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# Remotely engaged—The role of job crafting in the change of employees' engagement after an abrupt transition to remote work

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**Introduction:** Many employees perceived the move to remote work due to the COVID-19 pandemic as an abrupt organizational change. While research on work engagement has examined this construct in different contexts, it is unclear what may happen to work engagement in such an extreme context and over the course of time. In the current study, we examined the relationship between time and employees' work engagement after an abrupt change as well as the way job crafting interacts with this relationship. We hypothesized that a pre-transition high level of *approach* crafting strategies will have a negative effect, harming employees' ability to maintain their engagement over time, while a pre-transition high level of *avoidance* crafting strategies will actually have a mitigating effect, weakening the decrease in engagement.

**Materials:** We used a three-wave longitudinal study design, collecting data during the first 3 months of the pandemic. The sample included employees from different organizations across the U.S randomly recruited through Amazon Mechanical Turk. We utilized a multilevel repeated measures approach to analyze the data.

**Results:** Results supported our first hypothesis, demonstrating a negative relationship between time and engagement such that engagement declined over time. Our second hypothesis was partially supported, showing that the job crafting strategy of increasing challenging demands moderated the relationship between time and engagement, such that for employees that job craft by increasing their challenging demands, at the onset of the transition, the decrease in work engagement over time was more substantial. We did not find support for our hypothesis regarding the positive effect of avoidance crafting strategies on the decrease in work engagement.

**Discussion:** Our findings suggest that the tendency to job craft by pursuing more challenging demands at the onset of the pandemic, as an approach strategy of job crafting, gives employees an unnecessary added workload that requires the use of more resources. Over time, this extra load, depletes resource reservoirs and prohibits remaining engaged over time. In contrast, other types of approach crafting strategies seem to have no such harmful effect. Our findings highlight the importance of context, suggesting that under specific conditions some job crafting strategies may be more energy draining than others.

## KEYWORDS

work engagement, job crafting, job demands-resources model, COR theory, transition to remote work

## 1 Introduction

It has long been suggested that organizational change is associated with a reduction in employee wellbeing (Kaltainen et al., 2020). One highly studied determinant of employee wellbeing is work engagement (i.e., a positive, fulfilling, work-related state of mind; González-Romá et al., 2006). Many organizations are concerned with boosting and upholding their employees' level of work engagement, due to its strong association with employee wellbeing and performance (Knight et al., 2017). It was also found that enhancing work engagement during organizational change is beneficial for adaptation (Hobfoll et al., 2018) and shapes employees' future expectations regarding the evolving change processes, increasing positive reactions and mitigating negative reactions (Kaltainen et al., 2020). Yet, it is unclear whether abrupt organizational changes, i.e., sudden unexpected organizational events that require an immediate change, have a onetime effect on employee work engagement and as a result on employee wellbeing or whether they will lead to an ongoing decrease in work engagement and thus in wellbeing.

Much of the research on work engagement considers it to be a long-lasting and stable state (Seppälä et al., 2015, 2009) and research on the dynamic and temporal aspects of work engagement has mainly focused on daily (e.g., Baethge et al., 2021; Bakker and Oerlemans, 2019) and weekly fluctuations (e.g., Bakker and Bal, 2010). This research showed that despite temporary fluctuations, work engagement returns to its usual level (Lesener et al., 2020; Mäkikangas et al., 2016). Thus, if organizations want to continue to rely on work engagement as a mechanism that protects against ongoing reduction in wellbeing, it is important to understand (a) what happens to work engagement after an abrupt change over longer periods of time and (b) assuming work engagement declines, what factors might inhibit such a decrease. In an attempt to answer these questions, we took advantage of the COVID-19 pandemic and the sudden transition to remote work, to examine the dynamic change in work engagement (Adisa et al., 2023; Hajjami and Crocco, 2023), and the factors that might interfere with this change.

Though remote work has been widely investigated over the past decades (Bailey and Kurland, 2002; Spreitzer et al., 2017), most research considered this working arrangement a result of mutual choice and agreement between the employees and their employers (Spreitzer et al., 2017). However, situations such as the outbreak of the COVID-19 pandemic, caused many employees in different occupations and roles to suddenly shift to work from home (Waizenegger et al., 2020) and adjust to dramatically different working conditions regardless of any previous experience or prior preference. This shift to remote work lacked the elements of flexibility and choice that were typically characteristic of remote work arrangements (Lapierre et al., 2016) and may have had a negative effect on employees. In order to predict the manner in which engagement changes over time, in such a context of a highly demanding change event, we used the Job-Demands-Resources (JDR) model (Demerouti et al., 2001a,b) and Hobfoll's (1989) Conservation of Resources (COR) theory as our underlying theoretical framework. We hypothesized that after an abrupt transition to remote work, work engagement would decline over time. In addition, we explored how various levels of job crafting

strategies, a type of proactive behavior aimed at redesigning one's job demands and resources (Tims and Bakker, 2010), are related to these changes. We used a three-wave longitudinal study design, collecting data during the first 3 months of the pandemic, and utilized a multilevel repeated measures approach to analyze the data.

This study has the potential to contribute to organizational theory. First, our study is likely to contribute to the work engagement literature by highlighting the importance of investigating work engagement as an ongoing dynamic construct. By showing that employees' work engagement drops during the first weeks of the pandemic, we have the potential to contribute to the growing understanding that a one-time assessment of engagement may provide a very partial picture. This may mean that theories of engagement should turn from explaining engagement as a stable or fluctuating phenomenon to explaining the trends and changes in engagement over longer periods of time. Second, we are likely to add to the job crafting literature by continuing the line of research showing that under some conditions, some elements of job crafting may actually be detrimental. We lean on previous work emphasizing the importance of distinguishing among the different dimensions of job crafting (e.g., Rudolph et al., 2017; Zhang and Parker, 2019) and examine the effect of different job crafting strategies setting the stage for a more comprehensive job crafting theoretical model.

