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The Role of Work Engagement and Self-Efficacy in the Relationship between Work Condition and Perceived Meaningfulness

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Abstract

The COVID-19 pandemic was a catalyst for the increase of remote work in recent years, yet the effect of working from home on how employees perceive the meaning of their work is unclear. Moreover, the contribution that individual differences such as work engagement and self-efficacy might have in this possible relationship has not received much research attention. The present study aimed to investigate the relationship between work condition and the meaning of work as well as the possible mediating role of work engagement and the possible moderating role of self-efficacy. The study was a within-subjects cross-sectional design. Participants were 119 employed individuals over the age of 18 that completed our questionnaire to measure the meaning of work, work engagement, work condition and self-efficacy. Their responses were analyzed with a moderated mediation analysis using PROCESS in SPSS. The current results reveal an insignificant relationship between work condition, work engagement, self-efficacy, and meaning of work. These findings demonstrate that work engagement does not function as a mediator in the relationship between work condition and meaning of work, and that self-efficacy does not play a moderating role in this relationship either. The insignificant findings may be due to methodological or conceptual limitations of the present research and suggestions for future research are proposed.

Keywords: meaning of work, work engagement, self-efficacy, working from home

The Role of Work Engagement and Self-Efficacy in the Relationship between Work Condition and Perceived Meaningfulness.

In recent years, the work climate has changed drastically. The COVID-19 pandemic forced employees worldwide into an abrupt transition from working in an office to working online from their homes, temporarily making remote work the most common form of work for office workers (Sokolic, 2022). During the pandemic and especially during the periods of enforced lockdowns of corporate workplaces, the proportion of employees in the Netherlands working completely from home was around 39% (De Haas et al., 2020). Compared to pre-pandemic levels, this represents an increase of more than 500%. Even after the pandemic, employees report that the average number of hours worked from home is still double compared to reports before the pandemic (Faber et al., 2023). The global pandemic has been a catalyst for reshaping conventional working practices and accelerating the integration of remote working (Šmite et al., 2023a, 2023b). Now, the pandemic has made a lasting impact on society and the workplace alike, as many employees continue to work remotely, and organisations must accommodate this more readily.

The continuation of remote work after the pandemic is largely due to employees' positive experiences with working from home, along with investments and innovations that support working-from-home arrangements such as teleconferencing software, remote collaboration tools, and ergonomic home office supplies (Barrero et al., 2021). Remote work is defined as work that occurs outside a designated workplace, such as corporate offices, and is often synonymous with working from home (Vartiainen, 2021). The transition to remote work challenged employees and companies alike and has changed some of the most important features of jobs, such as information sharing, communication patterns, and the conception of the workplace (Šmite et al., 2023; Sokolic, 2022). This development has not only brought about significant changes in the way work is conducted but, more crucially, has transformed employees' perceptions of work (Sokolic, 2022).

One important aspect of employees' perceptions of work is the significance employees derive from engaging in work activities. This notion, termed the *meaning of work*, aligns with the concept of experienced meaningfulness at work, introduced by Hackman and Oldham (1976). This concept entails the perceived significance, value, or meaning individuals attribute to work. Many people want their careers and the time they spend working to mean something (Steger et al., 2012). The meaning of work matters because it has

consistently demonstrated benefits for both employees and organisations, including greater well-being and job satisfaction (e.g., Steger et al., 2012). Moreover, employees' experienced meaning of work serves as a predictor for motivation and positive performance (Han et al., 2021). These outcomes are beneficial for employees as well as organisations, because employee satisfaction has been revealed to play a crucial role in defining organisational success (Naseem et al., 2011). Therefore, investigating the meaning of work holds substantial value within an organisational context. Although remote work has become more widespread, its effect on employees' perception of meaning of work still needs to be established (Sokolic, 2022) as the influence of working from home on employees' perception of the meaning of work remains unclear. Therefore, the current research aims to investigate whether an employee's work condition (e.g. working from the office or from home) influences the perception of the meaning of their work.

Another important facet of employees' experience at work is their level of engagement in their work. Work engagement is a positive, fulfilling state of mind characterized by dedication, absorption, and vigour (Schaufeli et al., 2002). Moreover, work engagement describes the extent to which an employee is committed to and involved with their work (Macey & Schneider, 2008). Earlier studies have linked working from home to employees' level of work engagement (De Spiegelaere et al., 2016; Mäkikangas et al., 2022; Mehta, 2021). Moreover, work engagement is related to employees' perception of meaningfulness of work, as a higher level of work engagement is associated with a perception of greater meaning (Geldenhuis et al., 2014). However, the way these concepts precisely relate to each other in the context of working from home is still unclear and this study aims to advance understanding of this relationship. The current study suggests that an employee's level of work engagement is a mediating factor in the relationship between the work condition and the employee's perception of the meaning of work.

One challenge of remote work that employees report is the struggle with feeling as productive when working from home as when working from the office which suggests that self-efficacy may have a role to play (Šmite et al., 2023). Self-efficacy is a psychological concept that refers to one's intrinsic belief that one can accomplish a task and is associated with increased performance and productivity (Bandura, 1977). Literature shows that self-efficacy facilitates a sense of personal autonomy or control, successful navigation of obstacles, as well as personal initiative and responsibility (Baumeister & Vohs, 2002; Gecas, 1991; Wrzesniewski & Dutton, 2001). Moreover, individuals who feel efficacious report experiencing a heightened level of meaningfulness (Dik et al., 2013). Therefore, self-efficacy

is thought to contribute to an individual's sense of meaningfulness at work. In the current study, it is argued that self-efficacy potentially buffers the negative effects of the challenges of remote work and therefore moderates the relationship between work conditions and the meaning of work. Additionally, employees with high self-efficacy are intrinsically motivated and believe in their ability to meet job demands, which triggers higher work engagement (Tian et al., 2019). So, an employee's level of self-efficacy increases their productivity and is positively associated with their level of work engagement. Employees with a higher level of self-efficacy may struggle less with the challenges of remote work and feel dedicated and engaged in their jobs. Therefore, this study suggests self-efficacy to be a moderating factor in the relationship between work condition and work engagement.

As demonstrated, these previously mentioned concepts relate to each other in multiple ways. In addition, our study aims to clarify and advance understanding of the relationship between these concepts. This study investigates the following questions:
How does work condition influence the meaning of work what role do self-efficacy and work engagement play in this relationship?

