The Effect of Telework Intensity on Employees' Sense of Belongingness: The Moderating Role of Interactive Tasks

Mathilde Scheffler

S4658531

Department of Psychology, University of Groningen

PSB3E-BT15: Bachelor Thesis

Group number 2324_1a_04

Supervisor: Eleni Giannakoudi

Second evaluator: Dr. Antje Schmitt

In collaboration with: Chelsea Abigail Nathania, Jenni Korth, Niclas Stuckert

February 02, 2023

A thesis is an aptitude test for students. The approval of the thesis is proof that the student has sufficient research and reporting skills to graduate but does not guarantee the quality of the research and the results of the research as such, and the thesis is therefore not necessarily suitable to be used as an academic source to refer to. If you would like to know more about the research discussed in this thesis and any publications based on it to which you could refer, please contact the supervisor mentioned.

Abstract

Nowadays, most employees prefer a hybrid working arrangement (part-time teleworking), allowing them to work from home and the office. Although part-time teleworking has many advantages, like choosing your work location, it is associated with challenges such as social isolation and relationship difficulties with co-workers. However, little telework research focuses on employees' sense of belongingness at work: how they feel connected to their organizations and colleagues. Furthermore, it is unknown whether the type of work tasks, such as interactive tasks, could help hybrid workers reconnect with their colleagues. Therefore, we hypothesised that telework intensity negatively predicts employees' sense of belongingness. Furthermore, we expected that interactive tasks moderate this relationship by reducing the negative impact of telework intensity on belongingness. We conducted a daily diary study with forty hybrid workers measuring the variables three times a day for ten working days. The results showed no effect of telework intensity on belongingness. Further, the moderation effect of interactive tasks was nonsignificant, hence our hypotheses were not supported. We conclude the paper by discussing alternative explanations and making suggestions for future research.

Keywords: telework, hybrid work, belongingness theory, interactive tasks, telework intensity

The Effect of Telework Intensity on Employees' Sense of Belongingness: The Moderating Role of Interactive Tasks

The term 'hybrid work' has increasingly gained attention, especially after the outbreak of the COVID-19 pandemic. A hybrid work model, also known as part-time telework, is an arrangement where employees can work from home and the office (Eurofound, 2022). Nowadays, most employees prefer a hybrid working arrangement due to its advantages, such as higher work productivity and better work-life balance (Eurofound, 2022). For example, a German study showed that about 75% of employees favoured a hybrid work arrangement (Pfnür et al., 2021), preferably working 2-3 days a week from home and the rest of the week in the office (Kunze, 2020).

Despite the increasing popularity of hybrid work, it is associated with several challenges, especially for employees mainly working from home, so-called high-intensity teleworkers (Gajendran & Harrison, 2007). Findings suggest that higher levels of teleworking could cause social isolation and difficulties in workplace relationships (Gajendran & Harrison, 2007; Golden & Veiga, 2005) due to the lack of face-to-face interactions (Golden & Veiga, 2005). Therefore, they might be at higher risk of feeling disconnected and lacking a sense of belongingness at work. Nevertheless, little research on hybrid work focuses on employees' sense of belongingness at work (Liu et al., 2022). Previous empirical studies on hybrid work investigated the moderating effects of different levels of teleworking on employees' job satisfaction (Golden & Veiga, 2005), organizational commitment (Golden, 2006), and relationship qualities (Gajendran & Harrison, 2007). However, it is still unknown how hybrid work arrangements affect employees' sense of belongingness at work and whether the type of work tasks, such as interactive tasks, could help hybrid workers reconnect with their colleagues. For example, empirical evidence suggests that work tasks that require interaction with others, such as interdependent tasks, undermine teleworkers' job satisfaction

(Golden & Veiga, 2005) and work productivity (Turetken et al., 2011). However, whether interactive tasks could moderate the relationship between hybrid working and employees' sense of belongingness is unknown.

Therefore, this paper aims to extend the limited research by investigating how telework intensity impacts employees' sense of belongingness and whether interactive tasks moderate this relationship, using Baumeister and Leary's (1995) belongingness theory. Specifically, we will assess the research questions: How does the telework intensity affect teleworkers' sense of belonging? And to what extent do interactive tasks moderate this relationship? We expect that telework intensity might harm employees' sense of belongingness and that interactive tasks might counteract the negative effect of telework intensity (Figure 1).

This paper contributes to a better understanding of whether hybrid work harms or benefits employees' feelings of belongingness at work and under which conditions. By studying interactive tasks as a moderator, we learn more about whether certain work tasks counteract the negative effects of hybrid work. This provides more insight into various consequences of hybrid working, enriching the limited research on belongingness in a hybrid work context. Furthermore, knowing which work tasks can counteract the negative effects of hybrid working could help organisations prioritise those tasks and ensure employees' well-being. Therefore, these findings could be insightful for creating healthy and productive work environments and helping hybrid workers boost their work performance.

