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SHAPING THE FUTURE OF WORK: TELEWORKING UNDER A VARYING STRUCTURE

MASTER THESIS ORGANISATIONAL DESIGN & DEVELOPMENT

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Abstract

Telework adoption has increased globally, with the COVID-19 pandemic further accelerating its prevalence. In the Netherlands, over 50% of the employed workforce now engages in telework. While telework intensity is frequently linked to employee wellbeing via the Job Demands-Resources (JD-R) model, its effects are multifaceted and potentially shaped by contextual factors. This study examines both the direct effects of telework intensity on job demands and job resources, and the moderating role of organizational structure as a contextual factor in these relationships, including the effect of structure parameters: functional concentration, specialization, centralization, and formalization. Using data from the 2025 *Telework Research* survey among Dutch employees with recent teleworking experience, multiple regression analyses with interaction effects were performed. Findings reveal that telework intensity directly relates to reduced job demands and increased social and structural job resources. Moreover, organizational structure significantly moderates these effects. Contrary to expectations, higher values of structure parameters strengthen – rather than weaken – the positive impact of telework intensity. More bureaucratic organizations may thus amplify the beneficial effects of intensity on employee wellbeing, highlighting the importance of organizational structure as a contextual variable.

Key words: telework intensity, job demands-resources model, organizational structure, structure parameters, bureaucracy, employee wellbeing, quantitative study

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1. Introduction

The concept of telework has existed for several decades and has seen growing global adoption (Tavares, 2017). It has received considerable attention from both scholars and practitioners alike (Nakrošienė et al., 2019). Telework is defined as a work arrangement that enables individuals to work from home or another location outside the traditional office setting, facilitated by information and communication technologies (Bailey & Kurland, 2002; Verelst et al., 2023). Advancements in information technology towards the end of the 20th century significantly contributed to the expansion of telework (Tavares, 2017). However, the COVID-19 pandemic marked a turning point in both the scale and character of telework. What was once a voluntary and occasional practice became mandatory and sustained for a large portion of the workforce (Zoomer et al., 2021). Consequently, the pandemic further institutionalized telework, solidifying its role as a core component of modern work arrangements (Verelst et al., 2023).

As a result, the COVID-19 pandemic prompted a surge in research on telework and its outcomes (e.g., Dettmers & Plückhahn, 2021; Stempel & Siestrup, 2022; Verelst et al., 2023, Zoomer et al., 2021). For instance, Stempel and Siestrup (2022) suggest that telework contributes to increased autonomy, fewer interruptions, and reduced overtime. Notably, several studies suggest that telework will remain prevalent even after the pandemic – potentially more so than before (Stempel & Siestrup, 2022). One explanation is the rapid advancement and widespread adoption of communication technologies accelerated by the pandemic (Dettmers & Plückhahn, 2021). Recent data from CBS (2025) confirms this trend: by 2024, at least 52% of the Dutch labor force worked from home either partially or regularly. These developments underscore the importance of further examining the effects of what has been referred to as the ‘new homeworking’ (Zoomer et al., 2021).

Much prior research has compared teleworkers to non-teleworkers without accounting for differences in telework intensity (e.g., Dettmers & Plückhahn, 2021; Zoomer et al., 2021). Telework intensity refers to the proportion of time an employee works outside the traditional office (Gajendran & Harrison, 2007; Nakrošienė et al., 2019). Several studies emphasize the importance of examining this variation, as telework outcomes – such as job satisfaction and employee functioning – appear to depend on intensity levels, for example by plateauing after a certain intensity (Cooper & Kurland, 2002; Gajendran & Harrison, 2007; Golden & Veiga, 2005). Telework intensity may take various forms: parttime (e.g., one or two days per week), fulltime (exclusively remote), or ad hoc (sporadic and situational, such as during illness or emergencies) (Nakrošienė et al., 2019). These forms differ in the extent of time spent teleworking (Gajendran & Harrison, 2007).

The Job Demands-Resources (JD-R) model is frequently applied to examine the outcomes of telework, as it captures both negative and positive aspects of employee wellbeing (Demerouti & Bakker, 2011; Demerouti et al., 2001). The model distinguishes between job demands – work aspects that require sustained effort and may lead to strain, such as time pressure or situational constraints – and job resources, which help achieve work goals, foster personal development, and buffer the impact of demands by providing energy, positively influencing motivation. Common job resources include autonomy, feedback, and social support (Demerouti & Bakker, 2011; Demerouti et al., 2001; Nakrošienė et al., 2019; Stempel & Siestrup, 2022; Verelst et al., 2023). Extensive research confirms that the interplay of job demands and resources significantly influences employee motivation, strain, and ultimately job performance (Bakker & Demerouti, 2017).

Several studies indicate that telework intensity significantly alters employees' job demands and resources. Overall, research suggests that telework intensity may reduce certain demands, such as work pressure, and increase resources like autonomy, due to greater flexibility in task execution (Gajendran & Harrison, 2007; Sardeshmukh et al., 2012; Tavares, 2017). However, it can also increase role ambiguity and diminish access to communication, feedback, and social support, as face-to-face interaction with colleagues and supervisors decreases (Sardeshmukh et al., 2012; Tavares, 2017). Although some studies report net benefits of telework (Dettmers & Plückhahn, 2021; Gajendran & Harrison, 2007; Tavares, 2017), these mixed findings underscore that its effects are not universally positive or straightforward (Nakrošienė et al., 2019; Stempel & Siestrup, 2022).

Notably, most JD-R research emphasizes the individual level, while higher-level organizational constructs can also shape job demands and resources, integrating multiple levels into the JD-R model (Bakker & Demerouti, 2017). One such underexplored factor in the context of telework is the organizational context in which employees operate (Morgeson et al., 2010). A key contextual factor is organizational structure (Morgeson et al., 2010), defined as "the way tasks are defined and related into a network of tasks" (Achterbergh & Vriens, 2019, p. 46).

Several scholars argue that organizational structure influences individual outcomes such as job demands, job resources, and employee wellbeing (Parker, 2003). For instance, high levels of centralization and formalization – key structural dimensions – have been negatively associated with perceived job autonomy (Morgeson et al., 2010; Sutton & Rousseau, 1979). Beyond direct effects, organizational structure may also interact with work design features to shape employee outcomes, potentially amplifying or weakening these relationships (Morgeson et al., 2010). This suggests that organizational structure could function as a moderator in the relationship between telework intensity and job demands and resources, interacting with telework – a work arrangement – to influence employee wellbeing.