## 2 Theory and hypotheses

### 2.1 Work engagement and resource based theories

Work engagement is "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption" (González-Romá et al., 2006, p. 166). Vigor refers to high levels of energy and willingness to invest effort in one's job. Dedication refers to a strong involvement in one's work, accompanied by feelings of enthusiasm and significance. Finally, absorption refers to a state of total immersion in one's work, characterized by time passing quickly and being unable to detach oneself from the job (Maslach et al., 2001). A high level of work engagement is a desired outcome for both employees and employers. Studies have demonstrated its link with numerous outcomes such as; task performance (Neuber et al., 2022); organizational citizenship behavior (Farid et al., 2019) and innovative behavior (Kong and Li, 2018). Moreover, job engagement has been found to be negatively related to self-reported anxiety, depression (Peterson et al., 2008) and psychosomatic health complaints (Demerouti et al., 2001a,b).

Most of the engagement literature has stressed that work engagement is likely to remain relatively stable over time (Schaufeli et al., 2002a,b; Lesener et al., 2020; Mauno et al., 2007). However, an emerging body of literature has begun considering the dynamic and temporal aspects of work engagement, with some examining fluctuations in engagement from day to day and some with longer intervals (e.g.; Baethge et al., 2021; Bakker and Bal, 2010; Parent-Lamarque and Marchand, 2023; Pluut et al., 2024). To understand

these fluctuations, researchers often employ the job demands–resources (JD-R) model, which suggests that changes in job demands and job resources predict changes in work engagement (Bakker and Demerouti, 2017). For example, Bakker and Bal (2010) measured week to week fluctuations in work engagement among teachers, and found that job resources such as autonomy and exchanges with supervisors were positively related to weekly changes in engagement.

The job demands–resources (JD-R) theory (Bakker et al., 2014) has been widely used to explain wellbeing and motivation in general, and employees' engagement in particular (Saks and Gruman, 2014). The main proposition of the JD-R theory is that all work-environments or job characteristics can be classified into two categories: job demands and job resources (Demerouti et al., 2001a,b; Bakker and Demerouti, 2014) with high demands often activating a health impairment process (i.e., due to energy depletion resulting in exhaustion and burnout), and high levels of resources activating a motivational process (i.e., higher engagement; Bakker and Demerouti, 2007, 2008). Thus, according to this theory, when examining the change in engagement over time, as in the current study, it is important to understand the interplay between job resources (i.e., the physical, psychological, social, or organizational aspects of the job that help in achieving work goals and stimulate personal growth, learning, and development) and job demands (i.e., those aspects of the job that require sustained physical and/or psychological effort and are therefore associated with certain physiological and/or psychological costs). Moreover, conservation of resources (COR) theory (Hobfoll, 1989) provides a basis for hypothesizing about the dynamics of such aspects and their outcomes. More specifically, COR claims that when resources are lost (e.g., when people feel they no longer have the social support they are used to as people are struggling themselves to cope with the new consequences brought on by the pandemic) this is disproportionately more salient than resource gain and as such, tends to affect people more rapidly and at increasing speed over time often causing a loss spiral (Hobfoll et al., 2018). Accordingly, as we explain below, if the abrupt change caused by the outbreak of COVID-19 caused a loss of resources, such a spiral is likely to occur.

The outbreak of COVID-19 led organizations to alter their workforce in a way that forced employees to adapt and cope with radical and demanding changes occurring in their work and social environment (Carnevale and Hatak, 2020), with many organizations turning to home-based remote work (Spurk and Straub, 2020). More specifically, the pandemic created a situation in which many organizations had to make remote work compulsory, giving employees no choice in the matter (Waizenegger et al., 2020). Employees who used to spend all or most of their time working inside their organization's physical boundaries were forced to quickly adjust to remote work environments (Carnevale and Hatak, 2020). Such remote work lacks the elements of control and choice, i.e., resources, that are usually inherent in such arrangements (Hill et al., 2001). Not only were these resources absent, but the radical transformation in working conditions often placed greater demands on employees including; increased workload due to limited ability to rapidly delegate work between team members, in-home conflict, stress and a sense of isolation (Kniffin et al., 2021; Vaziri et al., 2020; Sinclair et al., 2020).

According to the JD-R model, when job demands exceed the resources that employees have for dealing with them, their reaction is burnout rather than engagement. In addition, dealing with change requires energetic resources from employees in order to adapt successfully (Parker et al., 2010). Furthermore, following COR theory, any pre-existing personal resources that might have helped employees in routine times maintain their level of engagement were likely to be exhausted as time went by because employees used them up, facing the changing demands. The prolonged loss of resources and increased demands was likely to lead to the depletion of more resources such as energy and a spiral loss of resources (Hobfoll et al., 1990), resulting in a situation in which engagement is likely to decline over time. Hence, we hypothesize that:

- H1: *Time will be negatively related to work engagement, such that work engagement will decline over time.*

## 2.2 Job crafting

One of the well-studied antecedents of work engagement has been job crafting. Job crafting is a type of proactive behavior defined as “the physical and cognitive changes individuals make in the task or relational boundaries of their work” (Wrzesniewski and Dutton, 2001, p. 179). Job crafting is aimed at redesigning one's job (Tims and Bakker, 2010) and can be seen as a set of strategies used to improve the fit between the person and his/her job. Employees who feel that they have a good fit with their jobs experience more job engagement (e.g; Bakker and Oerlemans, 2019; Chen et al., 2014; De Beer et al., 2016) hence the manner in which employees achieve such fit may be linked to changes in engagement over time. Job crafting differs from other types of proactive behaviors in that “it is about proactive changes in the job design that are not specific arrangements that are negotiated with the organization” (Tims and Bakker, 2010, p. 3). In addition, job crafting helps employees deal with increasing job demands and unpleasant conditions (Harju et al., 2016) making it a relevant strategy for coping with sudden changes such as those occurring when the working conditions dramatically change.