Figure 1

Research model
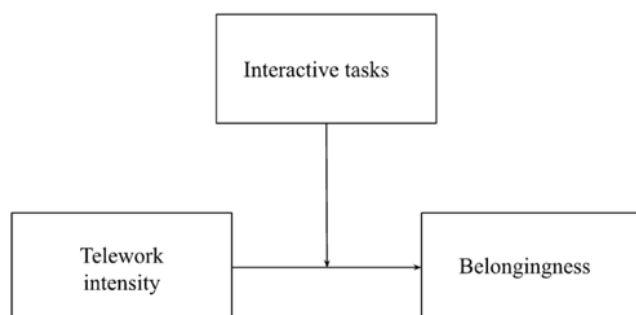
Telework Intensity and Belongingness

Teleworking has various definitions, such as flexible work arrangements (Shockley & Allen, 2007), distributed work (Bosch-Sijtsema & Sivunen, 2013), and hybrid work (Gibson et al., 2023). Although there is no consensus on the term use of teleworking, all definitions include some remote work usually carried out from home (Allen et al., 2015). Within the framework of our study, we define part-time teleworking as a hybrid work model (e.g., Gibson et al., 2023). Employees can choose daily to work from home or the office (Spivack & Milosevic, 2018) and they are allowed to work remotely at least one day a week. This means some employees may work more from home than in the main office and vice versa. Therefore, the frequency of telework, namely the telework intensity, varies among employees (Gajendran & Harrison, 2007). In our study, we define telework intensity as the extent to which an employee works at home in relation to their overall work hours, therefore indicating the proportion of time spent in the home office.

Previous research showed that telework intensity significantly impacts work-related consequences (Gajendran & Harrison, 2007; Golden, 2006; Golden & Veiga, 2005). Employees who telecommuted extensively (working more than 2.5 days per week from home) reported lower job satisfaction than teleworkers who moderately commuted (Golden & Veiga, 2005). Golden and Veiga (2005) suggested that one possible reason is that high-intensity

teleworkers have fewer opportunities to interact face-to-face, thus increasing the risk of social isolation. For example, teleworkers reported in an interview that they missed having casual conversations in the hallways and that they were concerned about getting less recognition for their work compared to their colleagues in the office (Cooper & Kurland, 2002). Since hybrid workers spend some of their time working from home, it is possible that they worry about being less included or overlooked by others at work. This is also in line with an online survey that showed that employees working from the main office reported higher levels of inclusion than remote workers (Morganson et al., 2010).

In general, feelings of being included, accepted, or connected are called belongingness. According to Baumeister and Leary's (1995) belongingness theory, individuals have an innate need to belong, which motivates them to form and maintain positive relationships with others. Those social connections are important for individuals' well-being. For example, individuals with a strong sense of belonging tend to have more supportive relationships, which helps them cope with life stressors (Baumeister & Leary, 1995). However, it might be more challenging for hybrid workers to form those relationships with their colleagues (e.g., Gajendran & Harrison, 2007; Golden, 2007) due to the physical separation and lack of face-to-face interactions.

This is also in line with the findings of a meta-analytic study (Gajendran & Harrison, 2007) exploring the relationship between telecommuting and workplace relationship quality. The findings showed that, in general, telecommuting did not harm co-worker relationships. However, the intensity of telecommuting had a significant moderation effect. Low-intensity commuting did not impact co-worker-relationship quality, but high-intensity telecommuting had a negative effect. These findings suggest that teleworking itself did not harm relationships but rather the intensity of teleworking. Another study investigated how non-teleworkers' satisfaction is impacted by the prevalence of teleworking in their organisation (Golden, 2007).

The prevalence of teleworking was negatively associated with the satisfaction of their colleagues in the main office. Golden (2007) argued that employees remaining in the office have fewer opportunities to engage with their colleagues, resulting in decreased co-worker satisfaction. These findings show that teleworking affects hybrid workers and their colleagues remaining in the office. Their dissatisfaction could result in hybrid workers feeling less welcomed and might reduce their feelings of belongingness at work. Based on previous findings, we expect the lack of face-to-face interactions and challenges in workplace relationships will result in employees feeling disconnected and lacking a sense of belongingness at work. Therefore, we hypothesise that belongingness is negatively impacted by the proportion of time the employees spend working at home, known as telework intensity.

Hypothesis 1. Telework intensity negatively predicts belongingness.

Interactive tasks as a moderator

While part-time teleworking can have many challenges, such as co-worker relationships (e.g., Gajendran & Harrison, 2007), it is possible that including specific types of work tasks could help to reduce those challenges. In particular, work tasks that require collaboration and communication between employees, also known as interactive tasks (Wohlers et al., 2019), may help buffer against feelings of isolation from one's co-workers. For example, interactive work tasks might offer opportunities to connect with fellow colleagues.

This is also in line with a study that found that shared work tasks or tasks that require employees to work together are important for initiating friendships at work (Sias et al., 2012). As employees spent more time teleworking (i.e. working offsite), shared tasks became more important for initiating workplace friendships (Sias et al., 2012). The author explained that shared tasks offer opportunities to interact with colleagues and learn more about each other on a personal level. This aligns with the belongingness theory (Baumeister & Leary, 1995),

which states that individuals need frequent and positive interactions to form interpersonal relationships. Therefore, interactive tasks might increase the chances of initiating a friendship at work (e.g., Sias et al., 2012) and help hybrid workers regain feelings of belongingness.

