be from model 2, as it is the most relevant to include the control variables. The results regarding the three mediators, the independent variable and dependent variable are displayed in figure 2, on page 19. The relationship between leader role occupation and job demands was found to be positive and statistically significant  $b = .249$ , CI95% [.1224, .3761],  $p < .001$ . This means that leaders, as opposed to non-leaders, experienced a significant increase in their workload compared to before the pandemic (March 2020). The bivariate correlation between the two variables was small,  $r(1608) = .14$ . This finding confirms hypothesis 1, that occupying a leadership role is positively related to an increase in job demands.

The relationship between leader role occupation and the two distinct job resources (both material and social) was not found to be statistically significant. Therefore hypothesis 2, stating that occupying a leadership role is positively related to an increase in job resources, is rejected.

There was no significant relationship found between job demands and subjective wellbeing, nor an indirect effect of leadership of wellbeing through job demands. This means that hypothesis 3, occupying a leadership role is indirectly and negatively related to wellbeing outcomes through increased job demands, is rejected.

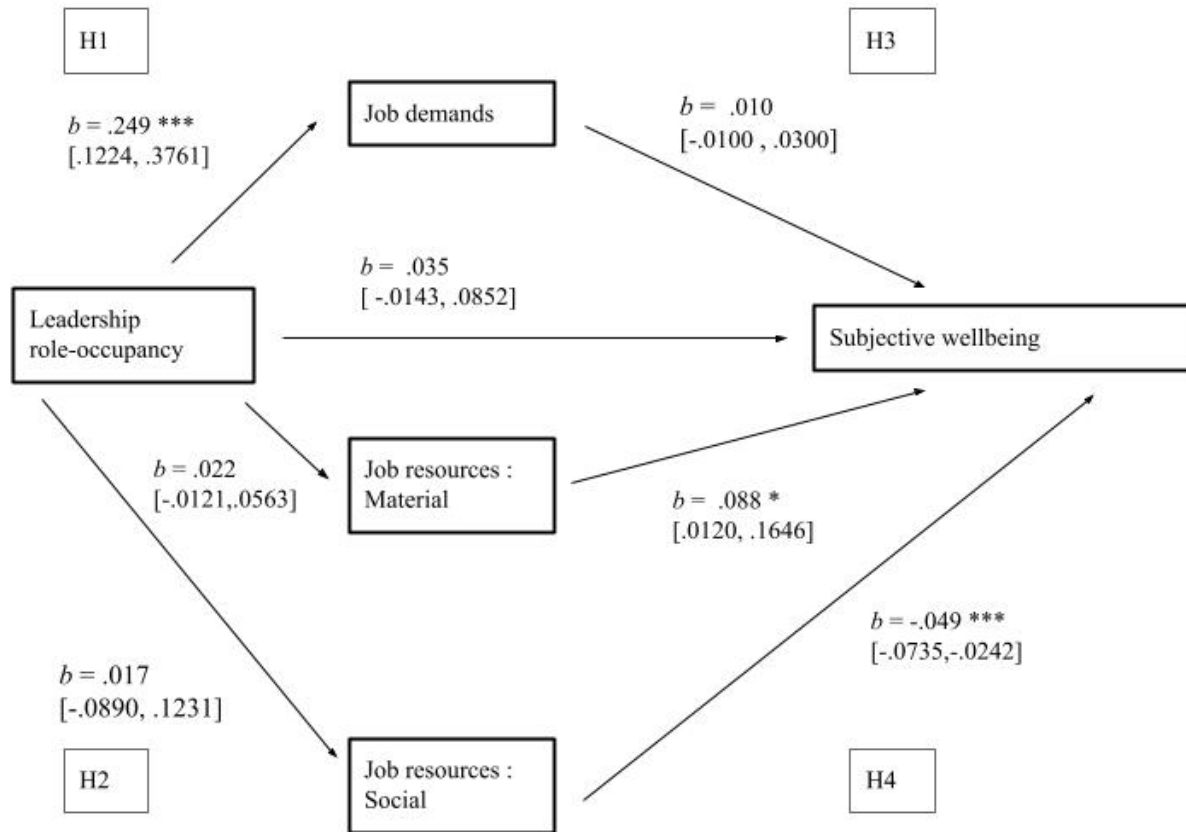
The relationships between both job resources and subjective wellbeing, namely material resources,  $b = .088$ , CI95% [.0120, .1646],  $p < .05$ , and social resources,  $b = -.049$ , CI95% [-.0735, -.0242],  $p < .001$ , were found to be significant. The bivariate correlation between the two variables and the outcome variable was small,  $r(1608) = .19$ . No significant indirect effect of leadership on wellbeing through job resources was found. Therefore hypothesis 4, occupying a leadership role is indirectly and positively related to wellbeing outcomes through increased job resources, was rejected.