Tims and Bakker (2010) proposed a conceptualization of job crafting based on the job demands-resources model (Demerouti et al., 2001a,b). They stated that job crafting occurs when employees make self-initiated changes to the levels of their job demands and job resources, in order to align them with their own abilities and preferences. Employees can craft their job by increasing structural resources (e.g., seeking opportunities for professional development) or increasing social resources (e.g., asking for feedback from supervisors). Employees can also craft their job by increasing challenging demands (e.g., voluntarily taking on additional responsibilities or extra challenging tasks), or by decreasing hindering demands (e.g., avoiding contact with emotionally demanding colleagues; Tims and Bakker, 2010).

Recent literature on job crafting has built on the approach-avoidance framework (Elliot, 1999; Elliot and Thrash, 2001) to distinguish between *approach* and *avoidance* crafting. Approach

crafting refers to proactive and effortful behaviors toward problem solving and improvements (i.e., increasing social resources, increasing structural resources and increasing challenging demands), while avoidance crafting involves active efforts to avoid, reduce or eliminate negative outcomes (i.e., decreasing hindering demands) (Bruning and Campion, 2018; Zhang and Parker, 2019). Following COR theory's tenet, that individuals seek to foster their wellbeing by increasing and maintaining things that are central to their goal achievement in a given context (Hobfoll et al., 2018), approach crafting strategies may express a resource acquisition process. By approach crafting employees increase job resources and challenges (i.e., increasing social resources, increasing structural resources and increasing challenging demands) in order to enhance their wellbeing at work (Harju et al., 2021). In contrast, following COR theory's tenet that potential or actual loss of resources provokes individuals to conserve their resources (Hobfoll et al., 2018), avoidance crafting may represent a resource conservation process. By avoidance crafting employees seek to maintain their wellbeing by trying to decrease the straining effects of hindering demands (Harju et al., 2021).

Previous literature has shown that approach crafting is positively associated with employee wellbeing and with work engagement (Boehnlein and Baum, 2022; Harju et al., 2016). In contrast, avoidance crafting has been generally negatively associated with engagement and other wellbeing indicators and positively associated with burnout (Lichtenthaler and Fischbach, 2019; Rudolph et al., 2017). Despite the above-mentioned findings, recent work has suggested that under specific conditions the relationships between engagement and approach crafting or between engagement and avoidance crafting may be different. For example, Harju et al. (2021), distinguished between two types of challenging demands: *job complexity* and *workload*. They found that while approach crafting was related to an increase in work engagement through an increase in job complexity, it was also related to an increase in burnout through an increase in workload. In addition, they found that avoidance crafting was related to a decrease in work engagement and an increase in burnout, through a decrease in job complexity. They further suggested that perhaps different motivations behind approach crafting (i.e., performance goals or mastery goals), even though not tested in their study, may explain why in some situations approach crafting may increase work engagement while in others decrease work engagement.

### 2.3 Job crafting and the context of abrupt change

In times of change, focusing on changing the design of one's job is likely to be related to job engagement. Although it has been suggested that job crafters cope better with changes, the nature of the change matters (i.e., the extent of impact on daily life; Petrou et al., 2012). One study, for example, compared two different types of organizational changes: a major change in the form of cutbacks due to a financial recession and a regular change due to a reorganization (Petrou et al., 2017). Petrou et al. (2017) found that while most aspects of job crafting such as seeking resources and

seeking challenges were associated with more engagement and less exhaustion in both contexts, there were several differences between the two conditions. For example, seeking resources was related to less exhaustion for employees in the regular change condition but not for employees in the major change condition. The authors suggested that, in the face of a major change, seeking resources might not be efficient. In addition, in the regular change condition reducing demands had a significant positive relationship with exhaustion. The more employees tried to reduce their demands, the more exhausted they felt. However, this significant correlation occurred only in the regular change condition, not in the major change one. The authors suggested that in the context of a major change, reducing demands might not have an effect, at least not a linear one (Petrou et al., 2017). Thus, it seems that different strategies of job crafting might result in different outcomes under different types of change conditions.

The above study suggests that in a major change, job crafting, in the form of seeking resources or in the form of reducing demands may not enhance work engagement. Yet, based on recent literature on the nature of the remote work transition due to the COVID-19 pandemic (e.g., van Zoonen et al., 2021), we claim that in such an abrupt, global, profound change (i.e., a change that is beyond what has previously been defined as a "major change"), these job crafting strategies may play a different role. More specifically, we claim that job crafting in the form of seeking resources (i.e., approach strategies) may not only be ineffective but may actually be detrimental for work engagement, while job crafting in the form of reducing demands (i.e., avoidance strategies) may actually be beneficial.

Beyond the impact on the working world, the outbreak of COVID-19 pandemic led to a macro crisis, which created many shifts in people's lives around the world; People felt insecurity, lost boundaries between work and home and were stressed about the health and safety of themselves and their loved ones (Vaziri et al., 2020). In the organizational world, the COVID-19 pandemic was too conceptualized as a macro-level crisis, as a threatening and stressful event, causing a demanding work environment (Straus et al., 2023). In accordance to the Event Systems Theory (EST; Morgeson et al., 2015) it is characterized as a novel, disruptive and critical event that can create changes in employees' wellbeing, even within a few weeks of the crisis (Vaziri et al., 2020). Moreover, stress scholars argue that being also unpredictable and uncontrollable, the pandemic should be considered a unique stressor with severe implications for health and wellbeing (Pfeifer et al., 2021). With all this in place, we claim that the abrupt change in working conditions due to the immediate transition to remote work as part of the consequences of the COVID-19 pandemic is a special condition affecting the role of job crafting strategies play.