1.2 Problem formulation and research question

Although telework is generally associated with net benefits for employees (Dettmers & Plückhahn, 2021; Gajendran & Harrison, 2007; Tavares, 2017), empirical findings remain inconsistent and at times contradictory (Nakrošienė et al., 2019).

A notable gap in the literature concerns the role of organizational context – particularly organizational structure – in shaping telework outcomes. While previous studies suggest that structure influences job demands and resources (Morgeson et al., 2010), its potential moderating role in the relationship between telework intensity and these job characteristics has not yet been explored. This study aims to address this gap by examining how organizational structure may interact with telework intensity to influence employees' job demands and resources, through a quantitative analysis using Dutch survey data. The corresponding research question is therefore:

To what extent does organizational structure moderate the relationship between telework intensity and the interplay of job demands and job resources?

To answer this question, a multi-step research approach was employed. First, a literature review informed the development of hypotheses regarding the relationships among the key variables. Data were then collected via the 2025 *Telework Research* survey, targeting Dutch employees with teleworking experience over the past year. Constructs were operationalized based on the theoretical frameworks, and multiple regression analyses – including interaction effects – were conducted to test the hypotheses. The findings provide insight into the role of organizational structure in telework settings.

1.3 Scientific and social relevance

Answering the research question contributes to the theoretical understanding of how telework intensity affects job demands and resources, by exploring the potential moderating role of organizational structure. Given the still unexplained variance in telework outcomes, examining structural context as a higher-level variable offers a novel perspective. As Golden and Veiga (2005, p. 315) emphasize: "future research with data from multiple organizations would permit an examination of whether firm differences in contextual factors […] also play a role." By integrating organizational structure into the JD-R model, this study deepens insight into how individual psychological processes unfold within varying organizational contexts (Bakker & Demerouti, 2017), bridging the gap between the organizational psychology perspective of the JD-R theory (Demerouti & Bakker, 2011) and the structural perspective of sociotechnical systems thinking (Achterbergh & Vriens, 2019; De Sitter et al., 1997).

The study also responds to calls for post-pandemic telework research (Stempel & Siestrup, 2022). While much telework literature focuses on the COVID-19 period, the enduring nature of telework in modern employment highlights that "research needs to address and substantiate this development in order to design a healthy and sustainable working environment" (Stempel & Siestrup, 2022, p. 12). Additionally, this study moves beyond the binary comparison of teleworkers versus non-teleworkers by focusing on telework intensity, as recommended by prior scholars (Cooper & Kurland, 2002; Gajendran & Harrison, 2007; Golden & Veiga, 2005).

Finally, the findings could have practical implications. A proper balance between job demands and resources promotes engagement and performance, while preventing strain and burnout, thereby supporting employee wellbeing overall (Bakker & Demerouti, 2017; Demerouti & Bakker, 2011). Insights into how organizational structure influences this balance under varying intensities of telework can help managers design supportive organizational contexts. This shifts the focus from solely individual interventions to structural, organization-level strategies, to improve employee wellbeing.

1.4 Outline of the thesis

The remainder of this paper is structured as follows. The next section presents the theoretical framework, explaining the central concepts of telework, the JD-R model, and organizational structure, along with their underlying theoretical foundations. Based on this, this section also formulates the hypotheses regarding the relationships between these concepts. Section three outlines the research methodology and describes how the study was conducted. In section four, the empirical results of the survey are presented. Section five provides an interpretation of the findings, discusses the theoretical and practical contributions of the study, and finally reflects on the study's limitations, while offering suggestions for further research.

2. Theoretical framework

The aim of this study is to examine the moderating role of organizational structure in the relationship between telework intensity and job demands and resources. The conceptual model underpinning this study is presented in Figure 1.

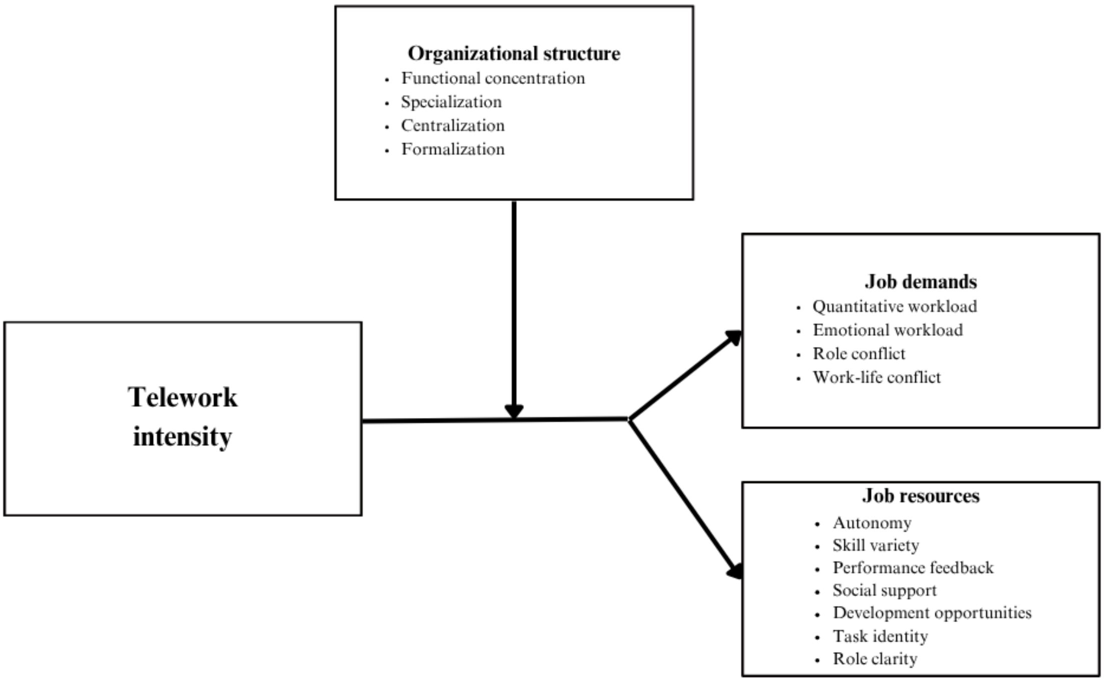

Figure 1: Global conceptual model

This section addresses the theoretical question of which relationships and effects from the conceptual model can be hypothesized based on existing literature. It begins by elaborating on the theoretical foundations of the JD-R model, followed by the hypothesized relationships between telework intensity and job demands and resources. Lastly, potential interaction effects of organizational structure on these relationships are examined.