The control variables age, gender and job did have a significant effect on wellbeing and on the total model. The results of the control variables are displayed in table 2. Age was positively related to wellbeing, indicating that younger employees showed a larger decrease in wellbeing than older employees. Older employees also showed an increase in experienced workload and said to possess the necessary material resources to carry out their work-related tasks more often than their younger coworkers.

Gender was found to have a negative relationship with wellbeing and workload, meaning that female employees experienced higher wellbeing and workload. A positive relationship was found between gender and material resources, which shows that males more often indicated to be in possession of the necessary resources to complete their work from home.

Job type was negatively related to wellbeing, demonstrating that support staff experienced higher wellbeing compared to academic staff. Additionally, academic staff experienced a higher lack of necessary material resources, were less satisfied with social resources provided by their colleagues and managers, and experienced a higher workload. Out of all the control variables, job type had the biggest effect on the total model.

The total effect of the model was not significant, as were the indirect effects of the independent variable and moderators on the dependent variable. These values can be found in table 3, appendix B.

**Figure 2.***Results mediation analysis model 2*

Note. \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$ , Confidence Interval was set at 95%.

**Table 2.***Results of the model 2 mediated regression analysis with only the control variables*

Variable	Material Job resources (MED)	Social Job resources (MED)	Workload (MED)	Wellbeing (DV)	Total effect model
Age (CV)	$b = .018$ [.0058,.0298] **	$b = .026$ [-.0117,.0627]	$b = .048$ [.0038,.0928] *	$b = .070$ [.0522,.0871]***	$b = .071$ [.0530, .0880]***
Gender (CV)	$b = .030$ [.0028,.0573] *	$b = .020$ [-.0649,.1043]	$b = -.128$ [-.2288,-.0265] *	$b = -.046$ [-.0850, -.0059]*	$b = -.045$ [-.0848, -.0053]*
Job type (CV)	$b = -.033$ [-.0613,-.0037] *	$b = .382$ [.2923,.4710] ***	$b = .397$ [.2897,.5034]***	$b = -.127$ [-.1697,-.0833]***	$b = -.144$ [-.1860, -.1021]***
Nationality (CV)	$b = .034$ [-.0002,.0672]	$b = -.036$ [-.1403, .0686]	$b = -.028$ [-.1532,.0967]	$b = -.043$ [-.0914,.0061]	$b = -.038$ [-.0873, .0109]

*Note.* \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$ , Confidence Interval was set at 95%. MED= mediator, DV= dependent variable, CV= control variable

## Discussion

This paper explored the relationship between leadership role occupancy and wellbeing in the context of the COVID-19 pandemic, using a dual pathway model of job demands and job resources. The data was obtained from a survey study that took place in a university in the Netherlands in February 2021. The hypothesized dual pathway model was not confirmed in the analyses. A positive relationship was found between leadership role occupation and wellbeing, however after adding the control variables this effect disappeared.

Being in a leadership position was found to have a positive relationship with experienced job demands, meaning that leaders experienced more elevated job demands since March 2020 compared to non-leaders. This confirmed hypothesis one. The finding corresponds with the existing literature, suggesting that during the COVID-induced WFH mandate leaders have been forced to adapt rapidly to a form of e-leadership (Contreras et al., 2020). There has been a significant change in work methods, and besides good basic e-communication skills, technological savviness, and knowing how to maintain digital relationships, the digital leader also needed to have change management skills and ensure team commitment to these changes (Contreras et al., 2020). This all combined confirms that the pandemic-related work demands increased more for leaders than non-leaders.