Meaning of Work

Hackman and Oldham (1976) introduced the meaning of work as the perceived significance or meaning employees attribute to their professional experiences. The concept of meaningfulness in professional experiences was first outlined in their Job Characteristics Model (JCM; Hackman & Oldham, 1976), which stands as a cornerstone in work design analyses. The model postulates the intricate interplay between five dimensions (task variety, task significance, task identity, autonomy, and feedback) and their consequential impact and influence on three psychological states (meaningfulness, responsibility, and knowledge of results). These psychological states lead to discernible work outcomes, including motivation, job satisfaction, absenteeism, turnover, and productivity (DeVaro et al., 2007). According to the JCM, job characteristics have a significant influence on the sense of meaning that employees experience in their job, and recent studies have publicized evidence in support of this relationship (Allan et al., 2018; Han et al., 2021). Therefore, researchers often employ the JCM as a framework to determine whether changes in job design influence employee's perceptions of their jobs. In the current study, working from home is framed in the Job Characteristics Model to determine what influence job characteristics of remote work have on the perception of work.

Work Condition

Literature shows that despite the prevalence of remote work, its effect on employees is still unclear (Saad, 2022). However, there is evidence to suggest that working remotely might negatively impact an employee's level of experienced meaningfulness (e.g., Šmite et al., 2023). For example, Felfe and colleagues (2022) illustrated the challenges of working from home. In their study, employees rated workplace conditions, such as ergonomics and sufficient space, worse at their home offices compared to their designated in-office workspace. Moreover, technical problems, such as connectivity issues, are more frequent at home, and communication is more cumbersome and complicated with new tools and software. Other studies reported that work hours have increased for many employees, while socialization, physical activity, pairing and opportunities to connect to colleagues have decreased when working from home (Mäkikangas et al., 2022; Šmite et al., 2023). Taken together, these reported challenges of working from home suggest that working from home has a negative effect on employees and their perceptions of work, which includes the meaning employees experience in their work (Sokolic, 2022).

When framing remote work in the Job Characteristics Model (Hackman & Oldham, 1976), it demonstrates how working from home alters the core job dimensions (task variety, task significance, task identity, autonomy, feedback) for many employees. Job dimensions such as the variety, significance, and identity of tasks are shifted and potentially hindered due to the addition of teleconferencing software and remote collaboration tools, for instance (Barrero et al., 2021). Moreover, specific work characteristics have been identified that are unique to hybrid work, such as boundarylessness, non-work-related interruptions, multitasking, and demand for constant learning (Xie et al., 2019). Additionally, employees report higher levels of autonomy in terms of flexibility and freedom of time management when working from home, as well as less feedback due to reduced contact and difficulties in digital communication between leaders and employees (Avolio et al., 2000; Felfe et al., 2022). These studies reveal that working from home drastically changes the nature of office jobs and therefore alters the job dimensions significantly. According to the framework of the JCM (Hackman & Oldham, 1976), the five job dimensions are the main influences on the three psychological states, including meaningfulness. The model postulates that changes in the core job dimensions will affect and potentially alter the employees' perception of meaningfulness. Taken together with previously mentioned perspectives on the negative impact of working from home on the meaning of work, the current study hypothesizes that

work condition has an influence on the perception of meaning of work of employees and this is thought to be a negative effect.

Hypothesis 1: Work condition has a significant negative relationship with meaning of work.

Work Engagement

Work engagement describes the extent to which an employee is committed to and involved with their work. Previous literature demonstrated that an employee's level of work engagement is negatively related to working from home (Šmite et al., 2023). More specifically, one study revealed that although many employees experienced a stable level of work engagement after shifting to remote work, a quarter of employees experienced a decrease in work engagement when working remotely compared to working in-office (Mäkikangas et al., 2022). Another study found that over half of employees report lower work engagement when working from home (Amano et al., 2021). The literature suggests that this reduction in work engagement when working from home could be due to the isolation that employees experience (Felfe et al., 2022). Evidence reveals that work engagement is influenced by leader-member exchange, where an employee's work engagement is enforced by receiving feedback and acknowledgment from their superior (Monica, 2019). When working from home, employees experience reduced contact with their colleagues and leader (Felfe et al., 2022). Additionally, leaders have reported difficulties in motivating and maintaining their followers' trust in work ethics and engagement when employees work remotely (Avolio et al., 2000). So, the leader-member exchange suffers from remote work, which might be a mechanism that results in decreased levels of work engagement. Indeed, previous studies have revealed that reduced communication with superiors negatively impacts employees' work engagement when working from home (Amano et al., 2021). As previously mentioned, work engagement is a main contributor to an employee's perception of meaning of work (Geldenhuis et al., 2014). Moreover, a previous study publicized evidence of work engagement as a mediator between supervisor support and experienced meaningfulness (Panda et al., 2022). Based on this evidence, work engagement is suggested to be the explanatory factor in the negative effect that working from home has on work meaningfulness. Therefore, this study hypothesises that work engagement is an explanatory mediating factor in the relationship between work condition and employees' perception of meaning of work.

Hypothesis 2: Work engagement is a mediator in the relationship between work condition and meaning of work.

Self-Efficacy

Self-efficacy is argued to explain the processes through which work comes to be meaningful (Dik et al., 2013; Rosso et al., 2010). A review of the literature shows multiple ways in which the experience of self-efficacy leads to greater meaningfulness in work, such as through perceived positive impact (Rosso et al., 2010); feelings of competence (Gecas, 1991); and perceived autonomy (Baumeister & Vohs, 2002; Wrzesniewski & Dutton, 2001). Generally, it is argued that experiencing self-efficacy at work contributes to a sense of meaningfulness because it empowers individuals to feel capable and competent in making a difference or exerting control over their environment (Baumeister & Vohs, 2002; Gecas, 1991). For example, it is argued that people need to see themselves as capable and self-determining to reassure them that they are agentic actors rather than powerless individuals, which brings a sense of meaningfulness (Baumeister, 1998; Wrzesniewski & Dutton, 2001).

As previously stated, working from home is thought to decrease the level of experienced meaningfulness in one's work (Šmite et al., 2023). Previous studies showed the positive effects of self-efficacy when working from home, such as reducing the level of technological stress and increasing a sense of support and peer engagement (Lathabhavan & Griffiths, 2024), yet the impact on the meaning of work is unclear. However, as mentioned, self-efficacy is shown to increase the sense of meaning of work under regular working circumstances (e.g., Rosso et al., 2010). Therefore, it is argued that the positive impact of self-efficacy in remote work extends to enhancing the experience of meaningfulness and self-efficacy reduces the negative effect that working from home might have on work meaningfulness. The current study hypothesizes that self-efficacy plays a moderating role in the relationship between work condition and meaning of work, and this is thought to be a buffering one.