On the other hand, Golden and Veiga (2005) suggested that interdependent tasks or work tasks that require a lot of coordination and interactions might be difficult for hybrid workers. Findings showed that employees with higher task interdependence reported a smaller increase in job satisfaction compared to those with lower task interdependence. The authors explained that teleworkers with high-task independence rely more on communicating via email and the telephone, which is less efficient than face-to-face interactions. However, this study was published in 2005; nowadays, technology for online communication is far more advanced. For example, video conference platforms allow users to join and host virtual meetings from any chosen location. This makes virtual meetings a convenient and efficient way to communicate since employees can save time and costs by avoiding unnecessary travelling (Denstadli et al., 2012). Therefore, virtual communication might not be more frustrating for hybrid workers with interdependent tasks but simply a convenient way of staying connected. Based on previous findings, we suggest that interactive tasks can be beneficial for hybrid workers, whether they are performed online while working from home or offline while working in the office. Interactive tasks could help employees regain a sense of belonging by increasing opportunities to interact with colleagues and learn more about each other, hence establishing a basis to build relationships at work.

Hypothesis 2. Interactive tasks buffer the negative relationship between telework intensity and belongingness.

Methods

Participants

For this study, we recruited participants who work at least one day per week in the office and one day from home, i.e. have a hybrid work arrangement. The total number of participants who started the baseline questionnaire was 117. Seventy-four participants were excluded from the study because they did not meet some of the exclusion criteria. For example, they did not have a hybrid work arrangement, or they did not provide consent or their email addresses to participate in the daily diary study. Therefore, we invited 43 participants (36.7%) to the daily diary questionnaires. We excluded one more participant afterwards due to not working full-time (i.e., at least thirty hours per week). Hence, excluding this participant, 40 participants (34.2%) completed, on average, 16.18 daily dairy surveys out of thirty.

In our sample, 52.5% of the participants identified as female, 45.0% as male and 2.5 % as otherwise defined with an age range of 20 to 63 (*M*=36.5, *SD*=13.49). Most participants were from Germany (42.5%) and the Netherlands (22.5%). Among the participants, 90.0% completed a university degree, and 10.0% completed a vocational or high school education. The participants in our sample were from nineteen different industries; most participants worked in information and communication (12.5%), administrative services (12.5%) and public administrative services (12.5%). In total, 15.0% of the participants had supervisory responsibilities; the average number of employees they supervised was 3.83 (*SD* = 5.49, *Min* = 1, *Max* = 15). During the past six months, the participants spent, on average, two days per week working from home.

Design and Procedure

This study was part of a larger research on hybrid work and was part of a bachelor thesis project for nine psychology students. According to the fast-track procedure guidelines

by the University of Groningen Ethics Committee, the study was a low-risk study, and ethics documents were submitted but exempt from review. Our study included one baseline questionnaire and a daily diary study using a within-subject design. The daily diary study consisted of three daily questionnaires (morning, afternoon, and end of the day) and lasted ten consecutive working days. Additionally, there will be a follow-up questionnaire six months after the administration of the baseline questionnaire, however it is not relevant for this paper. The relevant research variables for this paper were belongingness (dependent variable), telework intensity (independent variable) and interactive tasks (moderator variable).

We recruited the participants through snowball sampling within our research team's personal network. The participants were invited to the baseline questionnaire via a link from Qualtrics and informed about the study's purpose. Before completing the baseline questionnaire, the participants were asked to consent to participate in the study and give permission to use their data for research purposes. The baseline questionnaires measured participants' sociodemographic and work-related variables, such as age, employment status and hybrid work arrangement.

The following criteria were considered for participating in the daily diary study. First, participants had to be at least eighteen years old, work at least thirty hours per week and have a hybrid work arrangement (i.e., being allowed to work at least one day per week in the office and one day from home). Secondly, the participants who worked in shifts or a satellite office were excluded, as well as participants who mostly worked remotely due to work-related travels. Lastly, the participant had to work during the two weeks of the daily diary study and start working after 6.30 am. The eligible participants were then invited to the daily diary study and received three daily questionnaires, which were each accessible for approximately three hours. As compensation, they could receive personalised feedback on their responses and take part in a lottery that raffled six 50€ vouchers among the participants.

Measures

Telework Intensity

To measure Telework Intensity, we created two items which were measured at the end of the working day. The items were: "How many hours did you work in the office today?" and "How many hours did you work at home today?", excluding the hours worked overtime. The response format was ranging from zero (0) to ten (10) working hours. From this, we computed the total work time during the daily diary study and calculated the proportion of time the participants worked from home, known as telework intensity. We measured Telework Intensity in the baseline questionnaire using one item we created. The item was: "During the past six months, how many workdays per week did you typically work from home (or other locations outside the employer's premises)?". The response format was ranging from 0 (none) to 5 or more workdays.

Belongingness

We measured Belongingness using a five-item scale by Puranik et al. (2021). At the end of the workday, participants were asked to rate five items on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree.) Sample items included "I felt like I really belonged" and "I feel connected with others" (see Appendix B). The Cronbach's alpha for the original scale was .94 (Puranik et al., 2021). In our sample, Cronbach's alpha was .90, suggesting a good internal consistency.

Interactive Tasks

We measured Interactive tasks using one adapted item by Wohler et al. (2019). The item was: "Today, my work tasks require me to be able to have intensive discussions with colleagues." The participants rated the item on a 5-point Likert scale, ranging from 1 (not at all) to 5 (to a very high extent). In the baseline questionnaire, we measured Interactive Tasks using one adapted item by Wohler et al. (2019). The item was: "My work tasks require me to

be able to have intensive discussions with colleagues." Participants rated the statement on a 5-point Likert scale, ranging from 1 (not at all) to 5 (to a very high extent).