2.1 The JD-R model

The JD-R model was introduced over two decades ago (Demerouti et al., 2001) and has since been applied in thousands of organizations and numerous empirical studies (Bakker & Demerouti, 2017). It posits that job characteristics can be broadly classified as either job demands or job resources, each associated with distinct psychological processes and outcomes (Demerouti et al., 2001).

Job demands refer to physical, social, or organizational aspects of work that require sustained mental or physical effort and are therefore associated with physiological or psychological costs, such as exhaustion (Demerouti et al., 2001). Examples include time pressure, role conflict, or job insecurity (Bakker & Demerouti, 2017; Schaufeli, 2017).

Job resources, in contrast, are aspects of the job that help achieve work goals and promote personal development. These include autonomy, feedback, supervisor support, and opportunities for growth (Demerouti et al., 2001; Tims et al., 2012). Over time, the scope of both categories has been expanded, and the selection of relevant demands and resources varies per study – often depending on the other factors taken into account. This also applies to telework research, in which different studies operationalize different job characteristics (Stempel & Siestrup, 2022).

Employees' perceptions of job demands and resources thus offer critical insights into employee wellbeing: employees who perceive their organization to optimize the job demands and resources report higher levels of wellbeing (Bakker & Demerouti, 2017).

The JD-R model identifies two core pathways (see Figure 2). The first is the health impairment process, where excessive job demands lead to strain and reduced job performance. The second is the motivational process, where job resources enhance motivation and improve performance (Bakker & Demerouti, 2017).

Later research confirmed that these processes also interact. For instance, job resources may buffer the adverse effects of high demands, while some job demands can act as challenging demands – contributing positively to motivation (Bakker et al., 2007; Podsakoff et al., 2007). In contrast, hindering demands such as role conflict inhibit goal attainment and increase strain (Cavanaugh et al., 2000).

Given this study's focus on exploring the moderating effect of organizational structure, job demands and job resources are treated as the primary outcome variables of telework intensity. Further relationships – such as the distinction between hindering and challenging demands or links to job performance – are not examined here, as multiple empirical studies have confirmed these relationships before; they are already well established in the existing literature (Bakker & Demerouti, 2017). In contrast, the influence of telework intensity on job demands and resources, particularly in interaction with structural factors, warrants further investigation.

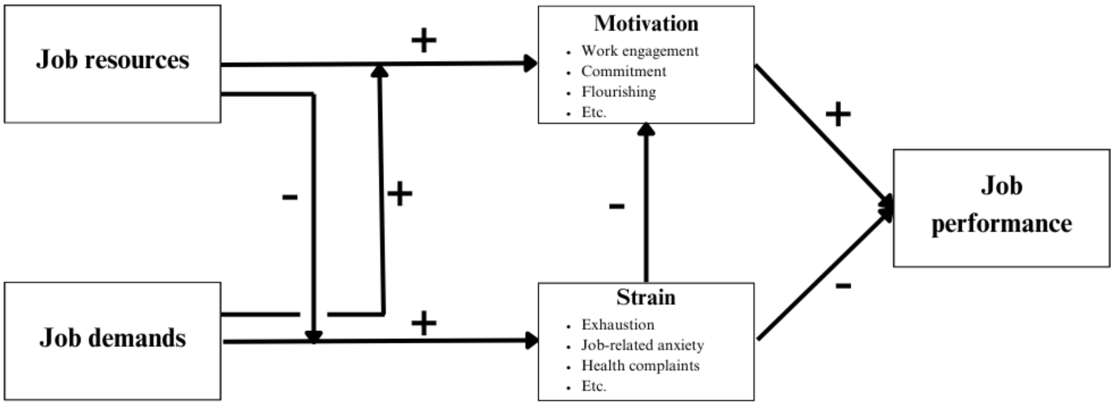

Figure 2: JD-R model pathways (Bakker & Demerouti, 2017)

2.2 Telework intensity and the JD-R model

Telework refers to working outside the conventional workplace – for example at home – while relying on computer-based technologies for communication (Cooper & Kurland, 2002). Both organizations and employees can benefit from teleworking, as it has been associated with reduced absenteeism, improved morale, lower overhead costs, access to a broader talent pool, greater schedule flexibility, and fewer workplace distractions (Kurland & Bailey, 1999). As a flexible work arrangement that adapts the work location to employees' needs and preferences, telework has become increasingly relevant for organizations (Tavares, 2017).

Already at the turn of the century, Kurland and Bailey (1999) predicted a growing number of teleworkers, driven by advancements in communication technology. This trend has continued over the past decades (Tavares, 2017), with a significant acceleration during the COVID-19 pandemic in 2020. The number of teleworkers and the intensity of telework increased dramatically (Dettmers & Plückhahn, 2021; Verelst et al., 2023). The pandemic also catalyzed the development and widespread adoption of digital communication tools, further embedding telework into everyday organizational life (Zoomer et al., 2021). Figure 3 presents the number of teleworkers within the Dutch employed labor force – the population targeted in this study – distinguishing between employees who telework most of the time and those who occasionally work outside of the traditional office.

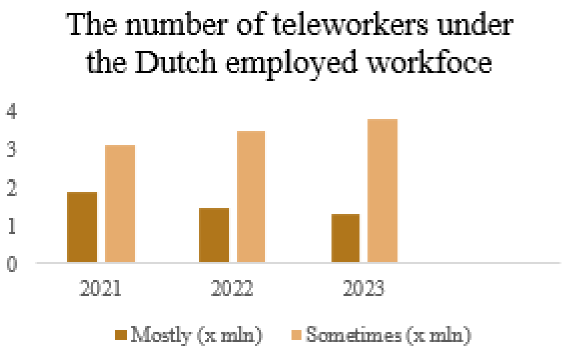

Figure 3: The amount of teleworking employees in The Netherlands (CBS, 2024)

While there is no overarching theory explaining the effects of telework (Gajendran & Harrison, 2007), the JD-R model has been widely used to conceptualize the outcomes of telework (e.g., Dettmers & Plückhahn, 2021; Nakrošienė et al., 2019; Sardeshmukh et al., 2012; Stempel & Siestrup, 2022; Tavares, 2017; Verelst et al., 2023). As Bailey and Kurland (2002, p. 394) point out: "the absence of organizational theories in telework research has been highlighted as the main difficulty in identifying and explaining what happens when people telework." Applying the JD-R model thus provides a systematic way to link outcomes of telework intensity to a well-established organizational theory (Nakrošienė et al., 2019).

