

**To What Extent Do the Leadership Style, Autonomy, Team Cohesion and Role
Ambiguity Influence the Well-being of Employees in (Forced) Remote Work Situations
Due to COVID-19?**

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29th of July 2021

Wordcount: 5998

Management summary

The current situation around COVID-19 challenges many companies and their employees to work fully from home. Remote work has some benefits, such as higher amount of flexibility and autonomy, but it also brings some risks, such as social isolation. Therefore, it is important to investigate the relationship between remote work and the well-being of the employees. Whereby well-being is defined by work engagement, which describes the involvement and enthusiasm of employees and psychological strain, such as difficulties relaxing after work. To analyze this relationship the Job-Demand and Resource (JD-R) model is used. Different factors seem to be important to influence the relationship between remote work and well-being. Employees experience uncertainties and do not know what their job requires due to the changes during the remote working situation, which results in role ambiguity. Additionally, it seems to be important that employees have high autonomy, like creating their own working, to ensure their well-being. Also, the social interaction and collaboration with colleagues (team cohesion) and supervisors (leader-member exchange) seems impact the relationship of remote work and well-being.

In total 441 employees of a representative sample at the university fully filled in the online questionnaire. The results did not show any relationship between remote work, role ambiguity, autonomy, team cohesion, leader-member exchange and work engagement. However, there is a link between the factors role ambiguity, autonomy, team cohesion and strain. Consequently, the perceived role ambiguity (e.g. clear job expectations), autonomy (e.g. ability to schedule own working day) and team cohesion (e.g. contact with colleagues) impacts the amount of strain an employees perceives. This means that the organization is recommended to focus on these factors to reduce the psychological strain of their employees. Based on these results a few practical implications can be formulated. For role ambiguity this means to ensure that the job-related expectations remain clear. Also, employees need the freedom to schedule

their own working day regarding time, place, and content. This can contribute to increased autonomy. To increase the team cohesion additional attention towards staying connect and informal events is needed. Also, a closer look at the role of supervisors is advised. The needs of supervisors and employees need to be examined to ensure optimal support, which seems to be crucial to increase the work engagement of employees.

Lastly, future research seems important to get an extended idea about the relationship of remote work and well-being. This study stresses new, important factors which should be considered in future research, namely a multilevel approach of the JD-R model, the social exchange theory to investigate the impact of social isolation and team cohesion on the relationship and lastly the new way of working – hybrid working. That research can give new insights into the current exceptional situation around COVID-19 and the impact on the employees of the organization.

Abstract

This study explores the impact of job demands and job resources on the self-reported well-being of employees in a remote work setting. It will do so through application of the JD-R model. By this it fills the knowledge gap of whether the JD-R model upholds – and explores which factors are most significantly related to the self-reported well-being (work engagement and strain) – in a largescale forced remote working situation. Therefore, it was investigated whether role ambiguity, autonomy and team cohesion mediate the relationship between remote work and well-being. Furthermore, it is researched whether leader-member exchange moderates the relationship of remote work and well-being. Lastly, two open questions investigated what employees already changed and which factors still needs attention in the future. In total 441 employees of a representative sample at the university fully filled in the online questionnaire. Seven scales were used to measure all variables, the reliability was between .76 and .93. Role ambiguity, autonomy, team cohesion and LMX do not have any impact on the relationship of remote work and well-being. However, there is a link between the factors role ambiguity, autonomy, team cohesion, LMX and strain. The qualitative analysis stresses the importance of social interaction to increase the perceived well-being and high workload as determinant of lower well-being. Further research is needed to get fully insight into the relationship of remote work and the well-being of the employees and which factors are crucial to take into account, (e.g. multilevel approach, hybrid working and the social exchange theory).

Key words: COVID-19, remote work, well-being, role ambiguity, autonomy, team cohesion, leader-member exchange

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The current situation around COVID-19 forces many employees to fully work from home, which brings new challenges for everyone. In the past years the fast technological changes already supported the drive towards remote work (Andrianova, 2020; Staples, 2001). Remote work is defined as working at anyplace, anytime, for example from home. The current COVID-19 pandemic demands for drastic changes and forces employees to work mainly from home. Due to the unforeseen nature of the pandemic, organizations were not prepared for the sudden large-scale transition to remote working. Thus, organizations did not have time to design a flawless implementation plan and face many challenges to ensure a sustainable and healthy workforce. The social interaction and relationship between colleagues are challenged by the forced remote working situation. It increases the risk of isolation and therefore threatens the psychological well-being of employees (Grant et al., 2013; Van der Elst et al., 2017). This is one of the factors that depicts the important relationship between remote work and well-being. Multiple other factors (e.g. role ambiguity and team cohesion) influence employees' well-being whilst working from home (Grant et al., 2013). This study explores the impact of job demands and job resources on the self-reported well-being of employees. It will do so through application of the Job-Demand-Resource model (JD-R model). By this it fills the knowledge gap of whether the JD-R model upholds – and explores which factors are most significantly related to the self-reported well-being – in a largescale forced remote working situation

According to the JD-R model of Bakker and Demerouti (2007) the well-being of employees depends on the balance of their job demands and job resources. The job demands (e.g. role ambiguity, high workload) result in higher strain and therefore in a decrease of the well-being, the so called strain process. Oppositional, in the motivational process, job resources (e.g. team cohesion) result in higher motivation and engagement which increases the well-being of the employees (Bakker & Demerouti, 2007). Bakker et al. (2010) describe a clear difference between those two processes and the correlated prediction of job demands on psychological

strain and job resources on work engagement. Therefore, well-being is conceptualized with the two dependent variables (1) *work engagement* and (2) *work strain*. Work engagement describes a positive state of mind where the employee feels fulfilled and has a high level of energy and mental resilience. (Schaufeli et al., 2006). It is characterized by strong involvement and enthusiasm of the employees towards their work. Work strain (2) arises from high workload and low job control (Bakker & Demerouti, 2007). Job demands have a negative influence on the psychological strain, such as difficulties with relaxing after work (Mohr et al., 2006). This results in the development of different health related issues, such as burnout and cardiovascular disease, and therefore has a negative effect on well-being (Karasek Jr, 1979; Schaufeli & Taris, 2014; Schnall et al., 1994). Although the JD-R model is well-recognized, there is extremely limited data on its application within forced remote work situation. This is understandable as a forced remote situation was extremely rare, even more so on a large scale.

As stated, remote work can bring with it some benefits to the employees, such as increased flexibility and autonomy. However, they may also experience challenges such as an increased role ambiguity, increased workload or work stress as they navigate a new way of working. They may also, for example, experience stress from not knowing how long they may be forced to work remotely. Additionally, working mainly from home can result in isolation due to less personal interaction with colleagues (Charalampous et al., 2019). These challenges, such as role ambiguity, in remote work during COVID-19 can result in high work demands whilst just a few job resources may be given. This potential imbalance of job demands, and job resources can have a negative influence on the well-being of employees (Iqbal et al., 2020). The increasing job demands can affect the well-being of employees negatively, and therefore could result in higher psychological strain. Also, the lack of job resources, like meeting colleagues and working in a team probably can result in lower motivation and have a negative impact on the well-being of the employees and should result in lower work engagement. This results in

the following research question and the corresponding hypotheses: *To what extent do the job resources and job demands influence the well-being of employees in forced remote work situations due to COVID-19?*

Hypothesis 1a: A forced remote work situation results in lower work engagement.