No support was found for hypothesis two, meaning that being a leader was not related to the experience of having more material or social resources in the context of the pandemic. In exploratory analyses, it became clear that there was a difference between faculties in levels of social connectedness. The amount of social connectedness and therefore, obtainment of social resources, might be dependent on the work environment of that specific faculty or team, more than whether one was in a leadership role or not. As for material resources, a possible explanation might be that all staff had equal access to the material resources necessary to perform their job. This does not mean they had sufficient access, but suggests

that there was the same amount of availability of material resources for both leaders and non-leaders. In exploratory analyses it became clear that not being able to obtain material resources was usually linked to not owning a car to pick up certain materials, such as a desk, or not owning a home large enough to house certain materials like a large computer monitor or specific ergonomic desk chair. These effects are linked more to age (where older employees have more means to obtain and house certain objects necessary for work) than to leadership role occupation. The topic of age will be addressed again in a later section of the discussion.

The third hypothesis was rejected, as the indirect effect of job demands on leader wellbeing was not found in the analysis. Literature on leaders' emotional stability has shown that leaders tend to be more stable in their emotions compared to non-leaders (Morgeson et al., 2010). As emotions play a crucial part in overall wellbeing, this might be a possible explanation for the absence of this hypothesized relationship. Further research would be needed to explain the stable and positive leader wellbeing in the face of rising pandemic-related job demands.

Both material and social resources were found to have an effect on wellbeing. This can be explained by the finding of Demerouti and colleagues (2001), who showed that access to job resources can be functional in achieving goals, can act as a protective factor against a high workload and can also stimulate personal growth and development. All of these effects can be beneficial to employee wellbeing. Hypothesis four can, however, not be accepted, as the full pathway from leadership role occupation through both types of job resources was not found in the analyses. The potential reason why the relationship between leadership role occupation and the obtaining of resources is absent has been discussed previously. This also explains why hypothesis four is rejected.



The control variable age was positively related to wellbeing, which was in line with the previously set expectation. Doerwald et al. (2016) found that older employees are better at maintaining emotional stability in the workplace, dealing with stressful emotions and therefore the stressors would not impact their wellbeing like it impacted younger employees. O'Connor et al., (2021) found that in the UK, mental health of younger people (18-29 years) was at risk, with a rise in suicidal ideation, anxiety, and depression in the first weeks of lockdown in March 2020. Additional analyses of the qualitative data confirmed that older employees generally live with their families and in larger houses than younger employees, who tend to live alone or share small spaces with multiple roommates. This explains that older employees owned more of the necessary material resources compared to younger employees. One younger respondent (between 26 and 35 years) answered in the additional commentary: “[I need].. *a home big enough for an office. My apartment is tiny so I have no dedicated workspace except my kitchen table and bed.*” Older employees experienced a higher rise in workload compared to younger employees. This could be explained by the fact that older workers tend to have more responsibility at work, thus experiencing more changes in their tasks due to the pandemic. Furthermore, the additional analyses confirmed that older employees often have more care demands than younger employees. A spill-over effect could have occurred as well, where an increased experience of care demands crossed over into an increased experience of work demands.

Gender was found to have a negative relationship with wellbeing and workload, meaning that female employees experienced higher wellbeing and workload. The first finding contrasts with the existing body of literature, as females have generally been found to have worse mental health and general wellbeing due to the pandemic compared to males (O'Connor et al., (2021); Qiu et al. (2020)). This worsening of wellbeing is usually linked to the increase in workload that females experience. Working from home or ‘teleworking’ is often generally

described as liberating, however for females the reality usually is the opposite, as their care-demands at home increase on top of their existing labor-tasks (Gálvez et al., 2020), creating a very challenging work- and home environment. A possible explanation for this contrasting finding is that this particular Dutch university supported their female employees specifically in a manner that their wellbeing was affected less by the pandemic-related circumstances than their male counterparts. However, this is mere speculation, and further research would be needed to support or reject this notion.