One key telework characteristic is telework intensity, defined as "the extent or amount of scheduled time that employees spend doing tasks away from a central work location" (Gajendran & Harrison, 2007, p. 1529). Sardeshmukh et al. (2012) argue that telework intensity affects job demands and resources. It is often assumed that higher telework intensity amplifies the effects of telework on these job characteristics (Gajendran & Harrison, 2007). Some researchers, however, suggest that the relationship between intensity and certain outcomes, such as job satisfaction, is non-linear (Golden & Veiga, 2005). In such cases, job satisfaction initially increases with telework intensity but may plateau or decline beyond a certain threshold. Nevertheless, the dominant view remains that higher telework intensity generally strengthens the effects on job characteristics, as Gajendran and Harrison (2007) suggest. For instance, these authors argue that the general effect of telework reducing work-life conflict is accentuated by high-intensity telework compared to low-intensity telework. Therefore, this study focuses on linear relationships between telework intensity and job demands and resources as a foundation for further analysis.

2.2.1 Job demands

The current literature suggests that telework intensity affects various job demands as identified in the JD-R model. One such demand is quantitative workload, which is often said to be reduced through increased telework intensity. As the extent of teleworking increases, time pressure may decrease, since employees can schedule their work and eliminate commuting (Sardeshmukh et al., 2012; Darouei & Pluut, 2021). With regard to emotional workload, telework intensity has been shown to reduce stress and anxiety (Anderson et al., 2014).

Work-life conflict is another frequently examined job demand influenced by telework. According to Bailey and Kurland (2002), higher levels of telework intensity may lead to more frequent interruptions at home and longer working hours, thus increasing conflict between work and private life. Gajendran and Harrison (2007) and Tavares (2017) interpret these blurred boundaries as flexible, allowing individuals to synchronize family and work demands more effectively. Similarly, Golden and Veiga (2005) and Nakrošienė et al. (2019) argue that telework facilitates fulfilling family obligations, thereby reducing work-life conflict. Furthermore, the reallocation of time may allow for increased engagement in leisure activities (Sardeshmukh et al., 2012).

Another important job demand is role conflict, defined as the perceived incongruence between the various expectations attached to a role (Rizzo et al., 1970). Some studies suggest that telework helps mitigate role conflict. For example, Sardeshmukh et al. (2012) found that telework intensity can reduce the conflict between incompatible demands.

In summary, while some negative consequences of high telework intensity are noted, the overall evidence leans towards a reduction in job demands, which generally indicates a beneficial influence. Based on this synthesis of current literature, the following hypothesis is proposed:

Hypothesis 1: *Telework intensity is inversely related to job demands.*

2.2.2 Job resources

The current literature also highlights how telework intensity influences various job resources, as defined by the JD-R model. Telework intensity is often associated with reduced performance feedback. As employees spend more time away from the physical workplace, they are less exposed to informal interactions with supervisors and peers, which typically provide immediate and nuanced feedback (Gajendran & Harrison, 2007; Sardeshmukh et al., 2012; Tavares, 2017). The limited richness of virtual communication can impair the quality and frequency of feedback and may also reduce perceptions of being appreciated and recognized by supervisors, due to lower visibility (Cooper & Kurland, 2002).

Similarly, social support may decline with higher telework intensity. Teleworkers might face lower support from colleagues and supervisors as they work more from home (Cooper & Kurland, 2002). Employees working remotely miss out on spontaneous, informal encounters with colleagues and supervisors that often facilitate collaboration and problem-solving (Sardeshmukh et al., 2012; Tavares, 2017).

However, not all effects of telework intensity on job resources are negative. One of the most consistently identified effects is on autonomy. A growing body of research indicates that telework intensity is positively associated with increased autonomy at work (e.g., Sardeshmukh et al., 2012; Stempel & Siestrup, 2022; Tavares, 2017). For instance, higher levels of telework are found to increase decision latitude and the freedom to determine how tasks are carried out (Dettmers & Plückhahn, 2021). Employees with higher telework intensity experience more control over the location, timing, and means of their work (Gajendran & Harrison, 2007), and are better able to adapt their tasks to meet their personal needs (Golden & Veiga, 2005).

In addition to autonomy, telework intensity may increase skill variety and development opportunities. Dettmers and Plückhahn (2021) argue that more intensive teleworking is associated with a higher degree of variability in day-to-day tasks, providing opportunities for learning and skill use. Task identity may also benefit, as teleworkers reported better visualization of successful performance on home-working days compared to office days (Müller & Niessen, 2019). Finally, Sardeshmukh et al. (2012) found that – due to constrained communication – telework intensity might increase role ambiguity, which refers to a lack of role clarity regarding job expectations, responsibilities, and evaluation criteria (Rizzo et al., 1970).

In summary, the effects of telework intensity on job resources appear to be slightly more ambiguous than on job demands. On the one hand, telework intensity appears to reduce resources such as performance feedback and social support – variables that are more related to social interactions. On the other hand, telework intensity mostly increases resources such as autonomy, development opportunities, task identity, and skill variety – except for role clarity – variables that are more related to the content of and control over the job. Following the distinction by Schaufeli (2017), the first set of resources is more related to social job resources, while the second set more closely resembles structural job resources. Due to the different directions expected for both types of resources – instead of proposing a single general hypothesis on job resources – two specific hypotheses are formulated:

Hypothesis 2a: *Telework intensity is inversely related to social job resources.*

Hypothesis 2b: *Telework intensity is positively related to structural job resources.*

2.3 The role of organizational structure

Following the hypotheses of the direct relationships between telework intensity and job demands and resources, this section considers the moderating role of organizational structure. Literature suggests that organizational structure – as a contextual variable – can interact with individual-level variables like telework intensity, supporting a multilevel approach to job demands and resources (Bakker & Demerouti, 2017). Specifically, structure can shape the context in which telework occurs, thereby amplifying, weakening, or altering its effects on perceived job characteristics (Morgeson et al., 2010).

This study adopts the definition of Achterbergh and Vriens (2019, p. 46), who describe structure as "the ways tasks are defined and related into a network of tasks". This definition is rooted in sociotechnical systems design theory, primarily developed by De Sitter (1994), which advocates for the joint optimization of social and technical systems.