Furthermore, literature shows that an individual's level of self-efficacy plays a role in enhancing work engagement (e.g., Luthans & Youssef, 2007). The experience of self-efficacy at work facilitates a sense of personal control, autonomy, initiative, and responsibility which in turn increases an employee's level of work engagement (Baumeister & Vohs, 2002; Rosso et al., 2010). Moreover, employees with high self-efficacy are intrinsically motivated and believe in their capability in meeting job demands, which triggers higher work engagement (Luthans & Youssef, 2007; Wang et al., 2019). This evidence suggests that self-efficacy has a

positive impact on employees' level of work engagement, and this finding extends to remote work (Lathabhavan & Griffiths, 2024). As previously stated, working from home is thought to negatively impact work engagement (Mäkikangas et al., 2022). Yet, self-efficacy is suggested to reduce the negative impact of working from home on an employee's meaning of work. Therefore, the current study hypothesizes that self-efficacy plays a buffering moderating role in the relationship between work condition and work engagement.

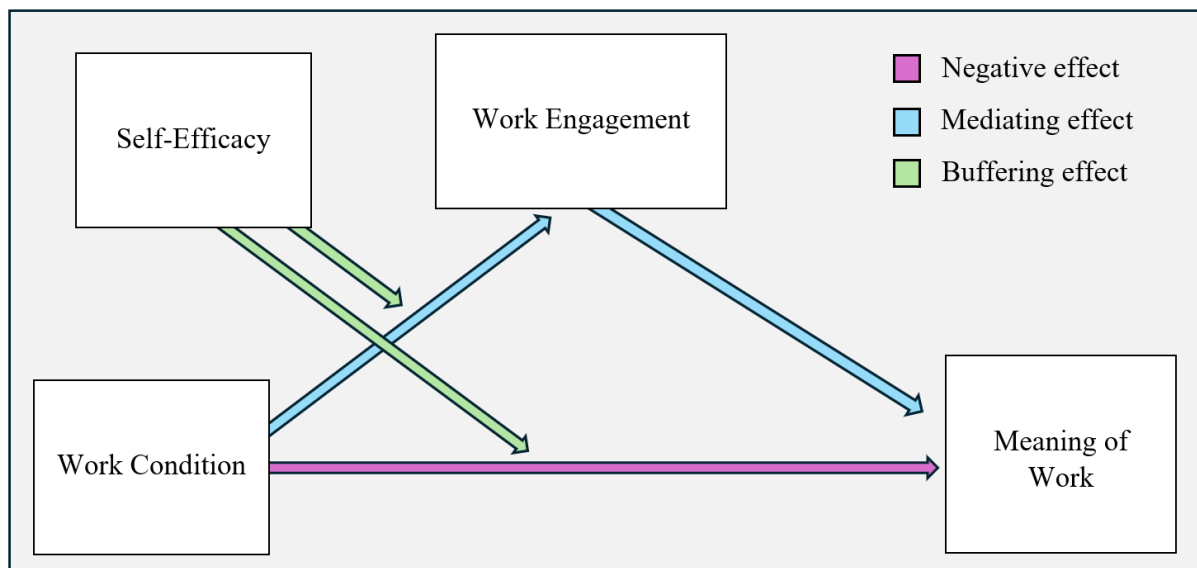
Hypothesis 3: Self-efficacy buffers the negative effect of work condition on meaning of work.

Hypothesis 4: Self-efficacy buffers the negative effect of work condition on work engagement.

In summary, the current study suggests a dynamic interplay between working from home, self-efficacy, and work engagement that shapes how employees perceive and derive meaning from their jobs. In *Figure 1* an overview of the current hypotheses of this research model can be found.

Figure 1

Visual Representation of Hypotheses



Methods

Participants

For the current study, 119 participants voluntarily participated in this study, consisting of 60.5% women, 36.1% men, and 3.4% who would rather not say or specify their gender (male $N = 43$, female $N = 72$, other $N = 4$). The participants were aged between 18 and 63, with a mean age of 33 ($SD = 11.84$). Moreover, over 97.5% of the participants were employed in the Netherlands ($N = 116$), the other participants were employed in Germany ($N = 1$), Estonia ($N = 1$), and the United States of America ($N = 1$). Most participants reported having completed a university-level master's degree (37.8%, $N = 45$) or gained a diploma in higher professional education (HBO) (24.4%, $N = 29$). Furthermore, 32.8% of participants reported to be a parent or caregiver of children ($N = 39$).

In the current sample, most participants were employed in the work field of Education, culture and science (22.7%), followed by Healthcare and well-being (15.1%), Trade and services (15.1%), Media and communication (12.6%), Technology, production and construction (10.1%), ICT (8.4%), Tourism, recreation and hospitality (6.7%), Environment and agriculture (2.5%), and Transport and logistics (1.7%). Additionally, the length of employment was distributed quite evenly among participants, as 22.7% of participants reported being employed at their current job for under 1 year ($N = 27$), 28.6% reported being employed in their position for 1 to 2 years ($N = 34$), and 22.7% of participants stated that they had been employed for 2-5 years ($N = 27$). The remaining quarter of participants are employed in their positions for longer than 5 years ($N = 31$). Moreover, most participants reported having a 5-day workweek (45.4%, $N = 54$). On average, participants reported working 30 hours per week ($M = 30.48$, $SD = 11.86$) with a minimum of 0 and a maximum of 60 hours. Additionally, participants reported that they generally worked 65% of their weekly hours from the office or designated workspace ($M = 18.99$, $SD = 12.64$), with a minimum of 0 and a maximum of 60. In the current sample, 64.7% of participants reported working hybrid ($N = 77$), and 38.7% worked more than 50% of their hours from outside the office ($N = 46$). When asked for the reason for their work condition, most participants reported working hybrid because it works for them (56.5%, $N = 52$), and another 8.7% of participants report it is because they feel like it suits their job ($N = 8$). About a fifth of participants reports working hybrid because their company or their job demands it (18.5%, $N = 17$). The remaining participants (16.3%) report other reasons for working hybrid, such as 'My office and home are connected' and 'My company is remote-first, but it is also my personal preference'.