Data Analysis Plan

For the data analysis, we will use the aggregated data, which was measured during the daily diary phase. Telework intensity was computed by dividing the time spent working from home by the total work time. For the descriptive statistics, we will first compute the belongingness scale mean score. And then calculate the means, standard deviations, and correlations of the main variables. This will allow us to investigate the central tendency, variability, and relationships between the main variables to better understand the characteristics of our dataset.

To test the two hypotheses, we will use a linear regression analysis. First, we will do assumption checks for linear regression and investigate whether the data met the assumptions of linearity, normality, and homoscedasticity using a scatterplot and P-P plot. Then we will investigate the main effect of telework intensity on belongingness, testing with a p-value of $p<0.05$. Secondly, we will explore the moderation effect of interactive task testing with a p-value of $p<0.05$. We will conduct the regression analysis using the software SPSS (Version 28.0.0), and missing data will be handled via the SPSS default list-wise deletion.

Results

Descriptive Statistics

On average, the participants in our sample spend 49.6% of their total work time working from home during the daily diary period (Table 1). The standard deviations and means of Telework intensity, Interactive tasks and belongingness are shown in Table 1. The correlation between Belongingness and Interactive Tasks showed a positive and statistically significant correlation ($r=.501$, $p< .01$). This suggests that as the reported interactive tasks increase in the morning, belongingness also increases in the evening. The correlation between

Telework intensity and Belongingness was nonsignificant (r=-.143, p>.01). Lastly, the correlation between Telework intensity and Interactive tasks was negative and nonsignificant (r=-.015, p>.01).

Table 1

Means, Standard Deviations, and Correlations Between Core Study Variables

Variable	Mean	SD	1.	2.
1. Telework intensity	.496	.298	–	–
2. Interactive Tasks	2.828	.770	-.015	–
3. Belongingness	3.597	.564	-.143	.501**

Note. N= 34. **p < .01.

Assumptions checks

To check for assumptions, we investigated multicollinearity, linearity, normality, and homoscedasticity. To assess multicollinearity, Variance Inflation Factors (VIF) and tolerance were calculated for each variable. According to James et al. (2021), a VIF value below five and tolerance above one is considered as not multicollinear. The variables Telework intensity (*Tolerance*=0.074, *VIF*=13.54), interactive tasks (*Tolerance*=0.224, *VIF*=4.46) and belongingness (*Tolerance*=0.060, *VIF*=16.79) show high multicollinearity.

To check for normality, we conducted a P-P Plot using the standardised variable of belongingness. The graph showed no outliers, and the points followed the line, hence the distribution was approximately normal (see Appendix A). To check for linearity and homoscedasticity, we computed a scatterplot using the standardised variables of Telework Intensity and Belongingness. The scatterplot showed that the residuals were randomly

scattered around the centre without apparent patterns. Therefore, the assumption of linearity and homoscedasticity were met (see Appendix A).

Hypothesis testing

This paper aims to shed light on the impact of telework intensity on belongingness and investigate the moderating effects of interactive tasks. Therefore, we conducted a linear regression analysis. We found that the complete model, including predictors and interaction, was significant and explained 32.22% of the variance in Belongingness ($R^2 = 0.322$, $F(3,28) = 4.427$, $p = 0.011$). This implies the whole model has some utility in explaining the observed outcomes in Belongingness.

We hypothesised that telework intensity negatively predicts employees' sense of belongingness (Hypothesis 1). However, the analysis showed no main effect ($b = -0.94$, $t = -0.77$, $ß = -0.456$, $p = 0.433$); thus, the first hypothesis was not supported. Furthermore, we expected that interactive tasks moderate this relationship by counteracting the negative impact of telework intensity on belongingness (Hypothesis 2). However, the interaction between Interactive tasks and Telework intensity was not significant ($b = 0.22$, $t = 0.53$, $ß = 0.338$ $p = 0.601$), suggesting that interactive tasks had no moderation effect; therefore, hypothesis 2 was not supported.

Table 2

Results of the Regression Analysis on Belongingness

Predictor	*B*	*SE*	*t*	*ß*	*p*
Constant	2.849	0.778	3.662		.001
Telework intensity	-.939	1.180	-.796	-.456	.433
Interactive tasks	.318	.274	1.158	.381	.257
Interaction	.220	.415	.529	.338	.601

Note. N=31 * p<.05

Exploratory analysis

In the main analysis, we used the variable telework intensity from the daily diary study (aggregated data). However, telework intensity was also measured during the baseline questionnaire. The participants were asked to indicate how many workdays per week they typically worked from home during the last six months. Therefore, conducting an additional analysis using telework intensity from the baseline could be helpful to assess whether teleworking can reduce belongingness in the long run and whether interactive tasks measured during the daily dairy study (aggregated data) can counteract those negative effects. However, we also measured interactive tasks during the baseline questionnaires. The participants had to indicate to what extent, on average, their work tasks require them to be able to have intensive discussions with colleagues. Therefore, conducting a second analysis using interactive tasks and telework intensity from the baseline questionnaire could be useful to compare whether having intensive discussions (interactive tasks) can counteract the long-term negative effects of telework intensity on belongingness.