The central principle of this theory is to transform complex organizations with simple jobs into simpler organizations offering complex jobs (De Sitter et al., 1997). Within this perspective, organizational structures are described through structure parameters, which are key design dimensions that determine how tasks are allocated, coordinated, and controlled within the organization (Achterbergh & Vriens, 2019). These parameters, depending on their values – ranging from low to high – enable or constrain organizational members in various ways (Achterbergh & Vriens, 2019).

High values on these parameters typically characterize bureaucratic structures with simple, interdependent jobs that are often problematic, while low values reflect more enabling structures with complex jobs that are relatively autonomous (Achterbergh & Vriens, 2019; De Sitter et al., 1997). Thus, a lower degree of bureaucratization is generally associated with more favorable working conditions.

Although different scholars have proposed various sets of structure parameters (e.g., Pugh et al., 1968; Mintzberg, 1980; De Sitter et al., 1997), four parameters are most commonly recognized: functional concentration, specialization, centralization, and formalization (Vriens et al., 2018). These will also be used in the current study. Notably, functional concentration and specialization are primarily related to the production structure – the operational configuration of tasks – while centralization and formalization relate to the control structure, which governs regulation and decision-making processes (Achterbergh & Vriens, 2019).

Because these parameters differ substantially in nature and function, it is expected that they do not exert uniform moderating effects. Consequently, this study does not only assess the overall moderating influence of bureaucracy as a composite concept, but also investigates the distinct interaction effects of each separate parameter. By doing so, the study aims to gain deeper insight into how organizational structure (parameters) shape the way telework intensity influences job characteristics at the individual level.

In the following sections, the expected moderating effects of each structure parameter on the relationship between intensity and job demands and resources will be discussed. Based on this, specific hypotheses will be formulated.

2.3.1 Functional concentration

Functional concentration refers to the extent to which operational units are (potentially) linked to all order types (Achterbergh & Vriens, 2019; De Sitter et al., 1997). Under high functional concentration, all order types can be processed by all units, creating interdependent, complex workflows (Vriens et al., 2018). Such a high level is exemplified by an organization where departments are structured by function (e.g., a sales department and separate shipping department, each serving all types of clients or products. In contrast, low functional concentration implies a one-to-one mapping between order types and units, leading to more independent and parallel workflows (Vriens et al., 2018). A low level functional concentration can be found in an organization where departments are structured around order types, such as customer segments (e.g., one unit may handle all tasks for business clients, while another unit does the same for individual customers).

Regarding job demands, high functional concentration may increase quantitative workload due to more diverse information flows and coordination requirements, such as additional information per order type (Achterbergh & Vriens, 2019). Although telework can reduce time pressure (Sardeshmukh et al., 2012), the inverse – and beneficial – effects may be weakened when high functional concentration increases the cognitive load. Conversely, low functional centralization decreases the variety of content of relations (Achterbergh & Vriens, 2019), potentially enhancing the inverse effects on quantitative workload.

In terms of social job resources, high functional concentration increases task interdependence, since multiple units might have to work together to produce the outputs of an order type (Achterbergh & Vriens, 2019). This requires more coordination and communication (Golden & Veiga, 2005). In a telework setting, this reliance on digital communication may reduce social support and hinder effective collaboration, since merely replacing face-to-face interactions with those carried out by technology may not be entirely sufficient (Golden & Veiga, 2005). Low functional concentration reduces the number of interdependencies by confining tasks within the boundaries of the respective unit or team dedicated to a specific order type (Achterbergh & Vriens, 2019). While coordination among the members of these groups remains essential, low functional concentration fosters 'flow-related' communication due to increased oversight (e.g., enhanced visibility and understanding of individual roles and responsibilities within the team) (Vriens et al., 2018), weakening the inverse effects of telework intensity on social support.

As for structural job resources, high functional concentration can make it harder for employees to oversee the full impact of their work, which would negatively affect task identity (Vriens et al., 2018). In contrast, low functional concentration fosters clearer task boundaries, which may further enhance task identity while teleworking.

Overall, functional concentration may moderate the relationship between telework intensity and job demands – with high functional concentration weakening the beneficial impact of intensity on reducing job demands – social job resources – with high values strengthening inverse effects, and low values weakening inverse effects – and structural job resources – also with high values undermining these resources by weakening the positive effects.

2.3.2 Specialization

Specialization refers to the extent to which work is divided into narrow sub-tasks (De Sitter et al., 1997; Mintzberg, 1980). High specialization results in repetitive, short-cycled roles, while low specialization allows for broader task scopes (Achterbergh & Vriens, 2019). A high level of specialization is illustrated by an organization where teams involved in delivering products or services are clearly separated from those handling preparatory tasks such as planning, as well as from those performing support tasks like HR. Conversely, a low level is seen in organizations where employees or teams are responsible for a broader range of tasks across the value chain (e.g., handling client communication, coordinating procurement, and managing aspects of delivery).

As for social job resources, high specialization – similar to functional concentration – increases interdependence, raising the need for coordination. In remote work contexts, this can lead to a decline in social support, as digital communication is less spontaneous and more fragmented (Golden & Veiga, 2005). With low specialization, fewer coordination demands reduce this risk, buffering the potential loss of social support

In terms of structural job resources, high specialization limits both skill variety and task identity, as employees perform narrowly defined, repetitive tasks with limited visibility of outcomes (Parker et al., 2017; Vriens et al., 2018). Telework intensity may increase perceived job variety (Dettmers & Plückhahn, 2021), but these effects could be constrained in highly specialized roles. Conversely, low specialization enhances opportunities for variety and task ownership, thereby strengthening the positive impact of intensity on structural job resources.

In sum, specialization may moderate the relationship between intensity and social job resources – with high values intensifying negative effects, and low values mitigating them – and structural job resources – with high values weakening and low values strengthening the positive effects.

2.3.3 Centralization

Centralization describes the extent to which decision-making authority is concentrated at higher levels (Pugh et al., 1968; Mintzberg, 1980). High centralization implies limited discretion for lower-level employees, with decision authority concentrated in a hierarchy of managerial tasks (Vriens et al., 2018). Such a high level is characterized by an organization where, for instance, actions can only be taken with explicit approval from supervisors. Decentralization means that power over decision making is more dispersed among its members (Mintzberg, 1980), so that employees can make decisions themselves without needing constant managerial approval.