Hypothesis 1b: A forced remote work situation results in higher psychological strain.

As mentioned earlier the COVID-19 pandemic creates many challenges for the employers and employees. As elaborated upon, there are different job demands and job resources (role ambiguity, autonomy and team cohesion) which may have a direct influence on well-being in remote working situations (Bakker & Demerouti, 2007).

A critical job demand is role ambiguity. The degree of role ambiguity depends on the job definition and whether the employee is aware of the job-related expectations (Bakker & Demerouti, 2007). Remote work can influence the job content and design, like a shift from physical to online classes, resulting in new tasks and expectations (Iqbal et al., 2020). When the employee can no longer be certain about their job expectations and the content of work, it can result in increased role ambiguity and insecurity within the employee. Subsequently, employees can have difficulties to fulfill their role adequately and show health issues, such as sleeping problems (Bakker & Demerouti, 2007). In long-term this may result in a lower well-being of the employees, and consequently increase the risk of a decreased work engagement and a higher amount of psychological strain.

Hypothesis 2a: The relationship between remote work and work engagement is negatively mediated by role ambiguity

Hypothesis 2b: The relationship between remote work and psychological strain is positively mediated by role ambiguity

Another job resource is the autonomy of the employee which plays an important role within remote work (Grant et al., 2013). Autonomy describes the degree of freedom employees

have to fulfill their job (Spreitzer, 1995). Especially when employees work from home, they need to take the responsibility to make their own decisions regarding their own working schedule and job content. This makes it possible to structure their own working day and thus can improve the work-life balance (Schall, 2019). This improved work-life balance ensures the quality of work during available hours and ensures a better well-being (Schall, 2019). Additionally, Gajendran et al. (2015) state that autonomy is a valuable job resource which results in a higher performance and productivity and subsequently in higher satisfaction and work engagement. A lack of autonomy can therefore result in lower well-being and thus higher psychological strain. This results in following hypotheses:

Hypothesis 3a: The relationship between remote work and work engagement is positively mediated by autonomy

Hypothesis 3b: The relationship between remote work and psychological strain is negatively mediated by the team cohesion in organizational teams

Thirdly, team cohesion describes the relationship and involvement of employees and often results in the development of shared mental models (Carlson et al., 2017). Since the organization consist of many teams in various sizes and with different responsibilities and goals the development of shared mental models is crucial (Carlson et al., 2017). In teams with high team cohesion employees can fulfill their tasks and engage with each other. This enables the teams to be more productive, which results in higher satisfaction and subsequently positively influences the well-being of the employees (Carlson et al., 2017). However, the remote working situation seems to have negative impact on team cohesion, since it is a threat of social isolation, which is crucial for a good team cohesion. The social isolation can result in a lack of involvement between colleagues and therefor form a threat to the psychological well-being of the employees (Grant et al., 2013; Koehne et al., 2012). Also, can the relationship between colleagues be influenced by the distance of employees within remote work, the employees need to learn to

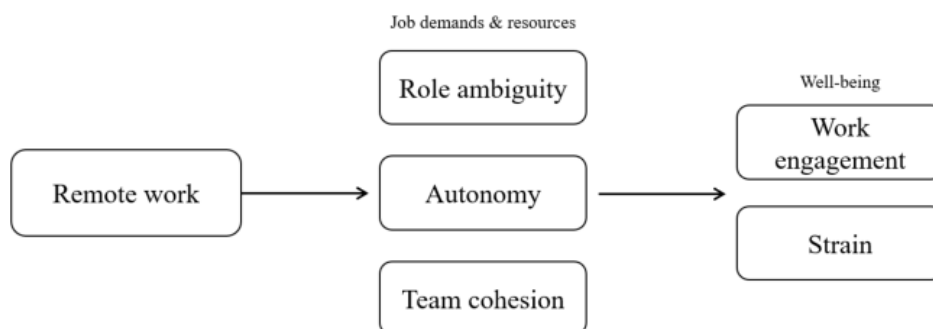
handle this change and put additional effort in maintain the relationships with their colleagues (Charalampous et al., 2019). This impact can result in higher psychological strain, however a good interaction with colleagues can increase the work engagement of employees, therefore following hypotheses are formulated:

Hypothesis 4a: The relationship between remote work and work engagement is positively mediated by the team cohesion in organizational teams

Hypothesis 4b: The relationship between remote work and psychological strain is negatively mediated by the team cohesion in organizational teams

Figure 1.

The job-resource-demand model including the independent variable (remote work), dependent variable (well-being) and the mediators role ambiguity, autonomy and team cohesion.



Lastly, a qualitative mentorship can tackle the daily challenges faced within remote work (Koehne et al., 2012) and tends to be correlated with the well-being of the team members (Nyberg et al., 2011; Samad, 2015). The Leader-member exchange (LMX) theory takes the nature and the quality of the relationship into account and focuses on the individual needs of the employee (Power, 2013). Large companies consist of different employees which likely act differently even in the same functions (Weick, 1969). Therefore, it is important that the leader can tailor their leadership style based on the needs of the employee, especially during the

COVID-19 pandemic, since everyone reacts differently to the uncertainty, and pressures and opportunities of the changing environment (Graen & Uhl-Bien, 1995).

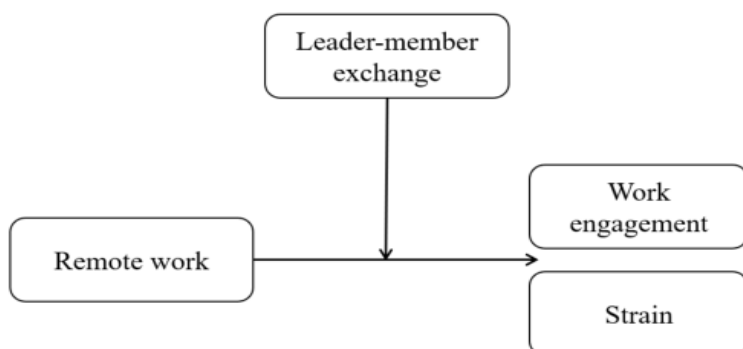
Additionally, the leadership style of the management has a significant influence on the quality and the willingness of change (Nanjundeswaraswamy & Swamy, 2014; Odumeru & Ogbonna, 2013). Consequently, the leadership style can have a strong impact on how well the leader and the different teams cope with the big change towards remote work. Therefore, a high LMX could ensure a better remote working situation. According to Montano et al. (2017) and de Leede et al. (2019) higher LMX results in a higher level of well-being of the employees. As stated, LMX seems to have a positive impact on remote work and on well-being, therefore it is expected to have an impact on the relationship of those two factors and a moderation effect is expected. This means that LMX can strengthen the relationship between remote work and work engagement, but also weaken the relationship between remote work and strain. Which leads to the hypotheses:

Hypothesis 5a: The relationship between remote work and work engagement is positively moderated by the leader-member exchange

Hypothesis 5b: relationship between remote work and psychological strain is negatively moderated by the leader-member exchange

Figure 2.