Academic staff experienced a higher increase of work demands, due to new tasks such as designing adequate online teaching environments under time pressure. They also experienced a decrease of social resources provided by their colleagues and managers, since the pandemic-related measures started in March 2020. The finding that academic staff experienced lower wellbeing seems a logical consequence of the increase in workload and decrease in social resources. Ryan and Deci (2008) showed that crucial factors for feeling of happiness and activation are the need for relatedness and the need for autonomy. In both of these variables the academic staff had experienced a decrease.

### **Strengths and limitations**

The items utilized in the original survey were not initially designed to compose specific variables nor was an official standardized questionnaire used. This resulted in obtaining low reliability scores when combining certain items into new variables. In the stages of analysis, the decision had to be made to compute variables applying formative measures instead of reflective measures, because their reliability score was so low. This would be a point of improvement, if this same questionnaire is to be used again.

Moreover, certain items were worded with specific options, for example with material resources: “I have sufficient resources (such as a PC / desk / stable internet, etc.) to be able to do my work well at home.”. This might be too directive, as participants are guided to think

only in these categories and might therefore not think of other material resources that are not stated on the list, such as computer software or noise canceling headphones to help manage working in a noisy home environment. To improve this item, it would be important to either extend the list with more potential answers or leave the options out altogether.

All the data gathered came from self-report, and there are some risks present with this method. First, participants tend to have a recall fallacy when it comes to attitudes or emotions in the past. The participants of this study are asked multiple times to compare how they feel in February 2021 compared to how they felt in March 2020. Their answers could be biased, as participants often presume that the way they felt in the past is the same as the way they feel at this present moment (Krosnick, Lavrakas & Kim, 2014, Ch. 16). Participants' memory could be skewed and this leads to responses that don't reflect the real truth of those past situations. A longitudinal study with multiple time-points would combat this fallacy. Another potential limitation with self-report is that participants could respond in a socially desirable manner. This risk has been minimized by anonymous data collecting (Huang et al., 2015). Lastly Huang et al. (2015) mention the risk of insufficient effort responding (IER), which occurs due to a lack of motivation to comply with survey instructions and to correctly interpret item content. To combat this in the future, a multiple source design could be recommended. A potential research design could include observational data from the researcher and/or different sources around the participant. An experimental design, where leadership roles would be distributed amongst participants and the effects of shifts in resources and demands on their wellbeing would be measured, could also omit careless responding. In this design participants' behavior or physiology could be monitored instead of (just) using their answers in a survey format. Another limitation of this study is that the results of a correlational analysis don't demonstrate causality, and thus the direction of relationships between variables cannot be determined based on this study (Gravetter et al., 2013, p. 13).

A strength of this study is that there was a large sample of participants who all came from within the same company and were surveyed within the same, relevant, time period. Employees within the university were easily dividable in an academic and a support staff, and within these groups the members had similar tasks. All employees use the same operating systems, share the same upper management and thus within the sample the findings are generalizable. However when it comes to generalizing the findings towards other domains, the findings may be applicable in other universities but may not apply to companies in different fields or other populations outside the Netherlands or Western-Europe. Moreover, it is important to consider effect sizes when utilizing a large sample, as significant results are found quicker in larger samples (Gravetter et al., 2013, p. 244).

### **Conclusion**

This paper has contributed to the body of research on leadership and wellbeing in the context of the pandemic, by finding that employees in a leadership position experienced an increase in pandemic related job demands more than non-leaders did, and that this increase did not negatively impact their general wellbeing. Further investigation could be directed at analyzing how and why leaders experienced increases in job demands but no decrease in their general wellbeing. It would also be interesting to track this dual pathway model over time, as the pandemic is still present in our daily reality and perhaps will continue to do so for many years. It could be that the higher pandemic-related job demands over time take their toll and will impact leaders' wellbeing in a negative manner. A final and important note is directed at the inequality that comes to light in the context of the pandemic. Younger employees, female employees and employees from more socially disadvantaged backgrounds have been found to be particularly affected during the pandemic (O'Connor et al., 2021). Not only is further research needed into this topic, focused action in the short and long term is of vital urgency to

combat inequality and preserve the mental and physical health of all our employees in these challenging times.