Procedure

Recruitment of participants started in March 2024 and finished in June 2024. During this phase, volunteers interested in participating in the study clicked on the link in their invitation message to the questionnaire (Appendix 1) to participate in the study. Consequently, participants read the information letter and signed a consent form (Appendix 1). Then the participants filled out the rest of the questionnaire within the Qualtrics online environment on their laptop, tablet, or phone. The questionnaire generally took 15-20 minutes to complete. Participants could fill out the questionnaires at any time they wanted, and they were allowed to pause in between and resume later. Time

Half of the participants were recruited through personal networks by making use of our personal social media channels on LinkedIn, Instagram, and WhatsApp. These participants did not receive compensation for their participation. Additionally, the other half of the participants were recruited using Prolific. These participants received €2,40 for completing the questionnaire. The participants could withdraw at any moment from the study without any consequences. At enrollment, the inclusion criteria were that the participant was over 18 years of age and employed, either on contract or self-employed. During the study, participants were excluded if they opted out of the study for any reason.

Measures

This study's design was cross-sectional, with quantitative variables. The dependent variable was meaning of work. The independent variables were work condition, work engagement, and self-efficacy. The full questionnaire is included in Appendix 1.

Meaning of Work

Meaning of work was measured using the Work and Meaning Inventory (WAMI) by Steger and colleagues (2012). The WAMI is a self-report questionnaire comprising 10 items measuring the degree to which a person perceives their work as meaningful. The scale includes statements like "I have found a meaningful career." Items were rated on a 5-point scale ranging from 1 (absolutely untrue) to 5 (absolutely true). The total possible score for the scale is 50, with higher scores indicating greater meaning. A reliability analysis showed adequate internal consistency ($\alpha = .78$) for the WAMI.

Work Condition

Work condition was measured by asking participants to clarify how many hours per week they worked from the office or from home. From this, a percentage with a maximum of 100% was calculated to represent the amount of time worked in the office.

Work Engagement

Work engagement was measured using the Utrecht Work Engagement Scale (UWES) by Schaufeli and Bakker (2004). The UWES is a self-report questionnaire consisting of 17 items to assess the degree to which a person is engaged and absorbed with their work activities. The questionnaire asks to what extent a person feels they agree with statements such as “At my work I feel that I am bursting with energy.”. The items were rated on a 7-point scale from 0 (never) to 6 (always). The total possible score for the scale is 6, with higher scores indicating higher work engagement. A reliability analysis showed a good internal consistency ($\alpha = .92$) for the UWES.

Self-Efficacy

Self-efficacy was measured using the New General Self-Efficacy Scale by Chen and colleagues (2001). The New General Self-Efficacy Scale is a self-report questionnaire comprising 8 items measuring the degree to which a person perceives themselves as efficacious. The scale contains questions like “I will be able to achieve most of the goals that I set for myself.”. Items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total possible score for the scale is 5, with higher scores indicating higher self-efficacy. A reliability analysis showed a good internal consistency ($\alpha = .82$) for the New General Self-Efficacy Scale.

Data Analysis

The study was a within-subjects cross-sectional design, and the collected data was analyzed through a moderation and mediation analysis using PROCESS in SPSS. Before data cleaning, the original sample size was 196 participants. Twenty participants were removed because they did not consent to participate in the study and another 26 participants were excluded because they reported to be unemployed, which was an exclusion criterion. Furthermore, 31 participants did not complete the full questionnaire and were removed from the sample. The final sample size was $N = 119$ participants.

In the current study, meaning of work was quantitative and had a range of 5 to 50, where a higher score means greater meaning. Scoring of the WAMI consisted of summing across all 10 scale items. Work condition was treated as a continuous variable and had a range from 0 to 100, where a higher score means that the participant works more of their hours in-office and a lower score means that the participant works from home more. The scores were obtained by manually calculating the percentage of hours worked in-office out of the respondents' average total weekly work hours. Moreover, work engagement was quantitative and ranged from 0 to 6, where a higher score indicates higher work engagement. For the UWES the total score was obtained by averaging the rating of items by adding respondents' scores on each item and dividing the sum by the total number of items of the scale (17). Furthermore, self-efficacy was quantitative with a range from 1 to 5. For the analysis, the scores were divided into two levels, namely high self-efficacy and low-self-efficacy. The New General Self-Efficacy Scale scores were obtained by averaging the rating of items by adding respondents' answers to each item and dividing this sum by the total number of items (8). The total scores ranged from 1 to 5, and the overall mean score on the scale ($M = 3.92$) was used as a cut-off point to determine whether the score was categorized as either high or low.

To investigate the research question, a moderated mediation analysis was performed using these calculated scores in SPSS with PROCESS Model 8 by Hayes (2012). Meaning of work was the dependent variable, work condition was the independent variable, work engagement was the mediator, and self-efficacy was the moderator. Moreover, descriptives were calculated for age, gender, education level, country of residence, parenthood, work sector, length of employment, number of workdays, hybrid work and reasons for working hybrid. Additionally, an a priori power analysis was done and revealed that adequate power (.80) for a similar research design required a sample pool of 1446 participants. Furthermore, post hoc power analyses were done for the correlations, as well as a reliability analysis for each scale and exploratory analyses to investigate the effect of potential confounding variables.

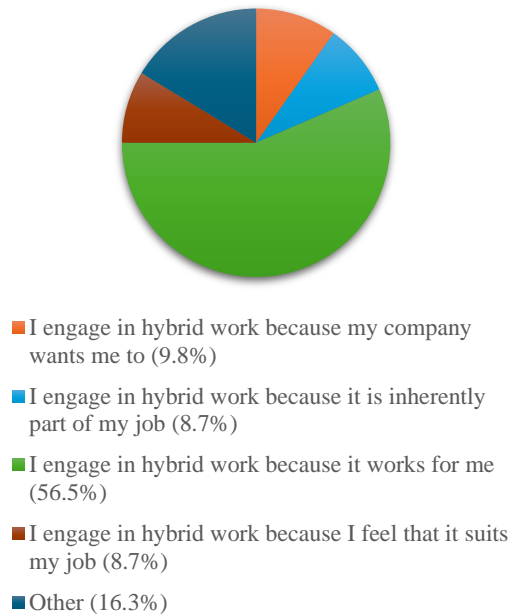
Results

According to the guidelines by Enders (2023) the current study has a normal level of missingness. Therefore, listwise exclusion was used for all missing values, which was applied to 27 participants (18%). Figure 2 outlines participants' reported reasons for working hybrid, with most participants reporting to engage in hybrid work because it works for them (56.5%,

$N = 52$). A t-test for independent samples confirmed that participants working hybrid voluntarily did not differ significantly in their scores of work meaningfulness, work engagement, or self-efficacy from participants who did not work hybrid by choice ($t(117) = -.36, p = .721$).