Moderation model including the independent variable (remote work), the dependent variable (well-being) and the moderator leader-member exchange (LMX).



As mentioned earlier, there are many changes within the organizational environment due to COVID-19. Therefore, the question arises whether there are any other resources or demands which influences the relationship between remote work and well-being. To ensure a fuller understanding of the relationship the following research questions are formulated:

Research question 2a: Which factors in the current forced remote work situation during COVID-19, did impact the well-being of the employees?

Research question 2b: Which factors in the current remote forced work situation during COVID-19 have a negative impact on the well-being of the employees and need further attention in the future?

Method

Settings

The research was part of the employee well-being survey at the University of Twente (UT), located in the Netherlands. Due to COVID-19, the annual survey has been divided into three different measurements throughout the year, each sub-survey including a representative sample (33%) of the employee population. This research focused on the well-being related variables role ambiguity, autonomy, team cohesion and leader-member exchange, which each may be crucial during remote working situations.

Participants

The online survey was conducted among a representative sample consisting of one third of the organization. To ensure this representativeness, the employees of all departments are divided evenly into three groups, whereby only small departments are put together in one group to ensure anonymity. In total 521 employees filled in the questionnaire. For the analysis only fully finished questionnaires were used, resulting in 441 participants and a response rate of 36%. Of these 441, 199 participants were female, 199 male, 3 other and 40 participants preferred not to answer this question.

Materials and procedure

The well-being research at the UT, which this project was part of, was set up by a multidisciplinary team of six people: two researchers, two HR policy advisors, a communication expert and an HR-intern. Earlier conducted well-being surveys within the organization were discussed and adjusted to suit the current forced remote working situation. The ethical committee of the University of Twente approved the research design, consisting of a cross-sectional bilingual (English & Dutch) online survey with quantitative as well as qualitative variables. The goal of the research was to investigate which factors have a positive or negative influence

on the well-being of employees. In total the questionnaire consisted of 90 questions, where 40 are considered to be relevant for this research. All questions, and the order of the questions, can be found in appendix B (English version) and C (Dutch version).

The survey was sent by e-mail to the sample and included an informational letter (see appendix A), explaining the research and guaranteed anonymity of the study, and served as indirect informed consent. Participants were able to stop the questionnaire at any point. Additionally, the regular communication line via HR manager and the ‘employee portal’ was used to inform all employees about the research procedure. Those channels were used to prevent confusion within 2/3 of employees who do not receive an invitation to fill in the questionnaire.

Description of scales

Seven scales were used to measure the different variables. A full overview of the scale characteristics can be found in table 1. The questions that were based on one scale were grouped together. Yet, they were not labeled as such, so that the employees did not know which of the seven constructs was being measured (appendix B and C). In earlier research the Cronbach’s alpha of all scales were reported between .80 and .93 (de Leede et al., 2019). However, in the new data set all scales report a Cronbach’s alpha above .79.

Table 1.

Detailed scale overview of all scales.

Variable	Scale	Interpretation score	Items	Item example	Cronbach's	Cronbach's	Source
					alpha (original)	alpha (survey)	
Work en- gagement	7-point Likert scale	(1)Never – (7) Always	6	Vigor: “At my work, I feel burst- ing with energy” Dedication: “My job inspires me”	.93	.80	Schaufeli et al. (2006)
Strain	5-point Likert scales	(1)Fully disagree – (5) fully agree	3	Even on my vacations, I think about my problems at work	.81	.80	Mohr et al. (2006)
Role ambi- guity	5-point Likert scales	(1) Fully disagree – (5) fully agree	3	It is clear to me of what I need to do in my job	.76	.85	Rizzo et al. (1970)
Autonomy	5-point Likert scales	(1) Fully disagree – (5) fully agree	3	I have significant autonomy in determining how I do my job	.86	.89	Spreitzer (1995)

Team cohe- sion	5-point Likert scales	(1) Fully disagree – (5) fully agree	3	I get along with members of my colleagues	.82	.79	Sargent & Sue-Chan (2001)
Leader- member ex- change	5-point Likert scales	(1) Fully disagree – (5) fully agree	6	My supervisor fully recognizes my potential	.91	.89	Graen & Uhl- Bien (1995)
Remote work	(a) 100% at home, (b) Partly at home, (c)100% on cam- pus or in the ITC building.		1	What percentage of your normal work hours do work at home?		-	-

Note. 7-point Likert scale = (1) Never (2) Almost never / a few times a year or less (3) Rarely / Once a month or less (4) Sometimes / a few times a month (5) Often / once a week (6) Very often / a few times a week (7) Always / every day; 5-point Likert scale = (1) Fully disagree (2) Disagree (3) Neither agree or disagree (4) Agree (5) Fully agree
Cronbach’s alpha: .7 = sufficient, .8 = good, .9 = very good

Open questions and demographics

In part six of the questionnaire two open questions were added (see appendix B and C). One investigates what employees already do themselves to improve their well-being. The second investigates which changes ought to be implemented to improve the well-being of the employees ([1] Is there anything you already do to improve your well-being at the University of Twente? [2] Is there anything you would like to change at the current situation to improve your well-being at the University of Twente?). The final section of the questionnaire contained the demographical question, such as age and gender, and the job-related questions such as job title and contract hours.

Analysis

The statistical analyses were conducted in SPSS 27 (Statistical Program of Social Science). First, the questionnaire was cleaned to ensure a reliable analysis. Means are computed for the different scales. The demographics were configured by descriptive statistics. Afterwards, the Cronbach's alpha for all questionnaires was calculated: a value of .7 is seen as sufficient and .8 as good. A simple regression was used to investigate the effect of remote work on work engagement and strain. To investigate the mediating effect of role ambiguity, autonomy and team cohesion a simple mediation analysis was performed using PROCESS by Andrew F. Hayes model 4. The predictor variable for the analysis was remote work and the outcome variables were work engagement (DV_1) and strain (DV_2). The mediation variables were role ambiguity (M_1), autonomy (M_2) and team cohesion (M_3). To investigate the moderation effect of LMX a moderator analysis was performed using PROCESS by Andrew F. Hayes model 1. The predictor variable for the analysis was remote work and the outcome variables were work engagement (DV_1) and strain (DV_2). The significance of this indirect effect was tested using boot-

strapping procedures. Unstandardized indirect effects were computed for each of 5,000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th percentiles.

To analyse the qualitative data Atlas.ti was used. Research question 2a and 2b were coded separately and inductive. To investigate which aspects changed during the forced remote working situation 319 items are coded. They were divided into 6 main codes, which are consequently split into 31 subcodes. To answer question 2b, 317 items were coded and clustered into 6 main codes and 18 subcodes (see table 2 and 3).

Results

A simple linear regression was calculated to investigate the link between remote work and work engagement. No significant link was found between remote work and work engagement ($F(1,439)=.00, p < .97$). Nor was there a significant link between remote work and strain ($F(1,439)=.02, p < .86$). This means remote work do not have an impact on work engagement or strain.