Regarding job demands, telework intensity reduces work-life conflict by enhancing work-scheduling latitude (Gajendran & Harrison, 2007): an individual’s ability to adjust the scheduling of work tasks to meet individual preferences (Golden & Veiga, 2005). However, in centralized structures, this latitude is restricted (Golden & Veiga, 2005), limiting the benefits of telework intensity. In decentralized settings, employees have more flexibility to align work with personal responsibilities, strengthening the positive effects of intensity (Gajendran & Harrison, 2007; Nakrošienė et al., 2019).

For structural job resources, especially autonomy, high centralization may constrain decision-making (Pugh et al., 1968; Sutton & Rousseau, 1979), despite the freedom telework intensity provides (Gajendran & Harrison, 2007). Employees may still need managerial approval for many aspects of their work, which is more cumbersome when working remotely because of the increased reliance on digital communication (Golden & Veiga, 2005). In decentralized structures, teleworkers are more likely to experience true autonomy to control their own activities (Vriens et al., 2018), enhancing the benefits of telework.

Concluding, centralization is likely to moderate the relationship between telework intensity and job demands – with high centralization weakening, and low centralization strengthening inverse effects – and structural job resources, in the same direction, but then with positive effects.

2.3.4 Formalization

Finally, the parameter formalization refers to the extent to which work is governed by specified rules and procedures (Mintzberg, 1980; Pierce & Delbecq, 1977; Vriens et al., 2018). In organizations with a high degree of formalization "a codified body of rules, procedures or behaviour descriptions is developed to handle decision and work processing" (Pierce & Delbecq, 1977, p. 31). For instance, employee performance is consistently and formally documented, and nearly all job roles come with detailed job descriptions. In a low formalization structure, there is less of this procedural control and behaviors are less tightly regulated (Vriens et al., 2018).

Similar to centralization, high formalization limits work-scheduling latitude, thereby dampening the ability of telework to reduce work-life conflict and enhance perceived flexibility.

With respect to job demands, high formalization can lower the positive effects of telework intensity on work-life conflict, similar to high centralization. High formalization can lower work-scheduling latitude as well, because the jobs are more standardized (Pennings, 1973), so there is less opportunity for an individual to adjust the scheduling of work tasks to meet individual preferences (Golden & Veiga, 2005). As a result, the positive effect of intensity on lowering work-life conflict may be weakened. In contrast, low formalization allows for greater scheduling flexibility, thereby potentially enhancing the potential to reduce work-life conflict.

In terms of structural job resources, formalization can constrain perceived autonomy. Highly formalized roles limit employees' freedom to decide how to execute their work (Pugh et al., 1968; Sutton & Rousseau, 1979), which can diminish the autonomy typically associated with higher telework intensity (Gajendran & Harrison, 2007). Higher formalization also means that employees have to search for procedural clarification and standardized work procedures more, whereas communication barriers make it more difficult to seek immediate guidance with telework intensity (Golden & Veiga, 2005). This makes it harder to interpret rules and responsibilities, thereby lowering role clarity. Conversely, low formalization provides greater scope for autonomy task discretion, enabling employees to tailor their work methods (Vriens et al, 2018; Pugh et al., 1968). It also improves role clarity, as employees are more free to define and structure their responsibilities in a way that fits their situation and preferences.

Summarizing, formalization may moderate the relationship between telework intensity and job demands – high formalization weakens inverse effects, while low formalization strengthen them – and structural job resources – high formalization constrains these resources, while low formalization enables more autonomy and role clarity.

2.4 Final conceptual model

To summarize, across parameters, higher values – indicating more bureaucratic organizations – are expected to undermine the beneficial effects of telework intensity, and so weaken inverse effects of intensity on job demands, while strengthening inverse effects on social job resources, and weakening positive effects on structural job resources. Conversely, lower values appear to amplify the benefits of telework intensity, with the moderating effect appearing in the opposite direction. Each parameter contributes differently. These expectations lead to the following hypotheses and final conceptual model (see Figure 4):

Hypothesis 4a: *Organizational structure as a moderator weakens inverse effects of telework intensity on job demands when parameter values are high, while strengthening inverse effects when parameter values are low.*

Hypothesis 4b: *The moderating effect is stronger for functional concentration, centralization, and formalization than for specialization.*

Hypothesis 5a: *Organizational structure as a moderator strengthens inverse effects of telework intensity on social job resources when parameter values are high, while weakening inverse effects when parameter values are low*.

Hypothesis 5b: *The moderating effect is stronger for functional concentration and specialization than for centralization and formalization.*

Hypothesis 6a: *Organizational structure as a moderator weakens positive effects of telework intensity on structural job resources when parameter values are high, while strengthening positive effects when parameter values are low.*