Overall, the take-away message of this thesis is that the monitoring of leaders' wellbeing is crucial in these unprecedented times, as their affective state impacts their decision making as well as their subordinates' affective state (Joseph et al., 2015).

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## Appendix A: Qualtrics Questionnaire

Welkom, kies uw taal rechtsboven / Welcome, please select your preferred language on the right

Al ruim 10 maanden hebben de coronamaatregelen invloed op de manier waarop we ons werk doen. Deze vragenlijst is in opdracht van het College van Bestuur gemaakt om een beeld te krijgen van het welzijn van de RUG-medewerkers en om te kijken hoe de RUG daaraan kan bijdragen. Het is een vervolg op de vragenlijst uit juli 2020, waarin gedeeltelijk dezelfde vragen werden gesteld. We stellen vragen over hoe het op dit moment met u gaat, hoe het is om thuis te werken en wat u nu en in de toekomst nodig heeft van de RUG om uw werk te kunnen blijven doen.

Deze vragenlijst bestaat uit 25 vragen. Deelname is volledig vrijwillig. Bij elke afzonderlijke vraag kunt u ervoor kiezen om deze niet te beantwoorden.

De data die we verzamelen worden vertrouwelijk behandeld. De resultaten zullen niet naar u herleidbaar zijn, tenzij u in de open vragen antwoorden geeft waarmee u uw anonimiteit opheft. Ook hier kunt u er voor kiezen deze vragen over te slaan. Wilt u meer weten over welke data we verzamelen en hoe we daar mee omgaan? Lees dan de [privacyverklaring](#). Aan het eind van dit onderzoek wordt u gevraagd of u mee wil doen aan wetenschappelijk onderzoek naar de effecten van thuiswerken.

Wanneer u meer dan één werkomgeving heeft bij de RUG, kiest u dan bij de beantwoording voor de omgeving waar u de meeste tijd doorbrengt.

1. Compared to the months before the outbreak of the coronavirus (March 2020), my current work situation is:

1. Much better
2. Slightly better

3. The same
4. Slightly worse
5. Much worse

1a. Please explain your answer.

Characters remaining: 500

2. I have sufficient resources (such as a PC / desk / stable internet, etc.) to be able to do my work well at home.

- Yes
- No

2a. What would you need in order to be able to carry out your work well from home? Please be as specific as possible.

Characters remaining: 500

3. I have sufficient information to be able to carry out my work at home (information from your supervisor, Faculty Board/Director, Board of the University, the UG website).

- Yes
- No

4. How satisfied are you with the contact with your colleagues/team during the coronavirus pandemic?

1. Very dissatisfied
2. Dissatisfied
3. Neutral
4. Satisfied
5. Very satisfied

5. How satisfied are you with the contact you have had with students during the coronavirus pandemic?

1. Very dissatisfied
2. Dissatisfied
3. Neutral

4. Satisfied
5. Very satisfied
6. Not applicable

6. My manager is providing sufficient support during the coronavirus pandemic.

1. Completely disagree
2. Disagree
3. Neutral
4. Agree
5. Completely agree

7. Compared to the months before the outbreak of the coronavirus (March 2020), my work-life

balance is:

1. Much worse
2. Slightly worse
3. The same
4. Slightly better
5. Much better

7a. Please explain your answer.

Characters remaining: 500

8. Compared to the months before the outbreak of the coronavirus (March 2020), my workload over

the past three months has been:

1. Much lower
2. Slightly lower
3. The same
4. Slightly higher
5. Much higher

8a. Please explain your answer.

Characters remaining: 500

9. Compared to the months before the corona outbreak, your mental health is:

1. Much worse
2. Slightly worse
3. The same
4. Slightly better
5. Much better

9a. Please explain your answer.

Characters remaining: 500

10. Compared to the months before the coronavirus outbreak (March 2020), my physical health is:

1. Much worse
2. Slightly worse
3. The same
4. Slightly better
5. Much better

10a. Please explain your answer.