In the first exploratory analysis, the complete model, including predictor and interaction, was significant and explained 25.45% of the variance in belongingness ($R^2 = 0.254$, $F(3,30) = 3.404$, $p = 0.030$). We expected telework intensity and belongingness to be negatively associated; however, no main effect was found ($b = -0.008$, $t = -0.304$, $\beta = -0.017$, $p = 0.976$). These results suggest that the hypothesis cannot be supported while using telework intensity from the baseline questionnaire. Furthermore, we hypothesised that interactive tasks moderate the relationship between telework intensity and belongingness. However, the interaction was not significant ($b = -0.007$, $t = -0.074$, $\beta = -0.046$, $p = 0.941$). Therefore, the second hypothesis cannot be supported. These results show that the results that we obtained in the main analysis are robust when using baseline telework intensity as a predictor.

Table 3

Results of the Regression Analysis on Belongingness using Telework intensity from the

baseline questionnaire

Predictor	*B*	*SE*	*t*	*ß*	*p*
Constant	2.508	1.044	2.402		.022
Telework intensity	-.008	.262	-.304	-.017	.976
Interactive tasks	.422	.360	1.173	.517	.250
Interaction	-.007	.093	-.074	-.046	.941

Note. N=33 * p <.05.

In the second exploratory analysis, the complete model, including predictor and interaction, was nonsignificant and explained 14.4% of the variance in belongingness ($R^2 =$ 0.144, $F(3,32) = 1.80$, $p = 0.167$). The first hypothesis stated that telework intensity negatively predicts belongingness. As shown in Table 4, the main effect is significant ($b = -.706$, $t = -2.174$, $ß=-1.519$, $p = 0.037$). The standardised coefficient for telework intensity is -1.52, meaning that as telework intensity increases by one SD, the sense of belongingness decreases by 1.52 SD. Therefore, while using the telework intensity and interactive tasks from the baseline, hypothesis 1 is supported. The second hypothesis stated that interactive tasks buffer this negative relationship. However, the interaction effect is not significant ($b = 0.186$, $t = 1.988$, $ß=1.656$, $p = 0.055$). Therefore, hypothesis 2 is not supported.

Table 4

Results of the Regression Analysis on Belongingness using Telework intensity and Interactive

tasks from the baseline questionnaire

Predictor	B	SE	t	ß	p
Constant	5.906	1.035	5.707		<.001
Telework intensity	-.706	.325	-2.174	-1.519	.037*
Interactive tasks	-.617	.303	-2.037	-.872	.050
Interaction	.186	.093	1.988	1.656	.055

Note. N=35 p<.05.*

Discussion

Although Belongingness at work is associated with many benefits, such as enhanced resilience and lower stress levels (Shakespeare-Finch & Daley, 2017), little research has been done on hybrid workers' sense of belongingness. Therefore, we investigated how telework intensity impacts employees' sense of belongingness at work. We hypothesised that telework intensity negatively predicts belongingness (Hypothesis 1). Furthermore, we expected that interactive tasks would moderate this relationship by reducing the negative impact of telework intensity on belongingness (Hypothesis 2). While using the aggregated data from the daily diary study, we found no main effect for telework intensity nor a significant moderation effect of interactive tasks. Therefore, contrary to our expectations, we did not find support for our hypotheses. Interestingly, we found a significant main effect while using the telework intensity and interactive tasks from the baseline questionnaire. However, the moderation effect of interactive tasks was nonsignificant. Therefore, we only found support for the first hypothesis using the baseline survey variables.

Theoretical implicants

Based on the belongingness theory (Baumeister & Leary, 1995), we expected that hybrid workers could not fulfil their need to belong at work due to physical distance or difficulties with their colleagues. However, our results did not align with previous research, which showed that high telework intensity had a significant moderation effect on relationship quality (Gajendran & Harrison, 2007) and job satisfaction (Golden & Veiga, 2005). High-intensity teleworkers reported lower job satisfaction (Golden & Veiga, 2005) and lower workplace relationship quality (Gajendran & Harrison, 2007). In contrast, we did not find support that telework intensity is negatively associated with employees' sense of belongingness.

One reason why employees might not perceive a lack of belongingness at work is due to individual differences. It is possible that hybrid workers have different personal preferences regarding their social contact with their colleagues. For example, some employees might not feel disconnected or isolated with less face-to-face interactions, while others might feel a greater need to connect with their colleagues. This aligns with the idea of the person-environment-fit theory (Kristof-Brown et al., 2005), "which is defined as the compatibility between an individual's preference for workplace characteristics and the actual workplace environment" (D'Oliveira & Persico, 2023, p.7). Hence, employees might have chosen a hybrid work arrangement based on their personal preferences while being aware that there might be fewer opportunities to interact face-to-face with their colleagues.

Nevertheless, we did find a main effect using telework intensity from the baseline questionnaire. In the baseline questionnaire, the participants were asked to report how many workdays per week they typically worked from home during the last six months. In contrast, the daily diary study measured telework intensity over ten working days. Therefore, one possibility is that telework intensity did not harm or affect the feelings of belongingness over

ten days, however it did over the last six months. In general, forming meaningful relationships with other people takes time (Baumeister & Leary, 1995). Hence, we suggest that the intensity of teleworking might reduce feelings of belonging in the long term. Maybe the feelings of social isolation or lack of colleague interactions only accumulate over a longer period of time.