Figure 2

Reasons for Working Hybrid



In this study, the dependent variable was meaning of work, and the independent variables were work condition, work engagement, and self-efficacy. Before conducting the main analysis, descriptive statistics were computed to summarize the characteristics of the final sample. These are outlined in Table 1. A t-test for independent samples revealed that there was no significant difference between the group of unpaid and paid participants ($t(117) = 1.34, p = .182$). Therefore, the analysis was done using the complete sample.

Furthermore, the correlations of the study variables are displayed in Table 1. Notably, the variable of work condition showed no significant correlations to meaning of work ($r(119) = .040, p = .667$), work engagement ($r(119) = -.069, p = .455$), or self-efficacy ($r(119) = -.141, p = .125$). Work engagement was significantly correlated with meaning of work ($r(119) = .677, p < .001$). Additionally, self-efficacy was significantly correlated with work engagement ($r(119) = .283, p = .002$), and meaning of work ($r(119) = .237, p = .009$). A post hoc power analysis for the correlations revealed that the current sample ($N = 119$) holds adequate power (.88), using Cohen's criterion for power (Cohen, 1992).

Table 1*Descriptives and Correlations for Study Variables*

Variable	Mean	SD	Work Meaningfulness Score	Work Engagement Score	Self- Efficacy Score	Work Condition
Work Meaningfulness	35.91	5.57	-			
Work Engagement	3.93	.86	.677**	-		
Self-Efficacy	3.92	.45	.237*	.283*	-	
			.009	.002		
Work Condition	62.88	34.23	.040	-.069	-.141	-
			.667	.455	.125	
<hr/> N = 119 <hr/>						

Note.

* Correlation is significant at the 0.01 level (2-tailed)

** Correlation is significant at the <.001 level (2-tailed)

Hypothesis Testing

The first hypothesis proposed that work condition has a significant negative relationship with meaning of work. The analysis showed that work condition ($\beta = -.001$, $p = .950$, CI [-.017, .016]) is not significantly related to meaning of work which does not support the hypothesis.

The second hypothesis proposed that work engagement is a mediator in the relationship between work condition and meaning of work. The analysis revealed that work engagement was significantly related to work meaningfulness, and the effect was quite large ($\beta = 4.35$, $p < .001$, CI [3.456, 5.240]). However, work condition was not significantly related to work engagement ($\beta = .001$, $p = .597$, CI [-.003, .004]). Additionally, work engagement did not have a significant effect as a mediator in the relationship between work condition and meaning of work ($\beta = -.009$, $p = .696$, [-.055, .037]). This is not in line with the hypothesis.

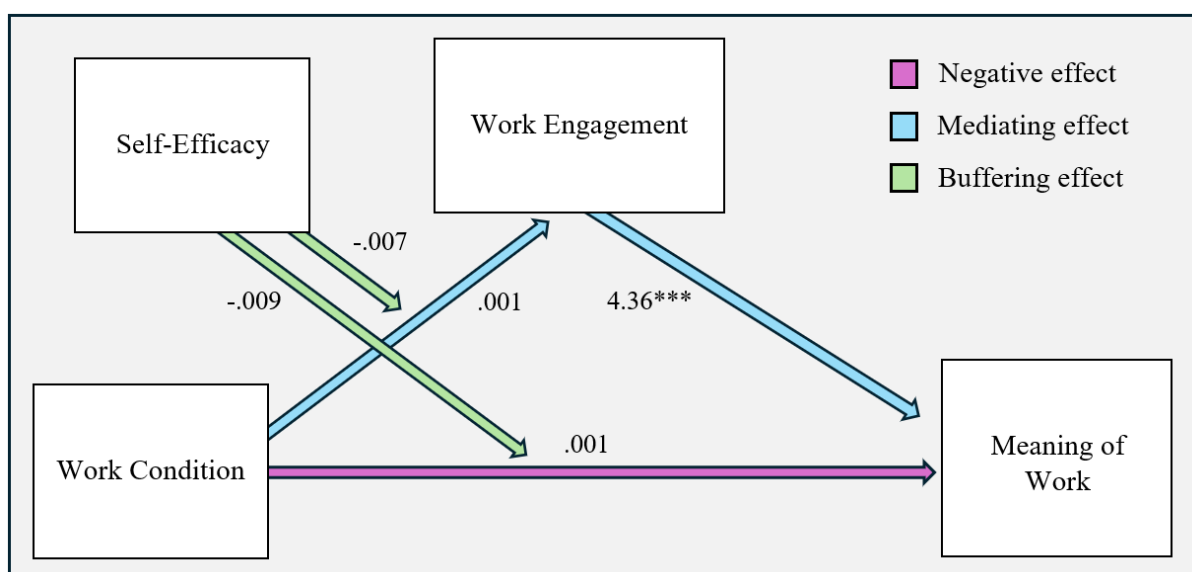
Furthermore, the next hypothesis proposed that self-efficacy buffers the negative effect of work condition on work engagement. Self-efficacy was not significantly related to work engagement ($\beta = .523$, $p = .121$, [-.139, 1.186]). Moreover, the interaction effect of self-

efficacy as a moderator in the relationship between work condition and work engagement ($\beta = -.007, p = .139, [-.016, .002]$) was insignificant. Additionally, the indirect effect of self-efficacy as a moderator showed that neither a low level (CI $[-.021, .021]$) nor a high level of self-efficacy (CI $[-.069, .008]$) was significant as a moderator in the relationship between work condition and work engagement. This result does not support the hypothesis that self-efficacy plays a moderating role in the relationship between work condition and work engagement.

The last hypothesis proposed that self-efficacy buffers the negative effect of work condition on work meaningfulness. Analysis revealed that self-efficacy was not significantly related to meaning of work ($\beta = 1.17, p = .475, CI [-2.062, 4.403]$). Additionally, the relationship between work condition and meaning of work was shown to be insignificant ($\beta = .001, p = .471, r^2 = .022$). The direct effect of self-efficacy as a moderator in the relationship between work condition and meaning of work was insignificant, as neither a low level ($\beta = -.001, p = .950, CI [-.017, .016]$) nor a high level of self-efficacy ($\beta = -.010, p = .656, CI [-.052, .033]$) showed a significant moderation effect. Moreover, the moderated mediation analysis using PROCESS (Hayes, 2012) revealed that the general model of moderated mediation was insignificant (SE = .001, Index = $-.031, CI [-.077, .011]$). This result does not support the hypothesis that self-efficacy plays a moderating role in the relationship between work condition and meaning of work. An overview of the results is displayed in Figure 4.