Mediation analysis

Work engagement

As illustrated by figure 3, the direct effect of remote work on work engagement is found to be insignificant for all three mediators (role ambiguity [$F(1,439) = .00, p = .96$], autonomy [$F(1,439) = .00, p = .96$], team cohesion [$F(1,439) = .00, p = .97$]).

No significant relationship was found between remote work and role ambiguity ($F(1,439) = .07, p = .79$) and role ambiguity and work engagement ($t(438) = 1.88, p = .06$). Subsequently, there is no evidence for an indirect effect via role ambiguity on remote work and work engagement ($b = .00, 95\% \text{ CI } [-.01, -.02]$). This means that there is no mediating effect of role ambiguity found. In other terms, role ambiguity does not influence the relationship between remote work and work engagement.

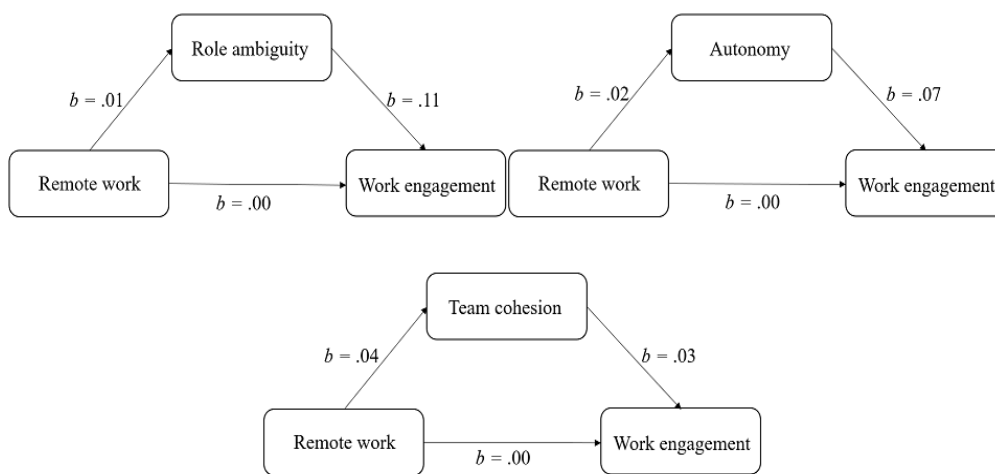
The data shows no significant relationship between remote work and autonomy ($F(1,439) = .39, p = .53$) and autonomy and work engagement ($t(438) = 1.11, p = .26$). Neither is there a significant indirect effect via autonomy on remote work and work engagement ($b = .00, 96\% \text{ CI } [-.01, -.01]$), which means there appears to be no mediated effect of autonomy. Therefore, autonomy does not have any impact on the relationship of remote work and work engagement.

Lastly, the relationship is not significant between remote work and team cohesion ($F(1,439) = 1.95, p = .16$), as well as between team cohesion and work engagement ($t(438) =$

.36, $p = .71$). Neither is there a significant indirect effect of team cohesion on remote work and work engagement ($b = .00$, 95% CI [-.01,-.01]). Therefore, team cohesion does not affect the relationship of remote work and work engagement.

Figure 3.

Standardized Regression Coefficients for the Relationship Between Remote work and Work engagement as mediated by Role Ambiguity, Autonomy and Team Cohesion.



Note. * $p < .05$ ** $p < .01$

Strain

The link between remote work and strain is not significant for all three models (role ambiguity [$F(1,439) = .03$, $p = .86$], autonomy [$F(1,439) = .02$, $p = .86$], and team cohesion [$F(1,439) = .03$, $p = .86$]) (see figure 4).

The relationship between remote work and role ambiguity is not significant $F(1,439) = .07$, $p = .79$. However, there is a negative relationship between role ambiguity and strain ($t(438) = -4.51$, $p = .00$). There is no significant indirect effect of remote work and strain via role ambiguity ($b = .01$, 95% CI [-.02 -.01]). This implies role ambiguity does not have any impact on

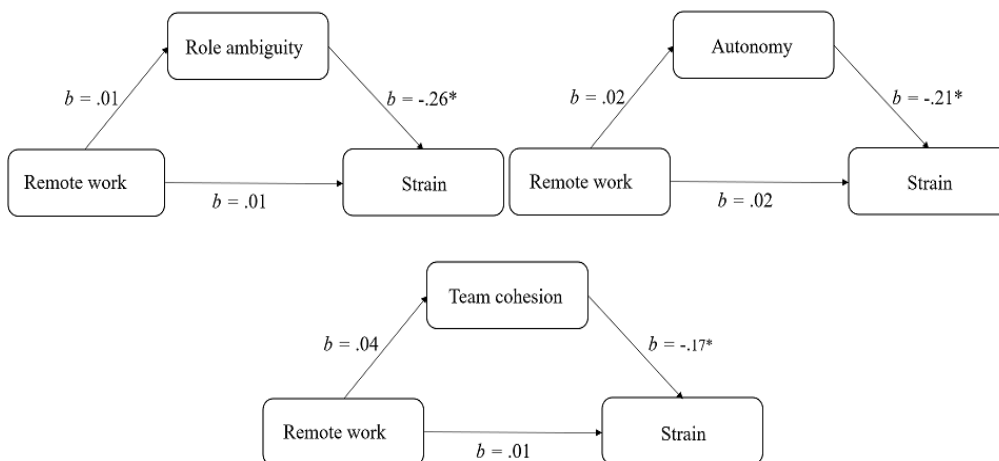
the relationship of remote work and strain. However, the data does support a relationship between role ambiguity and strain.

Furthermore, no link is found between remote work and autonomy ($F(1,439) = .39, p = .53$), but there is a negative and significant link between autonomy and strain ($t(438) = -3.49, p = .00$). However, the indirect effect is not significant ($b = .01, 95\% \text{ CI } [-.02 - .01]$). Therefore, the relationship of remote work and strain is not mediated by autonomy. Meaning, that autonomy does not support the relationship between remote work and strain.

Lastly, there is also no significant relationship between remote work and team cohesion ($F(1,439) = 1.95, p = .16$). But there is a significant link between team cohesion and strain ($t(438) = -2.45, p = .01$). The data shows no indirect link of remote work and strain via team cohesion ($b = .01, 95\% \text{ CI } [-.01 - .01]$). In conclusion, team cohesion does not influence the relationship of remote work and strain, but it does have an effect on strain.

Figure 4.

Standardized Regression Coefficients for the Relationship Between Remote work and Strain as mediated by Role Ambiguity, Autonomy and Team Cohesion.