Hobfoll (1998) claimed that COR theory had to be viewed in context. He further suggests that resources can operate differently under different ecological contexts. In one context a resource can have a positive role and in another a negative one (Hobfoll et al., 2018). Extending this notion, we suggest that job crafting strategies, as a tendency to craft resources and demands, may also have positive or negative outcomes. Though, it is not necessarily the type of resources or demands or their valence in a specific context (i.e., structural resources, social resources, challenging demands or



hindering demands), rather it is a matter of whether this crafting strategy is draining more or less energy, under the specific context of the stress situation.

In the context of a major stress event and a sudden transition to remote work that abruptly changes the working conditions, when resources need to be preserved rather than exhausted, we claim that approach crafting may have negative consequences. While in a regular context approach crafting is seen as enhancing motivation, that in turn lead to positive outcomes (Zhang and Parker, 2019), employees' tendency at the onset of the transition to remote work, to proactively craft their jobs by approach strategies may strengthen the process of resource depletion. For example, in such context *increasing challenging demands* (e.g., by initiating and taking on extra tasks to challenge oneself) may result in an unnecessary load rather than serving as a fulfilling challenge, requiring even more resources to handle. In the same manner, *increasing structural* or *social* resources involves effortful and directed actions to seek positive aspects of work (Zhang and Parker, 2019). This investment in resource gain, that itself takes energy, may lead to depletion in resources and in turn harm employees' ability to remain engaged, since resource gain is of less magnitude and much slower than resource loss (Hobfoll et al., 2018). In the context of an abrupt change that involves a major resource loss, approach crafting may be harmful. Thus, we hypothesize that:

- **H2:** *Approach Job crafting (i.e., increasing challenging demands, increasing structural and increasing social resources) moderates the relationship between time and work engagement, such that when employees engage in a great deal of approach job crafting, the negative relationship between time and engagement will be stronger.*

Turning to avoidance crafting, previous research suggests that avoidance crafting may lead to burnout and decreased engagement, since avoiding dealing with demands may result in accumulation of demands that eventually drains employees' energy (Lichtenthaler and Fischbach, 2019). However, in the context of a major stress event in which the working conditions abruptly change, we argue that avoidance crafting may serve as a preserving mechanism that can actually mitigate the decrease in work engagement. Avoidance crafting (i.e., decreasing hindering demands) may be an effective coping strategy in the face of excessive job demands (Zhang and Parker, 2019), such as the ones brought upon by the pandemic and the sudden transition to working from home. Thus, we hypothesize that:

- **H3:** *Avoidance Job crafting (i.e., decreasing hindering demands) moderates the relationship between time and work engagement, such that when employees engage in a great deal of avoidance job crafting, the negative relationship between time and engagement will be weaker.*

## 3 Materials and methods

### 3.1 Sample and procedure

We used a sample of employees from different organizations across the U.S. randomly recruited through the Amazon

Mechanical Turk platform. The data was collected from each participant at three points in time. Time 0 (T0) data were collected in April 2020, at the onset of the pandemic, approximately a month after a national health emergency was announced in the U.S., Time 1 (T1) data were collected 3 weeks later, and Time 2 (T2) data were collected 3 weeks after T1; overall, a period of 6-weeks. Hence, the study focuses on the first stages of the transition, targeting employees' initial attitudes, perceptions and adjustment responses to the abrupt transitioning to working from home. Participants received a monetary reward each time they completed the survey (\$2.50–\$5.00). The current research received the required ethics committee approval. Participants were included in the sample if they met all of the following criteria: (1) moved to work from home due to the pandemic, (2) worked from home at T0, (3) were 18–70 years old, (4) worked for an organization (i.e., not freelancers). In addition, following Aguinis et al. (2021) recommendation, in each wave of data collection, a different set of attention checks were implemented in the survey, to make sure participants were actually reading the items and answering accordingly. We used both open questions (e.g., “who is the current president of the U.S.?”; “what was the year 2 years ago?”) and closed questions (e.g., “please mark the third star”). Only participants who answered correctly both questions on each survey were included in the final sample. In addition, since average time for completing the surveys was estimated to be approximately 15 min, participants who completed the survey in <5 min were also excluded from the final sample.

The final sample included 143 employees who completed the online survey at all three times (the response rate was 76% from T0 to T1, and 74% from T1 to T2). This is in accordance with previous literature examining longitudinal M-Turk data, proving its reliability and generalizability (Daly and Natarajan, 2015). When comparing the demographic variables between those who did not continue to participate in the study and those who did, we found no significant differences between these two groups. In the final sample, the mean age was 37.36 years (SD = 9.89); 42.3% were women and 50% had children. As for workers' industry, 25.9% participants identified as working in the service sector, 24.5% in high tech, 10.5% in health care, 8.4% work in retail, 8.4% in manufacturing, 3.5% in the construction industry and 18.9% have reported working in “other” industry. 56.3% were working in an industry relatively less affected by the transition to remote work. This includes health care, hi-tech (in which remote work was relatively familiar), retail and other. 43.7% were working in an industry more affected by the transition to remote work, such as services, manufacturing and construction, in which remote work was less used prior to the pandemic. The mean of seniority in the current job was 6.37 years (ranging from 1 year to 40) and 53.5% worked from home before the pandemic.

## 3.2 Measures

### 3.2.1 Dependent variable

We assessed the dependent variable, work engagement, three times (T0, T1, T2) using the 17-item Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002b). This scale was designed to measure employees' engagement using the three-factor structure of engagement: vigor, dedication, and absorption. A sample item is

“When I am working, I feel bursting with energy.” Respondents were asked to rate the frequency with which they experienced the feeling in each statement using a 7-point Likert-type scale (1 = never; 7 = always).