Hypothesis 6b: *The moderating effect is present for all parameters.*

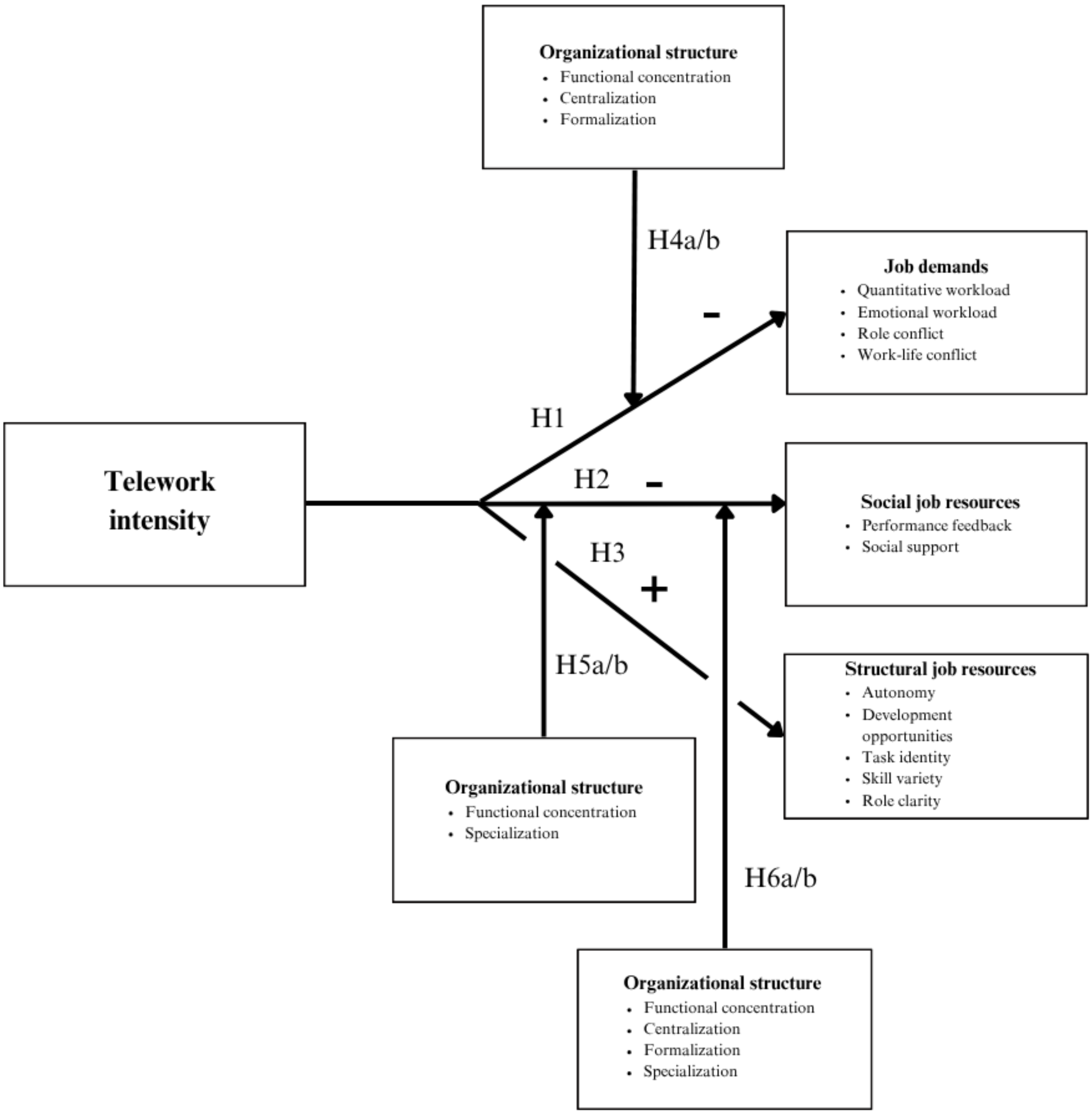

Figure 4: Final conceptual model

3. Data and methods

To address the research question, a quantitative, deductive research design was employed, involving both hypothesis development and testing. The hypotheses were derived from a comprehensive literature review on telework intensity, the JD-R model, and organizational structure. This approach enabled the investigation of potential relationships among variables and the formulation of theoretically grounded expectations. Hypotheses were tested through ordinary multiple regression analyses, and multiple regression analyses including interaction effects.

The following section elaborates on the data collection process in more detail, also outlining which variables were measured and how. Confirmatory factor analyses and reliability assessments were conducted to validate the measurement models. Subsequently, the statistical analyses used to test the hypotheses are discussed. Finally, the epistemological underpinnings of the research are addressed, along with ethical considerations.

3.1 Data sampling and procedure

In 2024, the Dutch employed labor force included 5.1 million teleworkers – both frequent and occasional – compared to 4.7 million non-teleworkers. The employed labor force comprises individuals aged 15 to 75 engaged in paid employment (CBS, 2025).

To test the hypotheses, data were collected over a two-week period in April 2025 via the *2025 Telework Research* survey, an annual study conducted by a research team at Radboud University since 2022. This year, the team consisted of fifteen members who distributed the survey through LinkedIn, Facebook, Instagram, and direct email invitations. The sampling strategy primarily relied on convenience sampling, with elements of snowball sampling as respondents were encouraged to share the survey within their networks (Vennix, 2019). While this approach did not yield a representative sample, it facilitated the inclusion of a diverse group of employees across different organizational structures and telework intensities.

To ensure the sample aligned with the target population, the survey explicitly invited employees working for a single organization – excluding the self-employed – who had teleworked (from home or another remote location) within the past twelve months. This criterion excluded individuals whose telework experience was limited to the COVID-19 pandemic. Surveys were excluded if they were incomplete, submitted without informed consent, or filled out by individuals who had not teleworked in the past year, resulting in 964 valid responses.

Upon initial inspection of the dataset, it became evident that students were unintentionally included, although the target population did not encompass this group. Since the survey was distributed by students, a substantial number of student respondents were reached. However, no specific question was included to identify student status. Therefore, a filter was applied: all respondents under the age of 23 and working fewer than 26 hours per week – classified here as parttime – were excluded from the sample. After applying this filter, the final dataset comprised 881 complete responses suitable for analysis.

3.2 Variables and survey measures

The core variables of this study – telework intensity, job demands and resources, and organizational structure – were assessed through a structured survey instrument, alongside relevant control variables. An overview of all measured constructs is provided in Table 1.

3.2.1 Dependent variable

The dependent variables job demands and job resources are measured as latent constructs, measured by multiple variables as indicators. This reduces measurement error compared to relying on a single indicator (Hair et al., 2018). All measured variables are operationalized into multiple items, building upon the pre-existing construct of the *Telework Research* (see Appendix 1).

In line with most JD-R research (Bakker & Demerouti, 2017), self-reported perceptions were used to capture job demands and resources. Perceived job characteristics reflect how individuals cognitively experience their work environment (Sutton & Rousseau, 1979), which is crucial to examine given their predictive power for employee wellbeing (Bakker & Demerouti, 2017).

This study adopts a disaggregated approach to the JD-R model by analyzing job demands, social job resources, and structural job resources separately. This allows for a more precise examination of how telework intensity and its interaction with organizational structure affect each component individually. These relationships are still underexplored but are essential for building toward more comprehensive models of how structural and telework-related factors influence employee well-being.

Additionally, to triangulate and broaden the insight into outcomes, this study includes twelve dependent variables. Originally, work-life imbalance was not taken into account, but it is reverse-coded from a single-item measure of perceived work-life balance. While the primary focus lies on eleven latent constructs related to job demands and job resources, this additional observed variable complements the more comprehensive work-life conflict scale. Its inclusion enabled the exploration of a distinct yet related dimension of work-life dynamics and provided additional meaningful insights during the analysis phase.

3.2.2 Independent variable

The independent variable, telework intensity, was measured as an observed variable by directly asking respondents to indicate what proportion of their total working hours was spent teleworking. This aligns with its definition as the extent of work performed outside the traditional office setting (Gajendran & Harrison, 2007). Responses were recorded on an 11-point scale ranging from 0 (0% telework) to 10 (100% telework), with the midpoint (5) indicating an equal split.