Note. $*p < .05$ $**p < .01$

Moderation analysis

Work engagement

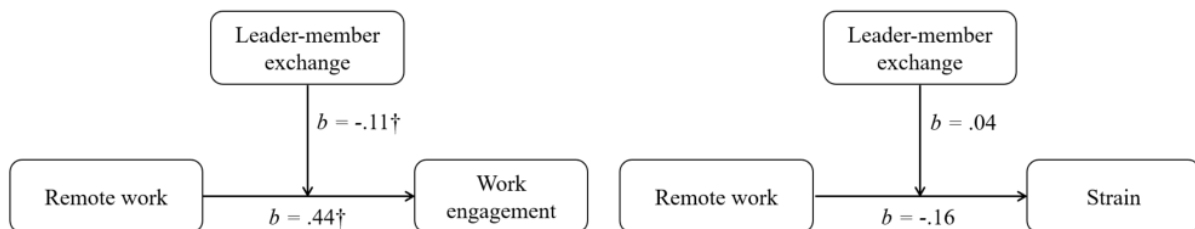
There is no significant link between remote work and work engagement ($t(437) = 1.71, p = .09$) (see figure 5). However, the link between LMX and work engagement is significant and positive, $t(437) = 2.00, p = .04$. This supports that LMX has an effect on work engagement. Yet, there is no significant effect of remote work and LMX on work engagement ($t(437) = -1.73, p = .08$). Subsequently, LMX does not appear to moderate the relationship of remote work and work engagement. In other terms, LMX do not have any influence on this relationship.

Strain

There is no significant interaction between remote work and strain, $t(437) = -.69, p = .49$. The relationship between LMX and strain is significant and negative, ($t(437) = -2.82, p = .01$). However, there is no significant effect of remote work and LMX on strain ($t(437) = .72, p = .47$). Therefore, the relationship of remote work and strain does not appear to be (partly) moderated by LMX, which means that leader-member exchange do not have any impact on the relationship of remote work and strain.

Figure 5.

Standardized Regression Coefficients for the Relationship Between Remote work and Strain and the Mediator LMX.



Qualitative analysis

Research question 2a: what has already changed

The dataset showed that the participants changed many different things to improve their well-being while working from home (see table 2). The working culture is adapted by implementing regular short breaks and by increasing the movement frequency and intensity. In total 36% of respondents mentioned that they changed their movement behavior or schedule regular breaks. Personal changes were mentioned relatively frequently, for example whether the employee has set their own (working) rules and changed their own behavior by eating healthier, and by drinking more water and less coffee. Another frequent code is ‘location and interaction’; employees stated that they started to come back to the University Campus occasionally to be in a different environment. Additionally, they actively plan small activities with their colleagues. According to the dataset these small informal contacts have strongly increased their perceived well-being.

Other aspects mentioned in the dataset were following courses to stay challenged, receiving sufficient support from the supervisor, ergonomic improvement to the home-office and lastly, they appreciate the well-being initiatives provided by the university. However, the variance in the codes indicates how differently employees are dealing with the challenges of the remote work situation.

Table 2.

Overview of all codes related to research question 2a. Describing what employees already changed to improve their well-being.

Main and sub codes	Definition code	Codes
		Frequency (percentage)
HR		20 (6,3%)

Following courses	Following diverse courses to stay challenged	7
Appreciation (initia- tives) UT	Participants appreciate the well-being initia- tives of the UT	13
Working culture		114 (35,7%)
Breaks	Taking regular (short) breaks	19
Improved movement (walks + exercise)	Increased movement patterns due to (lunch) walks and frequently exercising	95
Working situation		11 (3,5%)
Support by supervisor	More direct interaction with supervisor	3
Strong team	Close connection with the team	2
Ergonomic positive	Improved ergonomic environment	6
Location and interaction		63 (19,8%)
Going to campus	Work at the Campus regularly (for at least 1 day a week)	24
Actively plan social interaction	Plan meetings and lunch walks met col- leagues	39
Personal		69 (21,6%)
Meditation	Use of mediation	3
Setting rules	Setting personal boundaries to structure the day	33
Behavioural change	Personal change of working pattern	14
Positive mindset	Positively look at the current situation	12
Own purchase	Purchased products to improve ergonomic environment	3
Mental health support	Ask for help in mental demanding situations	4

Other		22 (6,9%)
Tip		1
Other	Single statements not related to other codes	21
No answer	Participant denied question	20
Total		319

Research question 2b: what still needs to change

Even though some things already changed, there are also recommendations for further improvement (research question 2b). The most frequently named improvement were about ‘location and interaction’ (see table 3). There is a high request for the ability to work (at least partly) at the campus, so that the employees can experience a change in their working environment and to increase the social interaction with other colleagues and students, regardless of working online or offline. Additionally, a part of the employees suggested to work hybrid in the future as well. Second, the facilities seem to be important as well. The ergonomic environment in the home office can still be improved further, for example by providing sit- and standing tables. But employees are also worried about the working conditions at the campus, whether the ventilation is updated sufficiently in line with the COVID-19 regulations, whether healthy food options are available and whether there are enough working places inside and outside of the buildings.

Thirdly, high workload is reported mainly by scientific staff and supervisors. Not only did supervisors report workload themselves, but also team members reported that their supervisors are not always available due to high workload. Subsequently, the leadership was criticized frequently as well.

Fourth, the employees gave feedback to the HR department and their initiatives. A few respondents reported difficulties during the onboarding phase, a lack of contract safety (job

security) and a lack of development opportunities. Additional HR feedback was varied, ranging from a desire for a cultural change within the organization to feedback about specific topics and working procedures.

Additionally, employees stated their worry about a range of topics. For example, some respondents are worried about the corona measures and whether their colleagues will follow the guidelines adequately. They state a need for a safe and healthy work environment. The responses also indicate the importance of stimulating movement after returning to the University Campus, for example creating suitable working places. Lastly, the employees expressed a desire for guiding rules, such as an organization-wide set lunch time, to ensure that they have enough breaks and to maintain or increase their well-being.

Table 3.

Overview of all codes related to research question 2b describing what can be changed to further improve the employees' well-being.

Main and sub codes	Definition code	Codes
		Frequency (percentage)
Facilities		49 (15,5%)
Ventilation	Availability of certificated ventilation system	7
Ergonomic improvement (neg)	Lack of (sufficient) ergonomic resources	13
Healthy food	Lack of healthy food in the building/cafeterias of the campus	6
Working space/place	Enough working spaces despite 1,5m rule	11
Outside	Availability of working places outside	5

Opening (other) facilities	Opening of other facilities, such as sport centre	7
HR		43 (13,6%)
New employees	Sufficient onboarding programme for new employees	4
Contract safety	Contract safety during/after COVID-19	4
Well-being offer	Sufficient initiatives regarding well-being	5
HR feedback	General feedback for the HR department	21
Development opportunities	Perceived development opportunities for employees	9
Working culture		42 (13,3%)
Break	Information about the current design & usage of breaks	12
Movement	Movement possibilities during working time (at home and at the campus)	13
Hierarchy	Feedback on the hierarchy within the UT	8
Time (working)	Information about (future) working time	9
Working situations		45 (14,2%)
Workload	(High) perceived workload of employees	25
Access to supervision	Lack of getting in touch with the supervisor	5
Leadership	Feedback of employees about the used leadership style	12
Role clarity	Clarity about job expectations	3
Location and interaction		69 (21,8%)

Future vision	Information about the new way of working	4
Hybrid work	Aim to work in a hybrid way (long-term)	11
Opportunity to work at campus	Opportunity to work at campus	28
Social interaction	Lack of social interaction with colleagues	26
Personal		7 (2,2%)
Mental health	Reported mental health issues	3
Isolation	Feeling of isolation	1
Complex situations/problems	Description of individual challenge	3
Other		46 (14,5%)
ITC	ITC related remark	3
Corona measures	Concerns about the corona measures at the UT	11
General compliment	General positive feedback for the HR department	7
Other		25
No answer		16
Total		317