### 3.2.2 Independent variables

The first independent variable was *time*. We coded it as a categorical variable with three values based on the three points in times that data was collected (T0 = 0, T1 = 1 and T2 = 2). *Job crafting* was assessed using 20 items from the Job Crafting Scale (Tims et al., 2012). This scale was designed to measure job crafting behavior based on the four job crafting dimensions: increasing social job resources, increasing structural job resources, increasing challenging job demands, and reducing hindering job demands. A sample item for increasing social job resources dimension is “I ask others for feedback on my job performance.” A sample item for increasing structural resources dimension is “I try to develop myself professionally.” A sample item for reducing hindering demands dimension is “I make sure that my work is mentally less intense.” A sample item for increasing challenging demands dimension is “When an interesting project comes along, I offer myself proactively as project co-worker.” Respondents were asked to indicate the extent to which they engaged in each behavior or cognition using a 6-point Likert-type scale (1 = never; 6 = often). Since we examined the way a tendency for job crafting, as a *pre-change* tendency, will be related to the *post-change* decrease in engagement, we measure job crafting at T0. We also measured job crafting at T1, to make sure job crafting can be considered a stable rather than a dynamic construct. We compared the means of participant’s job crafting on each sub-scale between T0 and T1 and found no significant differences [*subscale 1 (i.e., increasing social job resources)*:  $t_{(142)} = 1.649$ , n.s.; *subscale 2 (i.e., reducing hindering job demands)*:  $t_{(142)} = 0.223$ , n.s.; *subscale 3 (i.e., increasing structural resources dimension)*:  $t_{(142)} = 0.853$ , n.s.; *subscale 4 (i.e., increasing challenging demands)*:  $t_{(142)} = 0.253$ , n.s].

### 3.2.3 Control variables

We used previous experience with remote work as a control variable in order to examine our proposed effects above and beyond employees’ current experience. Participants were asked to indicate whether they had worked from home before COVID-19, either partially or full time, or hadn’t worked from home at all before COVID-19. While this variable originally had three levels (i.e., haven’t worked from home before, worked partially, worked from home full time), we re-scaled it to include only two levels (i.e., worked from home before, had not worked from home) to make the model simpler, after no differences were found between the models when using either of the categorization. In addition, participants were asked to answer a few demographic questions including gender, age, seniority in their current job and the industry they worked in. We included the last variable in our measurements because in some industries such as low-tech industries, the introduction of remote work arrangements has rarely been used before the pandemic, a factor that might affect employees’ experience during the transition to remote work.

## 3.3 Data analysis

We used a multilevel linear model (MLM) with the SAS PROC MIXED procedure (Jones and Huddleston, 2009), which takes into account a nested data structure (multiple work engagement measurements nested within each participant; see for example Azoulay and Orkibi, 2018). This analysis takes the natural hierarchical data structure into account as measurements are nested within cases. Engagement was measured at T0, T1, and T2 for each participant, representing a within-person variable. Job crafting strategies measured at T0 represented the between-person variable. Changes in engagement were represented by the inclusion of time as a predictor, indicating the extent to which engagement changed within a person over time. Interactions between time and job crafting indicated that job crafting was related to the changes in engagement over time (for SAS syntax see Appendix A). When examining the changes in engagement over time, none of the demographic variables such as gender, age, seniority and industry exhibited a significant relationship with this change. Thus, the final models included only previous home-based remote work as a control variable. In addition, we conducted an invariance analysis for work engagement, examining configural, metric and scalar invariance analyses. The  $\Delta CFI$  and  $\Delta RMSEA$  between the configural and metric invariance analysis was  $-0.002$  and  $0.004$  respectively and between the metric and scalar invariance analysis was  $0.000$  and  $0.004$  respectively. Thus, our measurement model shows invariance over time (see Assunção et al., 2020). Table 1 displays the means, standard deviations, Alpha Cronbach’s and inter-correlations among the study’s variables.

## 4 Results

Hypothesis 1 predicted that time would be negatively related to work engagement. To test this hypothesis, we regressed work engagement on time. Results demonstrated that engagement declined significantly over time ( $\gamma = -0.1$ ,  $SE = 0.05$ ,  $p < 0.05$ ; see Model 1 in Table 2). Hypothesis 2 predicted that approach job crafting would be related to the changes in engagement over time such that when employees engaged in a greater deal of approach job crafting, the negative relationship between time and engagement would be stronger. Hypothesis 3 predicted that avoidance job crafting would be related to the changes in engagement over time such that when employees engaged in a greater deal of avoidance job crafting, the negative relationship between time and engagement would be weaker. To test these hypotheses, we examined the interactions between time and each of the job crafting sub-scales. As can be seen in Model 3 of Table 2, the two-way interaction between time and increasing structural resources (i.e., approach crafting strategy) was not significant ( $\gamma = -0.05$ ,  $SE = 0.04$ , n.s.). The two-way interaction between time and decreasing hindering job demands (i.e., avoidance crafting strategy) was not significant ( $\gamma = -0.03$ ,  $SE = 0.03$ , n.s.). The two-way interaction between time and increasing social job resources (i.e., approach crafting strategy) was not significant ( $\gamma = 0.004$ ,  $SE = 0.03$ , n.s.). The only interaction found significant, was the interaction between time and job crafting strategy of increasing challenging demands ( $\gamma = -0.09$ ,  $SE = 0.03$ ,  $p <$

TABLE 1 Descriptive statistics and correlations.