Lastly, we did not find a significant moderation effect of interactive tasks. Therefore, we cannot conclude that interactive tasks counteract the negative effect of telework intensity on employees' sense of belongingness. However, previous findings showed a significant moderation effect of interdependent tasks, which moderated the relationship between telework intensity and job satisfaction (Golden & Veiga, 2005). Employees with higher task interdependence reported a smaller increase in job satisfaction. Golden and Veiga (2005) argued that interdependent tasks are more frustrating for hybrid workers since they require higher levels of coordination, which might be more difficult to manage through online communication. Perhaps those challenges prevent interactive tasks from counteracting the negative effects of hybrid working on belongingness. For example, given that interactive tasks are more frustrating for hybrid workers (e.g., Golden and Veiga, 2005), employees might perceive their colleague interaction as less positive. This is in line with the belongingness theory (Baumeister & Leary, 1995), which proposes that an interaction should be meaningful and positive to build relationships. Thus, interactive tasks that are not perceived as positive or meaningful might not help to regain feelings of belongingness.

Practical implication

Our results show that the baseline telework intensity negatively predicted employees' sense of belongingness. Therefore, we suggest that teleworking negatively impacts feelings of belongingness in the long term. This implies that organisations should pay attention to employees who have been teleworking for more than six months. Organisations could inform hybrid workers about the potential risks of long-term teleworking, such as reduced feelings of

belongingness. Therefore, employers can suggest to their workers to counterbalance working from home and from the office to prevent the risk of feeling disconnected. Lastly, organisations can schedule regular on-site meetings to check in with their employees and ensure their well-being.

Furthermore, knowing whether the type of work task, such as interactive tasks, can foster a sense of belongingness in the workplace can have many advantages for an organisation. It can increase the overall well-being of employees, which can make them satisfied with their organization and increase their motivation and work productivity. Therefore, an organization might be able to provide a good work environment for hybrid workers to ensure their well-being and increase their job performance.

Strengths and Limitations

One of this study's main strengths is that it focuses on employees' sense of belongingness, which provides more insights into the various consequences of hybrid work and employees' subjective experiences in the hybrid work context. This is especially important considering that hybrid work is becoming increasingly popular, and there is limited telework research on employees' sense of belongingness. Therefore, studying belongingness contributes to unique findings in telework research, which could help organisations design appropriate work environments for hybrid workers.

Furthermore, we had very specific criteria for recruiting the participants. This is beneficial for the study, as the characteristics of the sample are well-known. This contributes to a higher internal validity since the measured outcomes are less likely to be attributed to other variables. However, the specific criteria can also be seen as a limitation of this study. Due to the strict criteria, we excluded seventy-five out of one hundred-seventeen participants. Therefore, our sample size was very small, which can be problematic since it means that the

results are less reliable. For example, smaller sample sizes lead to lower statistical power, which makes it less likely to detect true effects.

Another limitation is that the sample could be biased and not representative of the general population. For example, jobs that allow employees to telework tend to be better paid, require higher academic qualifications, and offer more autonomy (Eurofound, 2022). Our sample shows this, as 90.0% of the participants completed a university degree. This means that our sample might be biased since it does not represent the general population but rather a specific group with an academic background. Therefore, the findings might not be able to be generalised beyond this specific sample.

Future Direction

This study provides valuable insights into employees' feelings of belongingness in a hybrid working context. We suggest that hybrid working may negatively impact belongingness in the long run. However, we do not know how time impacts the relationship between teleworking and belongingness. Therefore, we encourage future research to build on these findings by investigating the long-term effects of teleworking. This would enhance our understanding of the various consequences of hybrid working and extend the limited telework research on belongingness. Furthermore, future research should consider including a bigger sample. For example, by expanding the screening criteria of the study to recruit more participants. This can be done by including employees with an internship contract or employees who start working before 6.30 am. Lastly, it would be interesting to investigate in future research whether individual differences influence the way hybrid workers perceive their sense of belongingness at work. For example, whether personality traits like introversion change employees' need for belongingness at work.

Conclusion

Despite the increasing popularity of hybrid working, it has been associated with many challenges, such as social isolation (e.g., Golden and Veiga, 2005) and co-worker relationships (e.g., Gajendran and Harrison, 2007). This paper aims to contribute to a better understanding of whether telework intensity harms employees' sense of belongingness and whether interactive tasks can counteract those negative effects by moderating the relationship. Our results show that telework intensity negatively predicted employees' sense of belongingness using the baseline questionnaire variables. Therefore, we propose that telework intensity might negatively impact feelings of belongingness in the long term, and future research should focus on the long-term consequences of hybrid working.

References

Allen, T. D., Golden, T. D. & Shockley, K. M. (2015). How Effective Is Telecommuting?
Assessing the Status of Our Scientific Findings. *Psychological Science in the Public
Interest*, *16*(2), 40–68. https://doi.org/10.1177/1529100615593273

Baumeister, R. F. & Leary, M. R. (1995). The need to belong: Desire for interpersonal
attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–
529. https://doi.org/10.1037/0033-2909.117.3.497

Bosch-Sijtsema, P. M. & Sivunen, A. (2013). Professional virtual worlds supporting
computer-mediated communication, collaboration, and learning in geographically
distributed contexts. *IEEE Transactions on Professional Communication*, *56*(2), 160–
175. https://doi.org/10.1109/TPC.2012.2237256

Cooper, C. D. & Kurland, N. B. (2002). Telecommuting, professional isolation, and employee
development in public and private organizations. *Journal of Organizational Behavior*,
23(4), 511–532. https://doi.org/10.1002/job.145