Discussion

The regulations around COVID-19 resulted in a change of the working situation from mainly office work to mainly working from home, also called remote work. The impact of this on the employees needed to be investigated, specifically whether role ambiguity, autonomy, team cohesion and the leader-member exchange impact the well-being of employees. This research did not find evidence for a significant link between remote work and well-being, neither for work engagement, nor strain. Therefore, hypothesis 1a and 1b are rejected. As such, the forced remote working situation do not appear to have a significant impact on the well-being of the employees. Furthermore, the data suggests that there is no indirect link between work engagement and/of strain and the mediators role ambiguity, autonomy and team cohesion, meaning there is no mediating relationship. Nor do the mediators have a direct impact on work engagement. Therefore, these results are not in line with the expectations of this research and hypothesis 2a, 2b, 3a, 3b, 4a and 4b are not supported. However, the data did support a link between strain and role ambiguity, autonomy, and team cohesion. In conclusion, to reduce strain it is important to delve into role ambiguity, autonomy and team cohesion.

Lastly, the relationship between remote work, well-being, and LMX was investigated. Neither did the data support a direct link, nor a moderation link via LMX between remote work and work engagement. However, within organizational psychology marginally significance is used regularly to explain a link between variables (Olsson-Collentine et al., 2019). There is a marginally significance given in this model, resulting in a positive effect of remote work and LMX on work engagement. But based on the results only limited conclusions can be drawn. Nevertheless, it provides an indication, and invites for closer investigation of the impact of LMX on the relationship between remote work and work engagement. Furthermore, no link is found between remote work, strain and LMX. This suggests that LMX does not have an impact on the relationship of remote work and strain.

The qualitative data collection provides a broader insight into the different factors which influence the well-being of the employees. It appears that there is no one-size-fits-all solution for all employees. The answers provided were complex and varying, and many individual modifications to the job-approach were reported to have been implemented. For example, many employees set their own rules, scheduled regular breaks, and tried to be physically active more frequently. Also, some employees stated that they went back to the campus at least once a week. According to the dataset, the motivational factor for working from campus one day a week was to have an increase in social interaction, which was stated to give a major boost to their well-being. This also is reflected in the answers to the second question, where employees were queried on what still needs to change. The biggest request was to go back to the campus at least part-time, so that they may have some interaction with colleagues and students again. For most of the participants this seems to be the crucial factor. In addition, the responses indicated that the high workload is a main determinant of lower well-being.

Theoretical implications

The results of this study are not in line with the hypotheses. As stated, the JD-R model depicts the importance of a balance between job demands and job resources (Bakker & Demerouti, 2007). According to the results there is a link between strain and role ambiguity, strain and autonomy, and strain and team cohesion. When applying the results to the JD-R model, there appears to be an imbalance between the job demands and the job resources, resulting in a higher strain process and consequently decreasing well-being (Bakker & Demerouti, 2007). To get a more detailed insight into other job resources which can balance the job demands and job resources, further research needs to be conducted into the determinants of higher strain and lower work engagement within the organization. Furthermore, the non-significant results can give an indication that analysis on individual (job function) level is not sufficient,

and that perhaps the organizational or team level can have a relationship with well-being (Bakker & Demerouti, 2018). There is not enough evidence yet, but first research shows that HR policy can have a direct impact on the well-being of the employees (Bakker & Demerouti, 2018). This implication is in line with earlier multi-level research as well (Bakker, 2015; Bakker & Demerouti, 2018). Future research should investigate whether the multilevel approach suits the organization and give a more detailed idea about the determinants of the employees' well-being.

Since there are limited studies which research the well-being of employees during a pandemic it is difficult to compare the results with other studies. However, a similar study by de Leede et al. (2020) showed significant results, which supported a significant relationship between remote work, role ambiguity, autonomy, team cohesion and LMX and work engagement and strain. The study by de Leede et al., (2020) was conducted in the same study setting, using similar scales. This suggests that something has changed, causing these relationships to weaken and no longer be significant. A potential explanation is that the transition from remote work to hybrid working has impacted the outcomes of this study. The ongoing COVID-19 pandemic causes a continuously changing environment, and there is a stronger shift towards a hybrid working mindset. This in turn makes the location a less important factor influencing the well-being of the employees. For example, the quantitative data is not in line with the qualitative data (research question 2a and 2b). In some aspects they even contradict each other. Based on the quantitative data it seems that remote work does not have an effect on the well-being of employees. However, the qualitative data shows a high demand for social interaction and returning to the office for work. One cannot help but wonder how this contradiction can be explained. A possible explanation is the social exchange theory, where the social interaction with others is crucial to psychological well-being (Prasad et al., 2020). Which indicates a shift from

looking at remote work to social exchange as independent variable. Because, due to the pandemic the social interaction is limited, and even recent technological inventions do not support this interaction sufficient. Therefore, it is possible that the location (remote work) matters less than the quality of social interaction. And since remote work does not affect the well-being of the employee the shift towards social exchange could be a predictor of the employees' well-being. However, future research is needed to investigate this relationship.

Practical implications

Several implications for the organizations have been found. First, the organization is advised to consider strain and the corresponding predictors. To enhance the well-being of the employees an improvement in role ambiguity, autonomy and team cohesion is desirable. For role ambiguity, this means that it is important to ensure a clear role description. If the job-expectations are changed due to COVID-19, it is important that these changes are communicated clearly (Bakker & Demerouti, 2007). Subsequently, a new, clear role description needs to be formulated. To improve autonomy the employee needs to be able to schedule their own working day in terms of time, place and content (Schall, 2019). For example, by providing the freedom to work outside of standard office times if these better suits the individual employee. However, it can be beneficial to provide guidance on how best to implement this. Lastly, team cohesion requires attention as well. During COVID-19 appears to be more difficult to remain in contact with each other. This study stresses how important it is to stay connected and put additional effort and more attention in team events and regular informal moments during the week. This ensures stable teamwork and shared mental models, which are crucial to team cohesion (Carlson et al., 2017).

Additionally, a closer look at the role of the supervisors is advised. Possibly, it can be advantageous for the employees if the supervisors are trained to be more involved with their

team members, supporting the leader-member exchange and the qualitative results where employees ask for a closer collaboration with their supervisors. A closer look into the needs of supervisors and teams is necessary to support them adequately and to ensure future initiatives fit well. Lastly, specific attention is needed for the high levels of reported workload among employees. Specific action to decrease the high levels of workload amongst supervisors is crucial to break through the vicious cycle of high workload, since high workload results in lower support for their teams. The author suggests a consult with (internal) experts about this topic on how best to implement corresponding actions.

Limitations and future research

During the start of the research, there was extremely limited research available on remote work during a pandemic. Currently, more research is published frequently, which provide insights to set up an adapted study. Furthermore, the cross-sectional design has limitations, namely that causal conclusions cannot be made based on it. Additionally, it was not a longitudinal study, and the data was collected in a single period of four weeks. Possibly, the results will be different during another period of the year (Levin, 2006). Also, only a response rate of 36% is reached, which can result in a non-response bias and therefore in differences between participants and non-participants. Lastly, this research was executed at a single organization and therefore cannot be generalized.