Figure 4

Overview of Coefficient Effects



*** $p < 0.001$

Discussion

The current study investigated whether there is a mediating role of work engagement and a moderating role of self-efficacy in the relationship between work conditions and meaning of work. Results demonstrate an insignificant effect of work condition on work meaningfulness, and insignificant relationships between work condition and work engagement or self-efficacy. These findings suggest that working from home does not play the leading role in predicting employees' level of meaning of work that was previously hypothesized. As work condition is not significantly related to the other variables in this model, the general conceptual model of moderated mediation was found to be insignificant. Therefore, self-efficacy as a moderator was also revealed to be insignificant for both the direct relationship between work condition and meaning of work, as well as the indirect relationship between work condition and work engagement. Moreover, work engagement was not significant as a mediator between the relationship of work condition and meaning of work. These findings are not in line with the previously stated hypotheses. So, to answer the research question, work condition is not related to the meaning of work, and self-efficacy and work engagement do not play a role in this relationship.

The first hypothesis proposed that work condition has a significant negative relationship with meaning of work. The current findings are inconsistent with the hypothesis that work condition is associated with the meaning of work. So, employees who work from home do not experience a lower perception of meaning of their work. Previously outlined literature illustrated the challenges of working from home, such as worse-rated workplace conditions, increased technical problems, and reduced communication (Felfe, 2022; Šmite et al., 2023). These findings formed part of the foundation for the hypothesis that working from home has an overall negative effect on the employee and their perception of work. However, the study by Felfe and colleagues (2022) also revealed that employees' perception and assessment of working from home depends on voluntariness. Their study revealed that employees who voluntarily work from home rate their work conditions significantly more positively than employees who perceive low voluntariness. So, it is suggested that participants who work from home by choice might experience working from home as less challenging, and perhaps voluntariness buffers the negative effect of remote work. This finding could explain why the current study did not find a significant effect of work condition on the meaning of work.

In addition, studies support the importance of voluntariness in working from home (Dias et al., 2022; Kaluza & Dick, 2023). For instance, the study by Kaluza and Dick (2023) showed that individuals who experience a high degree of voluntariness in choosing to work from home experience fewer disadvantages when working from home. In the current study, over half of participants reported engaging in hybrid work because it works for them, so they work from home voluntarily. It is possible that voluntariness was a confounding variable in the present study and could explain why no significant relationship was found between work condition and the meaning of work. Yet, additional testing revealed that within the current sample, the voluntariness of employees who engage in hybrid work did not result in significant differences in their score of meaningfulness. However, the limited power of this test suggests the need for a larger participant pool to validate this finding. Therefore, future research should include voluntariness as a possible mediator in the relationship between work condition and meaning of work to determine the effect of voluntariness on the meaning of work.

The second hypothesis proposed that work engagement is a mediator in the relationship between work condition and meaning of work. The current findings do not support this hypothesis, meaning that an employee's level of work engagement does not explain how working from home impacts their meaning of work. This finding is unsurprising since the first hypothesis of the main relationship between work condition and meaning of work was insignificant. However, the current study did find a significant relationship between work engagement and meaning of work. This finding aligns with the literature that shows that work engagement is related to employees' perception of the meaningfulness of work (Geldenhuis et al., 2014). This means that an employee who reports a higher level of work engagement is also more likely to report a greater perception of the meaningfulness of their work. Nevertheless, the outcomes of this study do not support the suggestion that work engagement functions as a mediator between work condition and work meaningfulness. The third hypothesis proposed that self-efficacy buffers the negative effect of work condition on work engagement. The current insignificant findings do not support the hypothesis. Hence, an employee's level of self-efficacy does not impact the effect of working from home on their level of work engagement. The last hypothesis proposed that self-efficacy buffers the negative effect of work condition on work meaningfulness. The analysis did not find support for this hypothesis. This means that an employee's level of self-efficacy does not impact the effect of working from home on their perception of the meaningfulness of their work.

For each of these hypotheses, the main relationship of meaning of work, work engagement, and self-efficacy to work condition was insignificant. Moreover, work condition was shown to be uncorrelated to any of the other variables. So, the variable of work condition seems to be a complication in the current model. Possibly, the variable of work condition was measured incorrectly, and this could be an explanation for the insignificant results. Literature reveals that hybrid working alters the structure of the working week, by reducing working hours on home days and increasing them on office days and the weekend (Bloom et al., 2022). Additionally, hybrid work arrangements and work-from-home frequency are greatly varied (Heimgartner & Axhausen, 2024). The current study calculated a percentage of working from home versus working in-office by asking participants to report their hours on a weekly basis. Perhaps, participants could not give an accurate answer because their work week is not stable, and their hours vary each week. The variance in hybrid work arrangements could be the reason why the variable of work condition was uncorrelated and non-significant in the entire model.

Theoretical and Practical Implications

Although the current study did not find significant results, the study still contributes to the theoretical understanding of these concepts. As previously mentioned, there has been little research on the impact of remote work (Šmite et al., 2023). The present study did not find a significant relationship between remote work and meaningfulness, and no significant mediating or moderating roles for work engagement or self-efficacy. However, this study did shed light on the difficulties with measuring working from home. The present research signifies a first step into uncovering the effects of working from home and the possible interplay with meaning of work, work engagement, and self-efficacy.

As mentioned, investigating and stimulating the meaning of work is valuable within an organisational context, because it demonstrates benefits such as greater well-being, job satisfaction, and positive performance (Han et al., 2021; Steger et al., 2012). Therefore, organisations that are interested in enhancing employee well-being and performance would benefit from focusing on increasing employees' work meaningfulness. The current study revealed that work engagement is significantly related to work meaningfulness. Therefore, organisations could employ interventions aimed at improving work engagement to enhance work meaningfulness. A meta-analysis by Björk and colleagues (2021) revealed that interventions with a bottom-up approach effectively promote work engagements because

these approaches highlight the role of employees themselves. Such workplace interventions include a strengths-based approach that focuses on developing psychological capital for the promotion of work engagement (Meyers & Woerkom, 2017). This intervention centres around encouraging employees to identify, develop, and use their inner strengths and talent. Literature shows that when participants learn, practice, and implement such individual approaches, the positive effects even go beyond the desired outcomes (Björk et al., 2021). Therefore, organisations interested in enhancing the well-being, satisfaction, and performance of their employees can implement such interventions to promote work engagement and work meaningfulness.