Denstadli, J. M., Julsrud, T. E. & Hjorthol, R. J. (2012). Videoconferencing as a Mode of
Communication: A Comparative Study of the Use of Videoconferencing and Face-to-
Face Meetings. *Journal of Business and Technical Communication*, *26*(1), 65–91.
https://doi.org/10.1177/1050651911421125

D'Oliveira, T. C. & Persico, L. (2023). Workplace isolation, loneliness and wellbeing at
work: The mediating role of task interdependence and supportive behaviours. *Applied
Ergonomics*, *106*, 103894. https://doi.org/10.1016/j.apergo.2022.103894

Eurofound, Llave, O. V., Hurley, J., Peruffo, E., Contreras, R. R., Adascalitei, D., Gaude, L.
B., Staffa, E. & Soriano, C. V. (2022). The rise in telework: Impact on working
conditions and regulations. *Publications Office of the European Union,*
https://data.europa.eu/doi/10.2806/069206

Gajendran, R. S. & Harrison, D. A. (2007). The good, the bad, and the unknown about
telecommuting: Meta-analysis of psychological mediators and individual
consequences. *Journal of Applied Psychology*, *92*(6), 1524–1541.
https://doi.org/10.1037/0021-9010.92.6.1524

Gibson, C. B., Gilson, L. L., Griffith, T. L. & O'Neill, T. A. (2023). Should employees be
required to return to the office? *Organizational Dynamics*, *52*(2), 100981.
https://doi.org/10.1016/j.orgdyn.2023.100981

Golden, T. (2006). Avoiding depletion in virtual work: Telework and the intervening impact
of work exhaustion on commitment and turnover intentions. *Journal of Vocational
Behavior*, *69*(1), 176–187. https://doi.org/10.1016/j.jvb.2006.02.003

Golden, T. (2007). Co-workers who telework and the impact on those in the office:
Understanding the implications of virtual work for co-worker satisfaction and turnover
intentions. *Human Relations*, *60*(11), 1641–1667.
https://doi.org/10.1177/0018726707084303

Golden, T. & Veiga, J. (2005). The Impact of Extent of Telecommuting on Job Satisfaction:
Resolving Inconsistent Findings. *Journal of Management*, *31*(2), 301–318.
https://doi.org/10.1177/0149206304271768

James, G., et al. (2021). Linear Regression. An Introduction to Statistical Learning: with
Applications in R. G. James, D. Witten, T. Hastie, and R. Tibshirani. *New York, NY,
Springer* US: 59-128. https://link.springer.com/book/10.1007/978-1-4614-7138-7

Kristof-Brown, A. L., Zimmerman, R. D. & Johnson, E. C. (2005). Consequences of
individual's fit at work: A meta-analysis of person-job, person-organization, person-
group, and person-supervisor fit. *Personnel Psychology*, *58*(2), 281–342.
https://doi.org/10.1111/j.1744-6570.2005.00672.x

Kunze, F. (2020). *Homeoffice in der Corona-Krise: eine nachhaltige Transformation der Arbeitswelt?*

Liu, Y., Xu, N., Yuan, Q., Liu, Z. & Tian, Z. (2022). The Relationship Between Feedback Quality, Perceived Organizational Support, and Sense of Belongingness Among Conscientious Teleworkers. *Frontiers in Psychology*, *13*, 806443. https://doi.org/10.3389/fpsyg.2022.806443

Morganson, V. J., Major, D. A., Oborn, K. L., Verive, J. M. & Heelan, M. P. (2010). Comparing telework locations and traditional work arrangements: Differences in work-life balance support, job satisfaction, and inclusion. *Journal of Managerial Psychology*, *25*(6), 578–595. https://doi.org/10.1108/02683941011056941

Pfnür, A., Gauger, F., Bachtal, Y., & Wagner, B. (2021). Homeoffice im Interessenkonflikt: Ergebnisbericht einer empirischen Studie (No. 41). *Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis*.

Puranik, H., Koopman, J. & Vough, H. C. (2021). Excuse me, do you have a minute? An exploration of the dark- and bright-side effects of daily work interruptions for employee well-being. *Journal of Applied Psychology*, *106*(12), 1867–1884. https://doi.org/10.1037/apl0000875

Shakespeare-Finch, J. & Daley, E. (2017). Workplace belongingness, distress, and resilience in emergency service workers. *Psychological Trauma: Theory, Research, Practice, and Policy*, *9*(1), 32–35. https://doi.org/10.1037/tra0000108

Shockley, K. M. & Allen, T. D. (2007). When flexibility helps: Another look at the availability of flexible work arrangements and work-family conflict. *Journal of Vocational Behavior*, *71*(3), 479–493. https://doi.org/10.1016/j.jvb.2007.08.006

Sias, P. M., Pedersen, H., Gallagher, E. B. & Kopaneva, I. (2012). Workplace Friendship in the Electronically Connected Organization. *Human Communication Research*, *38*(3),

253–279. https://doi.org/10.1111/j.1468-2958.2012.01428.x

Spivack, A. J. & Milosevic, I. (2018). Perceived Location Autonomy and Work Environment Choice: The Mediating Influence of Intrinsic Motivation. *The Journal of Applied Behavioral Science*, *54*(3), 325–348. https://doi.org/10.1177/0021886318764353