Characters remaining: 500

11. When the coronavirus no longer poses a danger to public health, I would prefer to:

- Continue to work from home as much as possible
- Work partly at home and partly at my/a workplace at the UG.
- Work entirely at my / a workplace at the UG.

11c. Can you indicate what percentage of your working time you would like to work from home when Corona is no longer a threat to public health?

Desired percentage of working from home: Slider bar 0-100

12. Compared to the months before the coronavirus outbreak (March 2020), how much effort does it take you to concentrate during the working day:

1. Much less effort
2. Less effort

3. Unchanged
4. More effort
5. Much more effort

13. Compared to the months before the coronavirus outbreak (March 2020), how often do you feel lonely?

1. Much less often
2. Less often
3. Unchanged
4. More often
5. Much more often

14. Has working from home during the coronavirus pandemic also had any positive effects?

- Yes
- No

Finally, we would like to ask you a few questions about your personal characteristics. This is because these characteristics may be connected to the impact of the coronavirus measures. We would like to remind you that if you are concerned about privacy you do not have to answer the questions.

1. I am:

- Male
- Female
- Other
- Rather not say

2. To which age category do you belong?

1. 25 years and younger
2. 26-35 years
3. 36-45 years



4. 46-55 years
5. 56 years and older
6. Rather not say

3. Which faculty or service unit do you work at?

- Office of the University
- Campus Fryslân
- CIT
- Economics and Business
- University Services Department
- Behavioral and Social Sciences
- Theology and Religious Studies
- Arts
- Medical sciences
- Law
- Spatial sciences
- Science and Engineering
- University library
- University College Groningen
- Philosophy
- Rather not say

4. Are you an academic staff member or a support staff member?

- Academic staff
- Support staff
- Rather not say

5. What kind of contract do you have at the UG?

- Permanent
- Temporary
- Other

- Rather not say

6. How many days a week do you work for the UG?

- 4-5 days
- 1-3 days
- Rather not say

7. Are you a manager or supervisor?

- Yes
- No
- Rather not say

8. Do you have a non-Dutch background (international)?

- Yes
- No
- Rather not say

9. Do you have children under the age of 16 living at home?

1. Yes, 0-4 years
2. Yes, 4-8 years
3. Yes, 8-12 years
4. Yes, 12-16 years
5. No
6. Rather not say

10. Do you care for sick or disabled relatives, friends or acquaintances?

- Yes
- No
- Rather not say

11. Do you live on your own?

- Yes
- No
- Rather not say

Before you submit your answers, is there anything else you would like to say? For example, do you have any ideas on how the University could further support its staff? Have you made any adjustments the past months to make working easier which you would like to share?

Characters remaining: 500

Do you consent to the use of your personal data, including any sensitive personal data you may have provided (information about your health), for a scientific study on the effects of working from home? ([Read here](#) information about the purpose of and parties involved in this study and here again the [privacy statement](#)).

- Yes
- No

Thank you for completing the survey. Click on the red arrow to the right to submit your answers and close the survey.

The UG has a diverse range of options for employees to support them in working from home:

The University of Groningen website about [working from home and arrangements for working from home facilities](#)

Information about the [measures the UG is taking](#) in the context of the coronavirus pandemic.

Information about [education and training](#) can be found at the Corporate Academy website.

If you would like [to talk](#) to [someone](#) about your current situation, you can do so via 'you can book me'

## Appendix B: Table of results of the mediated regression analysis

**Table 3.**

*Results of the total, direct and direct effect of the mediated regression analysis, excl. control variables*

Variable	Total effect model	Indirect and direct effect of IV/MED on DV
Leadership role occupancy (IV)	$b = .039$ [-.0108, .0889]	$b = .035$ [-.0143, .0852]
Material job resources (MED)		$b = .002$ [-.0012, .0062]
Social job resources (MED)		$b = -.001$ [-.0061, .0044]
Workload (MED)		$b = .003$ [-.0027, .0084]

*Note.* \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$ , Confidence Interval was set at 95%.  
IV= independent variable, MED= mediator, DV= dependent variable