Limitations and Suggestions for Future Research

The current study has methodological and conceptual limitations that may have hindered this study in finding significant relationships. As mentioned, the current research design does not account for the influence that voluntariness might have on the employees' experienced meaningfulness when working from home. Therefore, a suggestion for future research is to include voluntariness in studies about meaningfulness in remote work. Additionally, another shortcoming of the study's measures is the impossibility for self-employed individuals to opt out of questions concerning colleagues or superiors. Since individuals could not skip the question, they were obliged to select an answer option that did not apply to them. The data of these individuals might not have been truthful, and this may have contributed to the current study's insignificant findings. Therefore, future research should ensure that the scales apply to self-employed individuals or make sure to exclude these individuals to ensure the validity and reliability of the results.

Moreover, the limited power of this study is a methodological issue that could have impacted the results. Low power undermines the chance of detecting a true effect and could therefore be a possible explanation for the obtained results (Button et al., 2013). The study's limited power to detect small effects suggests the need for a larger sample size in future research to ensure the reliability and generalizability of the results. Another concern with the current study is the sample, which was exclusively made up of participants from a Western, Educated, Industrialized, Rich, and Democratic country (WEIRD; Henrich et al., 2010). According to a growing body of evidence that basic cognitive and motivational processes vary across populations, the current sample is not broadly representative and has limitations in its generalizability (Henrich et al., 2010). Moreover, the participants in the present study

were predominantly university-educated, childfree women aged 25-35 who are employed in the work field of education and science. The homogeneity of the current sample may have played a role in the insignificant results of the current study. Future research could put in effort to actively diversify their sample by employing the internet and platforms such as Prolific to increase the generalizability of the results (Gosling et al., 2010).

Furthermore, the study by Felfe and colleagues (2022) revealed that when employees work predominantly or exclusively at home, the proportion of positive evaluations of working at home is higher than when only working one or two days at home. This finding suggests that employees who work hybrid and employees who exclusively work from home experience remote work differently. Looking at the Job Characteristics Model, it seems likely that the core job dimensions of working hybrid or completely working from home are different and therefore the employees' perception of their work could be affected (Hackman & Oldham, 1976). Moreover, the literature argues that hybrid work is complex and suffers from transition costs from switching between fully remote and fully in-office (Bloom et al., 2022). The current sample was not large enough to perform exploratory tests on the suggestion that employees who work remote exclusively differ from employees who work hybrid in their experience of working from home. Future research could investigate whether this different experience extends to employees' perception of meaning of work and further disentangle in what way working from home impacts employees' perceptions of the workplace.

Conclusion

In conclusion, this study has shed more light on the influence of working from home on the meaning of work, and the role of self-efficacy and work engagement in this relationship. This is relevant in our current social climate, where a global pandemic has transformed the workplace and the future of hybrid work. Moreover, the current study has added knowledge and insight to the growing body of research on the topic of the meaning of work and its relationship to possibly contributing factors. The study did not find significant relationships between working from home and the meaning of work, and no mediating or moderating roles of work engagement and self-efficacy were revealed. Nevertheless, the implications of these results have highlighted the intricacies of the dynamic interplay between these concepts. Moreover, suggestions for future research were made that open new doors in this field of research for future investigation into the precise effects of working from home.

Furthermore, the present study demonstrates the importance and relevance of work meaningfulness. The connection between work engagement and work meaningfulness was confirmed by the study, adding to the growing body of evidence that work meaningfulness interventions can contribute to organisational success. With these results, the present study advances the theoretical understanding of these concepts and hopefully inspires future research into the dynamics between these important and relevant topics.

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Appendix A

Questionnaire

INFORMATION ABOUT THE RESEARCH

“An Investigation of Online Work and the Meaning of Work”

➤ Why do I receive this information?

If you are 18 years or older, you (the reader) are invited to consider participating in this study. Before we begin, we are obligated to share important information about the study to ensure that you are fully informed about your participation. This study is conducted as part of a master's thesis project. The aim of this thesis is for students to practice skills in conducting research and data analysis. The collected data from the survey is being used for academic purposes but may also result in published manuscripts (e.g., journal articles). It should be noted that all the data that is used is de-identified and cannot be traced to the individual. This project started in September 2023 and will be concluded no later than July 2024 and has been reviewed by the Ethical Committee of Psychology of the RUG.

People involved in this study are Boris Manting (master's student), Mirjam Jongsma (master's student), and Dr. Samantha Adams (thesis supervisor).

If you have any questions regarding this project, please contact Dr. Samantha Adams (s.p.adams@rug.nl).

➤ Do I have to participate in this research?

Participation in the research is voluntary. However, your consent is needed. Therefore, please read this information carefully. Please contact Dr. Samantha Adams if there is anything you do not understand. Thereafter you can decide if you want to participate. If you decide to not participate, you do not need to explain why, and there will be no negative consequences for you. You have this right, at all times, including after you have consented to participate in the research.

➤ Why this research?

This study sheds light on work meaningfulness, which impacts both individual employees and organisations. Understanding the mechanisms that contribute to the creation or diminishment of work meaningfulness is crucial for maximizing its positive impacts. While

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previous research has explored work meaningfulness in the context of office environments, the rise of hybrid working necessitates a closer examination of its implications. Given the current and anticipated future prevalence of hybrid work, it is important to comprehend its consequences comprehensively.

➤ What do we ask of you during the research?

Once you understand the study and your role as a participant, you will be asked to provide your formal consent. After you provide your formal consent, you will be asked to fill in the questionnaire. This questionnaire contains questions about demographics (age, gender, country of residence, education level), hybrid working, work meaningfulness, work engagement, belongingness, authenticity, and self-efficacy. You can refuse to answer any question that you do not feel comfortable answering for whatever reason. Taking part in the study will take about 20 minutes of your time.

➤ What are the consequences of participation?

There are no foreseeable downsides to your participation. Moreover, your participation will help offer new insight into hybrid working and work meaningfulness.

➤ How will we treat your data?

The data obtained in this study will be used for academic and educational purposes (e.g. as part of the Master Thesis) and future studies on this topic. You will complete the survey via Qualtrics which is set to anonymize your responses. The data set will initially be stored on Qualtrics but following the completion of the data collection, this data set will also be downloaded for further analysis and deleted from the Qualtrics platform. No personal information of yours will remain. The de-identified data will be stored on a University drive. The research team will be the only individuals with access to the dataset.