As mentioned, the JD-R model does not only operate on individual level but also on team and organizational level (Bakker & Demerouti, 2018). However, there is limited research about the different levels available yet. The current situation around COVID-19 entails many changes, not only on individual level but which could influence all three levels. This could be taken into account by investigating the relationship between remote work and the well-being of the employees at the individual, team, and organizational level to include all possible causes of lower well-being. Therefore, it is important to analyze what the crucial determinants are within

all three levels. The qualitative data of this research can be used as an indication on important factors. Additionally, the qualitative data supports that social interaction seems to be crucial to the well-being of the employees. Therefore, new research can profit of the social exchange theory. Application of the social exchange theory on a forced remote working situation could provide insight in the support and obstacles employees face in a situation with limited social interaction. Lastly, hybrid working is likely to gain in importance in the future. Instead of working fully from home or fully from the office, employees will likely switch to a hybrid way of working. However, the results of this study provide insights that can still be relevant within the context of hybrid working.

Conclusion

In conclusion, this study does not show any mediation or moderation effects. Remote work does not affect work engagement or strain via role ambiguity, autonomy team cohesion or LMX. However, there is a link between role ambiguity, autonomy, team cohesion and strain. This means additional attention towards this relationship and its practical implication is needed. Additionally, the quantitative and qualitative results indicate a closer look at the role and the involvement of the supervisors. Also, the qualitative data stresses that social interaction appears is crucial for the well-being of the employees, as well as the setting of clear rules and scheduling regular breaks. Currently, the well-being of the employees is challenged due to high levels of perceived workload.

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Appendix

Appendix A

Informational letter

With this survey, we intend to measure your well-being at work. We ask for your opinion and your opinion does count. Everyone who works at the University of Twente will get the opportunity to fill in this survey. Thus, also those of you have not a contract with the UT such as PhD candidates with a scholarship can help us to monitor and improve our policies and practices.

This survey is anonymous. You can, if you want to, answer personal questions with the option “I prefer not to answer this question”. Furthermore, the data will be kept confidential. The survey is online available, and the data will be collected by Ipsos. The raw data (without any link to any email address) will be sent to BMS faculty researchers. The analysis will be done by them. The results will be reported only at group level (faculty/service, age groups, educational groups, etc.) and not at the level of your team or department. Never will be reported on individual level! The research is under supervision of an expert group. The research has been granted ethical approval by the Ethical Commission of BMS.

It is important to fill in the entire survey. Only with complete surveys we can produce valuable results. Please, read the questions carefully and choose the best answer. It will take you 10-15 minutes.

Final submission date is **9 May 2021**

Many thanks for submitting the survey!

Yours sincerely,

Dr. Jan de Leede (assistant professor HRM)

Appendix B

Questionnaire English

Part I

How often does the following occur?
(tick only one answer)

	Never	Almost never / a few times a year or less	Rarely / Once a month or less	Some-times / a few times a month	Often / once a week	Very often / a few times a week	Always / every day
1. At my work, I feel full of energy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
2. My job gives me energy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
3. When I get up in the morning, I feel like going to work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
4. I am enthusiastic about my job							
5. I am proud of the work that I do	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
6. My job inspires me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7

Part II

To what extent do you agree with the following statements?
(tick only one answer)

	Fully disagree	Disagree	Neither agree or disagree	Agree	Fully agree
7. I have difficulties relaxing after work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
8. Problems at work stay on my mind when I am not at work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
9. Problems at work occupy my thoughts even during my vacation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
10. I know what my responsibilities are	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
11. I know what my supervisor expects of me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
12. It is clear to me what I need to do in my job	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
13. I know how satisfied my supervisor is with what I do	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
14. My supervisor understands my needs well	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
15. My supervisor recognizes my qualities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
16. The probability that my supervisor uses his/her influence to advance my interests at work is high	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
17. I have enough confidence in my supervisor.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
18. My working relationship with my supervisor is good	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Fully disagree Disagree Neither agree or disagree Agree Fully agree

19. I feel a sense of belonging with my colleagues	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
20. I get along well with my colleagues	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
21. I like my colleagues	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
22. I have autonomy in determining how I do my job	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
23. I can decide on my own how I do my work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
24. I have considerable opportunity for independence and freedom in how I do my work	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

PART V

The following questions are about your wellbeing under Covid-19.

1. What percentage of your normal work hours do work at home?
 - 100% at home
 - Partly at home, namely ... % (rest of the time on campus or in the ITC building)
 - 100% on campus or in the ITC building

2. To what extent are you able to do your work at home?
 - I can still fully complete my work
 - I can do most of my work
 - I can do my job reasonably well
 - I cannot do my job properly

PART VI

The aim of the next questions is to give you an opportunity to report about issues that should be improved on your wellbeing at the UT

3. Is there anything you would like to change at the current situation to improve your well-being at the University of Twente? (Tip)

4. Is there anything you already do to improve your well-being at the University of Twente? (Top)

PART VII

5. What is your age? (in years) 4
 I prefer not to answer this question
6. What is the upper level of your education? Primary school 1
 Secondary education 2
 Senior secondary vocational education 3
 BA 4
 BSc 5
 MSc, MA or LLM 6
 PhD 7
7. Which job title best describes your job? Phd Candidate / Student 1
 Researcher / Postdoc 2
 Teacher 3
 Assistant Professor – (both tenure track and non tenure track) 4
 Associate Professor – (both tenure track and non tenure track) 5
 Full professor 8
 Manager (service department) 9
 Manager (faculties) 10
 Support staff 11
 I prefer not to answer this question 12
8. What is your gender? Male 1
 Female 2
 Other 3
 I prefer not to answer this question 4
9. What is your family status? (multiple answers can be given) Single 1
 In a relationship 2
 Other 3
 I prefer not to answer this question 4
10. What is your home situation? (multiple answers can be given) Without children 1
 With children at home 2
 With independent children 3
 Informal career (for parents, siblings, etc.) 4
 I prefer not to answer this question 5
11. How long have you been working at the University of Twente? Less than 1 year 1
 1 year or more, less than 5 years 2
 5 years or more, less than 10 years 3
 10 years or more, less than 20 years 4
 20 years or more 5
 I prefer not to answer this question 9
1. Where were you born? In the Netherlands 1

- In an EU country or in the UK, not in the Netherlands 2
 Outside the EU/UK 3
 I prefer not to answer this question 9

2. What is your contract status with the University of Twente?
 I have a permanent employment contract 1
 I have a temporary employment contract 2
 I have a temporary employment contract with an opportunity for a permanent contract 3
 I do not have a contract status with the UT (e.g. PhD candidates with a scholarship or PNUT) 4

3. Which organizational unit do you work for?
- Faculty of Behavioural, Management and Social Sciences (BMS)
 - Faculty of Engineering Technology (ET)
 - Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS/EWI)
 - Faculty of Science and Technology (TNW)
 - Faculty of Geo-Information Science and Earth Observation (ITC)
 - GA
 - CFM
 - CES
 - FIN
 - HR
 - LISA
 - M&C
 - SBD
 - S&P