Variable	Mean	SD	Alpha Cronbach	1.	2.	3.	4.	5.	6.	7.	8.
1. Age	37.28	9.89		-							
2. Seniority	6.37	5.17		0.300**	-						
3. JC ISR	4.92	0.84	0.833	0.08	0.14	-					
4. JC DHD	4.02	1.12	0.831	-0.06	-0.01	0.33**	-				
5. JC ISOR	4.02	1.18	0.839	-0.14	0.09	0.47**	0.45**	-			
6. JC ICD	4.18	1.07	0.814	0.03	0.26**	0.63**	0.26**	0.54**	-		
7. WE T0	5.02	1.1	0.942	0.12	0.15	0.71**	0.37**	0.61**	0.72**	-	
8. WE T1	4.84	1.12	0.940	0.11	0.204*	0.55**	0.203*	0.49**	0.57**	0.75**	-
9. WE T2	4.81	0.98	0.934	0.11	0.07	0.56**	0.26**	0.51**	0.500**	0.74**	0.79**

JC, job crafting; ISR, Increasing structural job resources; DHD, Decreasing hindering job demands; ISOR, Increasing social job resources; ICD, Increasing challenging job demands; WE, Work engagement.

n = 143.

\*p < 0.05.

\*\*p < 0.01.

TABLE 2 Repeated measures regression with work engagement as the dependent variable.

Effect	Model 1		Model 2		Model 3	
	Estimate	SE	Estimate	SE	Estimate	SE
Intercept	5***	0.09	4.97***	0.13	-0.003	0.34
Time	-0.1**	0.03	-0.1*	0.05	0.68***	0.18
PHBR			0.05	0.18	-0.02	0.11
Time* PHBR			0.01	0.06	-0.02	0.06
Job crafting ISR					0.56***	0.08
Time* Job crafting ISR					-0.05	0.04
Job crafting DHD					0.05	0.05
Time* Job crafting DHD					-0.03	0.03
Job crafting ISOR					0.24***	0.06
Time* Job crafting ISOR					0.004	0.03
Job crafting ICD					0.25	0.06
Time* Job crafting ICD					-0.09**	0.03
-2 Log likelihood		992.7		992.5		840.5
Δ-2 Log likelihood				0.2		152***

ISR, Increasing structural job resources; DHD, Decreasing hindering job demands; ISOR, Increasing social job resources; ICD, Increasing challenging job demands; PHBR, Previous home-based remote work.

n = 143.

\*p < 0.05.

\*\*p < 0.01.

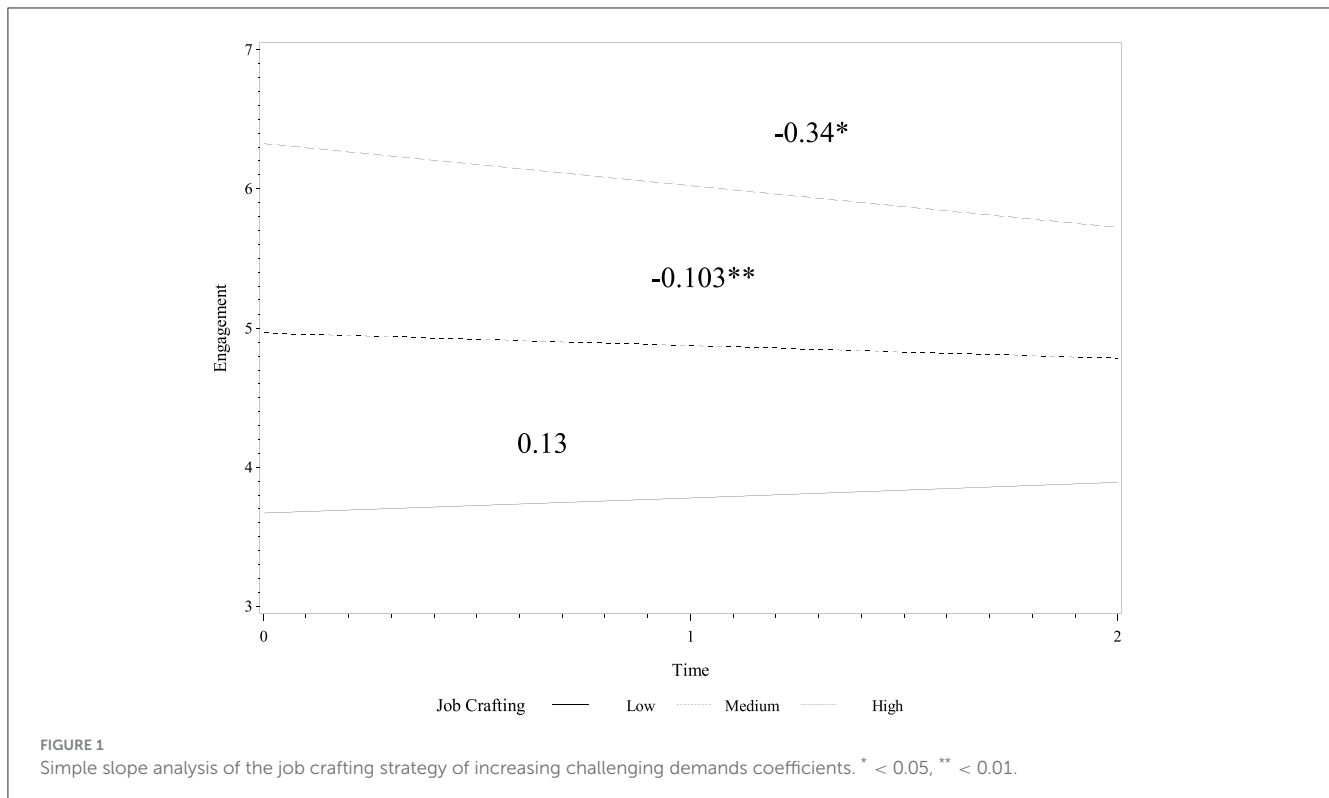
\*\*\*p < 0.001.

0.01). As can be seen in Figure 1, a simple slopes analysis showed that high and medium levels of increasing challenging demands were significantly and negatively related to the changes in engagement over time, whereas low levels of increasing challenging demands were not. Thus, hypothesis 2 was partially supported with only one type of approach crafting (i.e., increasing challenging demands) found to be significantly related to the changes in engagement over time, indicating that indeed high levels of the use of this strategy are related to a more extreme decrease in work engagement. Avoidance crafting was not related to the

changes in engagement over time, providing no support for hypothesis 3.