Turetken, O., Jain, A., Quesenberry, B. & Ngwenyama, O. (2011). An Empirical Investigation of the Impact of Individual and Work Characteristics on Telecommuting Success. *IEEE Transactions on Professional Communication*, *54*(1), 56–67. https://doi.org/10.1109/TPC.2010.2041387

Wohlers, C., Hartner-Tiefenthaler, M. & Hertel, G. (2019). The relation between activity-based work environments and office workers' job attitudes and vitality. *Environment and Behavior*, *51*(2), 167–198. https://doi.org/10.1177/0013916517738078
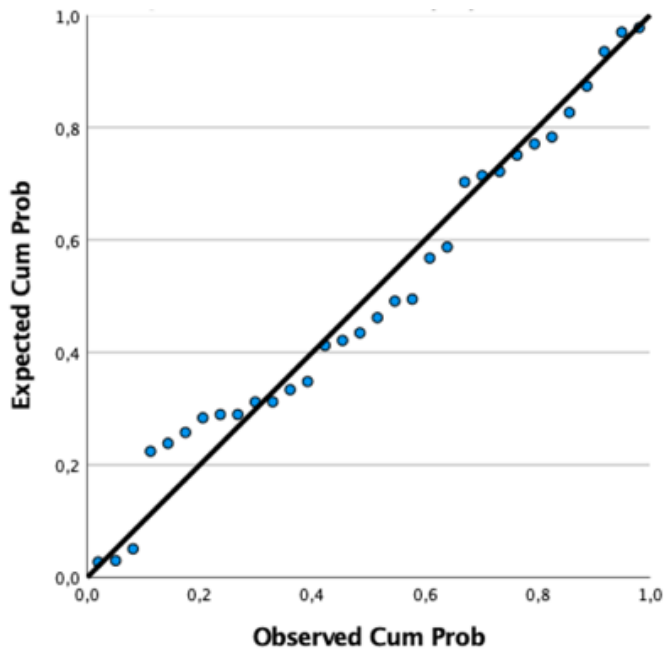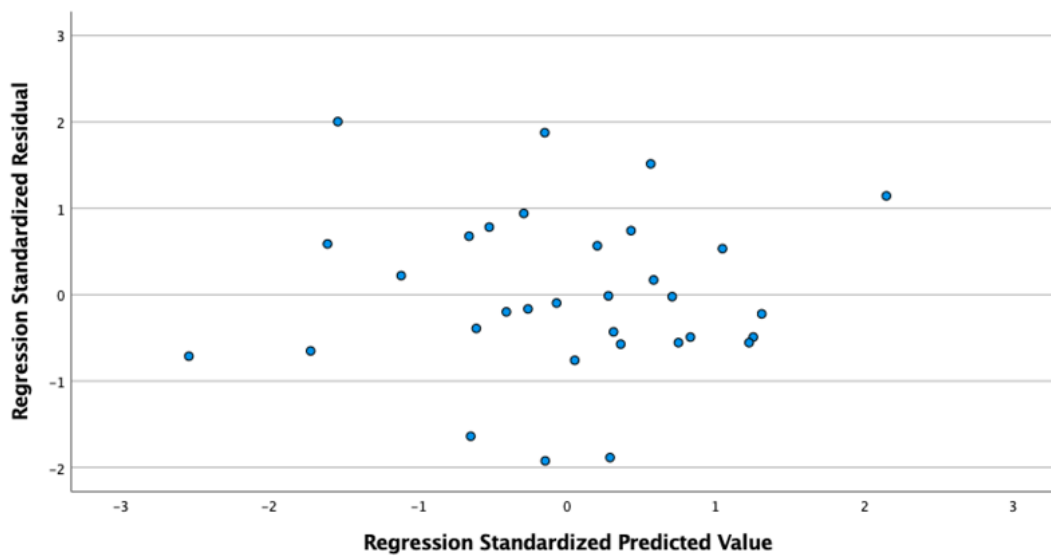
Appendix A

Figure 2.

Normal P-P Plot of Belongingness

Figure 3.

Scatterplot of the dependent variable belongingness

Appendix B

Baseline questionnaire

Scale of Telework intensity

During the past 6 months, how many workdays per week did you typically work from home

(or other locations outside the employer's premises)?

None

1 workday

2 workdays

3 workdays

4 workdays

5 or more workdays

Scale of Interactive tasks adapted item by Wohlers et al. (2019)

On average, to what extent does the following statement apply to you?

My work tasks require me to be able to have intensive discussions with colleagues.

1 = not at all, 5 = to a very high extent

Morning questionnaire

Scale of Interactive tasks adapted item by Wohlers et al. (2019)

Today, to what extent do the following statements apply to your work tasks?

Today, my work tasks require me to be able to have intensive discussions with colleagues.

1 = not at all, 2 = to a low extent, 3 = to a moderate extent, 4 = to a high extent, 5 = to a very high extent

End-of-day questionnaire

Scale of Belongingness by Puranik et al. (2019)

Regarding your workday today, to what extent do you agree with the following statements?

Today at work,

I felt well-accepted by others.

I felt like I really belonged.

I felt connected with others.

I felt close to others.

I felt isolated from others.

1 = strongly disagree, 5 = strongly agree

Scale of Telework intensity

The following questions refer to how many work hours you spent working at the office (i.e., at the premises of your employer) and how many hours you spent working at home. Please note that you should not include hours here that you worked as overtime.

How many hours did you work in the office today?

How many hours did you work at home today?