➤ What else do you need to know?

You may always ask questions about the research: now, during the research, and after the end of the research. You can do so by emailing the supervisor of this study: s.p.adams@rug.nl.

Do you have questions or concerns regarding your rights as a research participant? For this, you may also contact the Ethics Committee of Psychology of the University of Groningen: ecp@rug.nl.

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Do you have questions or concerns regarding your privacy, or regarding the handling of your personal data? For this, you may also contact the Data Protection Officer of the University of Groningen: privacy@rug.nl.

As a research participant, you have the right to a copy of this research information.

CONSENT FORM

“An Investigation of Online Work and the Meaning of Work”

- I have read the information about the research.
- I understand what the research is about, what is being asked of me, which consequences participation can have, how my data will be handled, and what my rights are.
- I understand that participation in the research is voluntary. I myself choose to participate. I can stop participating at any moment. If I stop, I do not need to explain why. Stopping will have no negative consequences for me.

Below I indicate what I am consenting to.

Consent to participate in the research

- Yes, I consent to participate.
- No, I do not consent to participate.

Consent to processing my personal data

- Yes, I consent to the processing of my personal data as mentioned in the research information.
- No, I do not consent to the processing of my personal data.

Are you currently employed (either in contract or self-employed)?

- Yes
- No

Are you 18 years or older?

- Yes
- No

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What is your age? Fill in numbers, for example 26.

What is your gender?

- Male
- Female
- I would like to specify myself, ...
- I'd rather not say

What is your highest completed education level?

- Secondary school
- Vocational education bachelor (MBO)
- Higher professional education (HBO)
- University bachelor
- University master

Which country do you currently work in?

- The Netherlands
- Germany
- Other, ...

Are you a parent/caregiver of children?

- Yes
- No

What kind of work do you do?

- Health care and wellbeing
- Trade and service
- ICT
- Justice, safety and public governance
- Environment and agriculture
- Media and communication
- Education, culture and science

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- Technology, production and construction
- Tourism, recreation and hospitality
- Transport and logistics

What is your job title?

...

How long have you worked in this position?

- Under 1 year
- 1-2 years
- 2-5 years
- 5-10 years
- 10+ years

Do you work hybrid, meaning both in office and online from home?

- Yes
- No

How many days do you generally work a week?

- 1
- 2
- 3
- 4
- 5
- 6
- 7

How many hours do you generally work per week? (Fill in numbers, for example 24)

...

How many days do you generally work in office?

- 0 (none, I work completely online from home)
- 1

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- 2
- 3
- 4
- 5
- 6
- 7 (all, I work completely in office)

In an average week, how many hours a week do you generally work in office/ on location?
(Fill in numbers, for example 14)

...

Do you feel working hybridly suits your job?

- Yes
- No

Why do you work hybridly?

- I engage in hybrid work because my company wants me to
- I engage in hybrid work because it is inherently part of my job
- I engage in hybrid work because it works for me
- I engage in hybrid work because I feel that it suits my job
- Other, ...

Fill in to what extent you agree with the following statements:

1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree.

1. I will be able to achieve most of the goals that I have set for myself.
2. When facing difficult tasks, I am certain that I will accomplish them
3. In general, I think that I can obtain outcomes that are important to me
4. I believe I can succeed at most any endeavor to which I set my mind
5. I will be able to successfully overcome many challenges
6. I am confident that I can perform effectively on many different tasks
7. Compared to other people, I can do most tasks very well
8. Even when things are tough, I can perform quite well

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Fill in to what extent the following statements describe you at work:

1 = Does not describe me at all, 7 = Describes me very well

1. I am true to myself at work in most situations
2. At work, I always stand by what I believe in
3. I behave in accordance with my values and beliefs in the workplace
4. I find it easier to get on with people in the workplace when I'm being myself
5. At work, I feel alienated
6. I don't feel who I truly am at work
7. At work, I feel out of touch with the "real me"
8. In my working environment I feel "cut off" from who I really am
9. At work, I feel the need to do what others expect me to do
10. I am strongly influenced in the workplace by the opinions of others
11. Other people influence me greatly at work
12. At work, I behave in a manner that people expect me to behave

Fill in to what extent the following statements describe you at work:

1 = Not at all true, 5 = Completely true

1. I feel like a real part of this organisation.
2. People here notice when I'm good at something.
3. It is hard for people like me to be accepted here.
4. Other people in this organisation take my opinions seriously.
5. Most managers/supervisors in this organisation are interested in me.
6. Sometimes I don't feel as if I belong here.
7. There's at least one supervisor/manager in this organisation I can talk to if I have a problem.
8. People in this organisation are friendly to me.
9. Managers/supervisors here are not interested in people like me.
10. I am included in lots of activities at this organisation.
11. I am treated with as much respect as other employees.
12. I feel very different from most other employees here.
13. I can really be myself in this organisation.
14. The managers/supervisors here respect me.
15. People here know I can do good work.

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16. I wish I were in a different organisation.
17. I feel proud to belong to this organisation.
18. Other employees here like me the way I am.

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the '0' in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

1. At my work I feel that I am bursting with energy.
2. I find the work that I do full of meaning and purpose.
3. Time flies when I'm working
4. At my job, I feel strong and vigorous
5. I am enthusiastic about my job
6. When I am working, I forget everything else around me
7. My job inspires me
8. When I get up in the morning, I feel like going to work
9. I feel happy when I am working intensely
10. I am proud on the work that I do
11. I am immersed in my work
12. I can continue working for very long periods at a time
13. To me, my job is challenging
14. I get carried away when I'm working
15. At my job, I am very resilient, mentally
16. It is difficult to detach myself from my job
17. At my work I always persevere, even when things do not go well

Fill in to what extent these statements are true to you.

1 = Absolutely untrue, 5 = Absolutely true

- 1) I have found a meaningful career.
- 2) I view my work as contributing to my personal growth
- 3) My work really makes no difference to the world.
- 4) I understand how my work contributes to my life's meaning.

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- 5) I have a good sense of what makes my job meaningful.
- 6) I know my work makes a positive difference in the world.
- 7) My work helps me better understand myself.
- 8) I have discovered work that has a satisfying purpose.
- 9) My work helps me make sense of the world around me.
- 10) The work I do serves a greater purpose.

What does meaningful work mean to you?

What do you find most meaningful about your work?

This is the end of the questionnaire, thank you for taking the time to participate!

For questions, please contact Dr. Samantha Adams (s.p.adams@rug.nl).