## 5 Discussion

In this research, we investigated the relationship between time and engagement in the context of an abrupt shift to remote work and the way job crafting interfere with this relationship. We found a negative relationship between time and engagement, such that



engagement of employees who moved to work from home declined over time. Using a combination of the JD-R model and the COR theory as a resource based theoretical framework, the decrease in work engagement was likely to result from the ongoing imbalance between the demands of the employees' jobs and the resources they had to meet them. At the initial stage of the transitioning to remote work, employees' efforts were likely directed toward having to suddenly adjust to home-based conditions and their implications. In doing so, they exhausted any pre-existing resources. According to the JD-R model, when job demands exceed the resources that employees have for dealing with them, their reaction is burnout rather than engagement. Thus, it is reasonable to assume that the sudden transitioning to enforced remote work prompted a decline in the level of employees' engagement. In addition, as COR theory suggests, (Hobfoll et al., 1990), a continuous experience of resource loss and increased demands can lead to the depletion of more resources. Hence, it is possible that a spiral loss of resources is the basis for the continuing drop in employees' engagement. Another explanation for our finding regarding the decline in engagement is that the decline in engagement over time is actually a manifestation of disengagement. Following the conservation of resources theory that people try to minimize their net loss of resources (Hobfoll, 1989), individuals may simply withdraw from the situation to prevent further loss of resources (Whitman et al., 2014). Though we didn't measure disengagement directly, it may be that the observed decline in engagement is actually an expression of employees' disengagement from work, as a strategy to minimize further resources loss.

The most interesting finding in the current study is that the approach job crafting strategy of increasing challenging demands

was related to the changes in engagement over time, such that for employees with strong tendency to craft their jobs by increasing challenging demands, the decline in work engagement over time was more substantial. As theorized, in normal circumstances, employees might be tempted to pursue more challenging demands with the goal of increasing their work engagement by enhancing their workload or choosing tasks that require acquiring new skills. Increasing challenging demands in regular times functions as a resource accumulation, as these demands motivate employees and foster their wellbeing (Hobfoll, 2011). However, pursuing this strategy at the onset of an abrupt change to remote work had the opposite effect. Having taken on extra tasks at such a time likely enhanced their workload and required even more resources to handle. Over time, this extra load seems to have depleted their resources and they were not able to remain engaged. In addition, in a unique stress context such as the one provided by the pandemic and its following transition to remote work, the motivational role of these demands may diminish as employees try to preserve resources and avoid losing more of them, differently prioritizing their use of energy.

Surprisingly, for employees with a low tendency to craft their jobs by increasing challenging demands, there was no significant relationship between time and engagement. One might expect that the decline in engagement for this group of employees would be less salient, but the results demonstrated no significant drop at all. One possible explanation is that employees who do not tend to engage in this type of job crafting rely on other strategies to maintain their fit with their job. Perhaps different forms of job crafting (e.g., role-based job crafting; Wrzesniewski and Dutton, 2001) not measured in this study, or other coping mechanisms helped them adjust more



easily to the new working conditions, helping them maintain their level of engagement. Yet, it is important to note, as we discuss later, that their level of work engagement was not very high to begin with.

In contrast to our hypothesis, the other approach job crafting strategies, i.e., increasing structural resources and increasing social resources did not impact the changes in engagement at all. Contrary to our theorizing, the pre-transition tendency to craft one's job by increasing structural and social resources did not intensify the drop in work engagement. One explanation might be that these strategies are less draining than increasing challenging demands in this specific context. Perhaps, in the context of an abrupt transition to remote work employees understand that social and structural resources will have to be changed, making their use perceived as less draining. For example, in a situation when managers have to work from home too, sharing their space with other family members, their availability to their subordinates may decrease compares to their availability prior the transition to remote work. In such a case, for employees, increasing a social resource such as supervisor support may seem more straightforward and more necessary, thus less draining (i.e., at least in comparison to increasing challenging demands which is less straight forward and more likely to feel like a burden).

Turning to our third hypothesis, that avoidance job crafting strategies (i.e., decreasing hindering demands) will result in a lower decrease in engagement, our findings show no support for such a hypothesis. Contrary to our theorizing, avoidance crafting was not found to mitigate the decline in engagement. One explanation might be that although suggested as “a health-protecting coping mechanism” (Demerouti, 2014, p. 239), decreasing hindering demands is not sufficient on its own to protect against the decline in work engagement after such an abrupt change. It is important to note that this job crafting strategy, did not have any significant effect on the decrease in work engagement indicating that after an abrupt change, this strategy neither helps nor harms the change in engagement.

## 5.1 Theoretical and practical contribution

Our study offers several theoretical and practical contributions. First, our findings highlight the relevance of investigating engagement as a dynamic construct rather than a stable one. By showing that employees' work engagement dropped over the first weeks after the abrupt transition to remote work, we support to the growing understanding that a onetime assessment of engagement may provide a very partial picture. In addition, daily fluctuations that tend to be stabilized over longer periods of time (Lesener et al., 2020; Mäkikangas et al., 2016) may also miss relevant dynamics of work engagement. Since previous research suggests that enhancing work engagement during organizational change may play a role in predicting its outcomes (Kaltainen et al., 2020), examining immediate trends in work engagement after abrupt changes occur may be of high importance. Thus, we add to the emerging literature of engagement as a changing phenomenon, calling for future studies to examine trends and dynamic changes in work engagement.