4. According to your contract, how many hours a week are you expected to work? hours a week

5. How many hours a week did you actually work on average a week, in the last three months? hours a week

Appendix C

Questionnaire Dutch

Deel I

Hoe vaak komt het onderstaande voor?
(slechts één antwoord aankruisen)

	Nooit	Bijna nooit / Een paar keer per jaar of minder	Zelden / Een keer per maand of minder	Soms / Een paar keer per maand	Vaak / Een keer per week	Heel vaak / Een paar keer per week	Altijd / Elke dag
25. Op mijn werk voel ik me energiek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
26. Mijn werk geeft mij energie	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
27. Als ik 's ochtends opsta, heb ik zin om naar werk te gaan	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
28. Ik ben enthousiast over mijn baan	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
29. Ik ben trots op het werk dat ik doe	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
30. Mijn baan inspireert me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7

Deel II

In hoeverre bent u het eens met onderstaande stellingen?
(slechts één antwoord aankruisen)

	Helemaal mee oneens	Mee oneens	Eens, noch on- eens	Mee eens	Hele- maal mee eens
31. Ik vind het moeilijk te ontspannen na werk	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
32. Als er problemen op het werk zijn, dan denk ik hier in mijn privétijd ook aan	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
33. Als er problemen op het werk zijn, dan houden deze mij zelfs tijdens vakantie bezig	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
34. Ik weet wat mijn verantwoordelijkheden zijn	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
35. Ik weet wat mijn leidinggevende van mij verwacht	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
36. Het is mij duidelijk wat ik moet doen in mijn functie	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
37. Ik weet hoe tevreden mijn leidinggevende is met wat ik doe	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
38. Mijn leidinggevende weet goed wat ik nodig heb	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

39. Mijn leidinggevende erkent mijn kwaliteiten	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
40. De kans dat mijn leidinggevende zijn/haar invloed gebruikt in mijn belang is groot	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
41. Ik heb voldoende vertrouwen in mijn leidinggevende	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
42. Mijn werkrelatie met mijn leidinggevende is goed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
	Helemaal mee oneens	Mee oneens	Eens, noch oneens	Mee eens	Helemaal mee eens
43. Ik heb een gevoel van verbondenheid met mijn collega's	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
44. Ik kan het goed met mijn collega's vinden	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
45. Ik vind mijn collega's aardig	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
46. Ik kan zelfstandig bepalen hoe ik mijn werk doe	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
47. Ik kan zelf beslissen hoe ik mijn werk uitvoer	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
48. Ik heb volop mogelijkheden om mijn werkzaamheden uit te voeren zoals ik dat wil	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
49. Ik heb vertrouwen in mijn kennis en vaardigheden om mijn werk te doen	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
50. Ik ben zelfverzekerd over mij kennis en vaardigheden die nodig zijn om mijn werk te doen	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
51. Ik heb me de kennis en vaardigheden eigen gemaakt die noodzakelijk zijn voor mijn functie	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Deel V

De volgende vragen gaan over je welzijn in relatie tot online werken als gevolg van Covid-19.

56. Hoeveel % van je aanstelling werkte je de afgelopen drie maanden thuis?
- 100% thuis
 - Deels thuis, namelijk ... % (rest van de tijd op de campus of in het ITC gebouw)
 - 100% op de campus of in het ITC gebouw
57. In hoeverre ben je thuis in staat om je werk uit te voeren:
- Ik kan mijn werk volledig uitvoeren
 - Ik kan mijn werk grotendeels uitvoeren
 - Ik kan mijn werk redelijk uitvoeren
 - Ik kan mijn werk onvoldoende uitvoeren

Deel VI

Het doel van de volgende twee vragen is om je de kans te geven om aan te geven wat verbeterd zou kunnen worden aan jouw welzijn op de UT.

58. Wat zou je willen veranderen om jouw welzijn op de UT te verbeteren? (Tip)

59. Wat doe je nu al om jouw welzijn op de UT te verbeteren? (Top)

Deel VII

56. Wat is jouw leeftijd? (in jaren) 4
 Ik wil liever geen antwoord geven 5
57. Wat is uw hoogst genoten opleiding 1
 Basis onderwijs (lagere school) 2
 Voortgezet onderwijs 3
 Middelbare Beroepsopleiding (MBO) 4
 Hogere beroepsopleiding (HBO) 5
 Universitaire Bachelor 6
 Universitaire Master 7
 Gepromoveerd 8
58. Welke functie omschrijft jouw functie het best? 1
 Promovendus 2
 Onderzoeker / Postdoc 3
 Docent 4
 Universitair docent – (zowel tenure track als niet tenure track) 5
 Universitair hoofddocent – (zowel tenure track als niet tenure track) 6
 Hoogleraar 7
 Manager (diensten) 8
 Manager (faculteiten) 9
 Ondersteunend personeel 10
 Ik wil liever geen antwoord geven 10
59. Wat is jouw geslacht? 1
 Mannelijk 2
 Vrouwelijk 3
 Anders 4
 Ik wil liever geen antwoord geven 4
60. Wat is jouw burgerlijke staat? 1
 Alleenstaand 2
 Samenwonend of getrouwd 3
 Anders 4
 (meerdere antwoorden mogelijk) Ik wil liever geen antwoord geven 4
61. Wat is jouw thuissituatie 1
 Zonder kinderen 2
 (meerdere antwoorden mogelijk) Met thuiswonende kinderen 3
 Met uitwonende kinderen 4
 Mantelzorger 5
 Ik wil liever geen antwoord geven 5
62. Hoe lang werk je bij de Universiteit Twente? 1
 Minder dan 1 jaar 2
 1 jaar of langer, minder dan 5 jaar 3
 5 jaar of langer, minder dan 10 jaar 4
 10 jaar of langer, minder dan 20 jaar 5
 20 jaar of langer 9
 Ik wil liever geen antwoord geven 9
63. Waar ben je geboren? 1
 In Nederland 1

In een EU-land of in het Verenigd Koninkrijk (VK),
 maar niet in Nederland 2
 Buiten de EU/VK 3
 Ik wil liever geen antwoord geven 9

64. Wat is de status van je contract met de Universiteit Twente? Ik heb een vast contract 1
Ik heb een tijdelijk contract 2
 Ik heb een tijdelijk contract met de mogelijkheid om deze om te zetten in een vast contract 3
 Ik heb geen contract met de UT (bijv. promovendus met beurs of PNUT) 4

65. Voor welke organisatie-eenheid werk je?

- Faculteit Behavioural, Management and Social Sciences (BMS)
- Faculteit Engineering Technology (ET)
- Faculteit Elektrotechniek, Wiskunde en Informatica (EEMCS/EWI)
- Faculteit Technische Natuurwetenschappen (TNW)
- Faculteit Geo-Informatie Wetenschappen en Aardobservatie (ITC)
- AZ
- CFM
- CES
- FIN
- HR
- LISA
- M&C
- SDB
- S&P

66. Hoeveel uur per week word je geacht te werken op basis van je contract? uur per week

67. Hoeveel uur per week heb je de afgelopen drie maanden daadwerkelijk gewerkt in een gemiddelde week? uur per week