Second, we lean on previous work emphasizing the importance of distinguishing among the different dimensions of job crafting (e.g., Rudolph et al., 2017; Zhang and Parker, 2019) and contribute to the job crafting literature by showing that even when distinguishing between avoidance and approach crafting strategies, under some conditions, some elements of job crafting may actually be detrimental. Our findings suggest that under extreme change conditions, increasing challenging demands as a way to craft one's job may harm employees' ability to respond to a radical organizational change such as a sudden shift to work from home and maintain their level of engagement. Though not directly measured in our study, the framing of draining vs. not draining job crafting strategies may be significant in determining the consequences of these strategies under different situations. We suggest that future models of job crafting and their predicted outcomes should include an energy draining classification and consider the context in which job crafting take place. Drawing on Zhang and Parkers' (2018) hierarchical classification of job crafting types, adding a level of classification that distinguish between low energy-draining crafting and high energy-draining crafting could end up in additional types of job crafting. Future studies could empirically test whether, under specific contexts; some job crafting strategies are more draining than in other contexts and whether differences in the level of energy-drain indeed account for perceived outcomes. This understanding would have important implications for practice as well. In face of future changes and major stress events, HRM practitioners could encourage employees to reflect on their crafting strategies and whether under the changing conditions they continue to be efficient. Managers should also take into consideration that in different situations one strategy may be more or less draining, hence more or less harmful/beneficial, allocating demands and resources accordingly.

Last, focusing on the transitioning to remote work, we contribute to the remote work literature by suggesting that special attention should be paid to the “transitioning to remote work” phase. The factors that impact employees' adjustment to abrupt remote work transitions (e.g., van Zoonen et al., 2021) may be different than those that have been found to be important when comparing people who work remotely to those who so not. We call future research to differentiate between remote work as a stable work arrangement and transitioning to remote work as a phase and to investigate the evolving consequences associated with moving from office work to remote work.

## 5.2 Limitations and future research

As in any study, several limitations should be taken into consideration. First, the main limitation of our study is its cross-sectional nature. While we examined work engagement at three points in time, we obtained the information on the employees' work engagement and job crafting from individuals responding to the same survey, thus enhancing the probability of same-source bias. In addition, our data come from workers recruited via MTurk. Although our sample included several industries, findings may not generalize to all occupations. In addition, despite our interest in the initial stages of moving to working from

home, perhaps over time, after the change has been understood and employees have adjusted, employees manage to adjust to the new conditions enhancing their work engagement. In that case, the role of job crafting may return to its original effect. Future studies could examine whether the decrease in engagement flattens out over time, and whether the relationships between the pre-change strategies for job crafting to changes in engagement alters as well. In the same manner, in our model job crafting was considered as a pre-change tendency to craft resources and demands, that predicts changes in engagement over time. However, recent work by Lopper et al. (2023) has suggested a reciprocal relationship between the two constructs, highlighting the importance in examining the dynamic and temporal aspects of job crafting as well. Thus, future research could continue to examine the reciprocal relationships between job crafting and engagement, taking into consideration the way external factors, such as disruptive events relate to these relationships. Another limitation may be that while we saw a link between job crafting tendencies at T0 to changes in engagement over three points of time, we did not measure actual changes in demands and resources. Selecting relevant actual demands such as workload, and cognitive and emotional demands and resources such as peer and organizational support, and measuring them as part of the research model would strengthen the results. In addition, directly measuring employees' perceptions regarding the magnitude of the transition and how demanding they perceive it to be would have helped to broaden the understanding on the mechanisms explaining the relationships found in the study. Last, though playing a major role in our theorizing, the context of the study (i.e., transitioning to remote work due to of COVID-10 pandemic) was not operationalized as a variable rather as a constant. We did not compare between "routine" to "crisis" contexts, hence suggestions regarding the role of the context in determining job crafting strategies consequences require further empirical invitation. We also did not collect data before the outbreak of the pandemic and could not compare individuals' trends in engagement to their pre-pandemic level of engagement. Indeed, as can be seen from the simple slopes analysis in Figure 1, those with high job crafting started from a higher engagement level to begin with compared to those who were not using job crafting strategies. Having "before" data would have helped to shed light on the severity of the decline. Thus, future research should both compare different contexts and find ways to examine job crafting and engagement before the change occurs.

## 6 Conclusions

To conclude, our study highlights the importance in examining engagement as a dynamic construct, as well as in distinguishing among the different dimensions of job crafting under different contexts. Future disruption events (e.g., the next pandemic; Osterholm, 2020) may again lead organizations to suddenly shift

to remote work or create other abrupt changes yet to be predicted. This stresses the importance in understanding the impact of transitioning from one form of working arrangement to the other, the implications of such transitions on engagement and wellbeing and factors mitigating the potential negative implications.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

The studies involving humans were approved by School of Psychology Review Board, Reichman University. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

NB: Project administration, Methodology, Formal analysis, Data curation, Writing – review & editing, Writing – original draft. TK-N: Validation, Supervision, Writing – review & editing, Writing – original draft. DV: Validation, Supervision, Methodology, Formal analysis, Writing – review & editing, Writing – original draft. HH: Supervision, Writing – review & editing, Writing – original draft.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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## 7 Appendix A

**SAS syntax for the interaction effect model predicting work engagement below:**

```
proc mixed data = engagement method=ml covtest;  
class id WorkedBefore;  
model WorkEngagement_scale = time|WorkedBefore_bin  
time|JC0_sub1 time|JC0_sub2 time|JC0_sub3 time|JC0_sub4  
/solution ;  
repeated / type=un subject= id;  
run;
```

*id* is the variable identifying each participant; *WorkEngagement* is the work engagement scale score measured at each point in time, *time* is a variable that represents the three points in time in which data was collected (i.e., 0, 1, 2) *WorkedBefore* is a binary variable indicating whether the participant worked before from home either full or part time or not. *JC0\_sub1- JC0\_sub4* are the sub scales for the job crafting construct measured at T0. The repeated statement allows for correlated residuals within participants.