3.2.3 Moderating variables

Organizational structure was conceptualized as a contextual-level moderator within a multilevel framework. While telework intensity varies at the individual level, organizational structure represents a collective condition, shaping work environments across groups of employees (Blalock, 1984; Morgeson et al., 2006). Contextual-level moderators capture macro-level influences on individual outcomes that are not reducible to individual characteristics alone. They allow macro processes that are presumed to have an impact on the individual actor over and above the effects of any individual-level variables that may be operating (Blalock, 1984). Organizational structure cannot be meaningfully understood at the level of the individual – it frames and shapes the environment within which individuals operate (Morgeson et al., 2010). Therefore, it is treated as a contextual-level independent variable that may exert influence on individual outcomes both directly and through interaction with individual-level predictors; telework intensity.

The hypotheses distinguish between the moderating effect of overall bureaucracy and that of individual structural parameters: functional concentration, specialization, centralization, and formalization. These structural dimensions were measured as latent constructs using multiple items, with the exception of functional concentration, which was operationalized using a single observed item. The scores for the latent constructs were calculated as the weighted average of the corresponding items, based on the factor loadings.

To capture the overarching effect of bureaucracy, a composite index was created, calculated as a weighted average of the scores of the four structural parameters. Weights were again determined based on factor loadings, ensuring each parameter's influence reflects its explanatory power within the overall bureaucratic construct.

This was the first iteration of the *Telework Research* survey to include organizational structure variables. The item for functional concentration was adapted from Oldenhof et al. (2025), while validated scales from Pugh et al. (1968) were used for the remaining parameters.

As with the dependent variables, perceived structure was used, consistent with research indicating that structural characteristics (e.g., centralization and formalization) shape employees' job perceptions, which in turn affect their attitudes and behaviors (Sutton & Rousseau, 1979). Thus, understanding how structure is perceived is essential to interpreting its role in shaping job demands, resources, and downstream outcomes.

3.2.4 Control variables

Several control variables were included to improve estimation accuracy of the relationships under study: age, gender, contract type, job type, organizational size, and type of function. These variables were selected based on prior findings that personal and situational characteristics can shape individual responses to work environments (Sutton & Rousseau, 1979). For instance, women have been shown to experience higher levels of work-life conflict (Kaduk et al., 2019).

Controls were included in all regression models – both ordinary multiple regressions in SPSS and interaction models estimated using PROCESS – as covariates alongside the independent and moderating variables, ensuring consistency across analyses.

Table 1: Overview of the measured variables

Variable	*N items*	*Scale*	*Reliability statistic*	*Mean*	*Std. dev.*
Control variables					
Age	1			42.71	13.67
Gender	1	Female – male – I prefer not to say		.49	.50
Type of job	1	7-point scale: less than 11 hours – 36 hours or more		.12	.33
Type of contract	1	Permanent contract – temporary contract		.16	.37
Organization size	1	5-point scale: less than 25 employees – more than 1000 employees		.27	.45
Type of function	1	6-point scale: executive lower staff – top manager		.28	.45
Independent variable					
Telework intensity	1	11-point scale: 0% telework – 100% telework		4.31	2.43
Moderator variables					
Func. con.	1	5-point scale: not at all – completely		3.45	1.24
Specialization	2	↑	S-B Coefficient .730	3.61	1.01
Centralization	3	↑	Cronbach’s α: .790	2.46	.81
Formalization	3	↑	Cronbach’s α: .720	3.55	.85
Dependent variables – job demands					
Quantitative workload	3	5-point scale: (almost) never – (almost) always	Cronbach’s α: .814	2.60	.90
Emotional workload	3	↑	Cronbach’s α: .801	1.73	.74
Role conflict	3	↑	Cronbach’s α: .758	2.04	.79
W-L conflict	6	↑	Cronbach’s α: .799	1.84	.63
W-L imbalance	1	10-point scale: 1 (really bad) – 10 (excellent, could not be better)		2.73	1.52
Dependent variables – social job resources					
Perf. feedback	2		S-B Coefficient: .580	3.79	.70
Social supp.	2	↑	S-B Coefficient: .585	3.55	.87
Dependent variables – structural job resources					
Autonomy	2	5-point scale: 1 (not at all) – 5 (completely)	S-B Coefficient: .733	4.13	.70
Dev. opp.	2	↑	S-B Coefficient: .829	4.03	.90
Task identity	2	↑	S-B Coefficient: .571	3.91	.79
Skill variety	2	↑	S-B Coefficient: .767	3.93	.83
Role clarity	2	↑	S-B Coefficient: .767	3.90	.81

3.3 Confirmatory factor analysis and reliability analysis

To assess the validity of the constructs, confirmatory factor analysis (CFA) was conducted. Factor loadings – reflecting the correlation between items and their underlying latent construct – are considered acceptable when exceeding 0.50 (Hair et al., 2018). As shown in Appendix 2, Figure A, all factor loadings meet this threshold, with the exception of the loading of centralization on the composite construct of bureaucracy (0.43). Despite this lower score, centralization was retained due to strong theoretical justification, as it is widely recognized as a key dimension of organizational structure. Furthermore, 0.30 is generally considered the minimum threshold for exploratory inclusion (Hair et al., 2018).

Reliability of the constructs was assessed using Cronbach's alpha (for constructs with more than two items) and the Spearman-Brown coefficient (for constructs with two items). A reliability coefficient of ≥ 0.70 was considered acceptable. Most constructs met this criterion; however, performance feedback, social support, and task identity fell slightly below this threshold. These were retained in subsequent analysis based on their strong theoretical relevance within the JD-R framework.

3.4 Statistical analyses

The data were analyzed using multiple regression analysis to examine the strength and direction of relationships between telework intensity, organizational structure, and job demands and resources. Telework intensity was treated as the main independent variable, while the dimensions of organizational structure – both separately and as a composite measure – were included as moderators. All models included control variables (e.g., age, gender, contract type, job type).

Moderation analyses were conducted using the PROCESS macro (Field, 2018). Each model was built in steps: a baseline regression model including telework intensity and control variables, and an extended model including the interaction term with either the composite bureaucracy score or one of the structural parameters.

Significance thresholds were set at $p \leq .05$ and $p \leq .01$. Effects with $p \leq .10$ were interpreted as marginally significant. Given the exploratory nature of the study, effects with $p \leq .20$ were also considered with caution for interpretation, though not treated as statistically significant in a strict sense.

3.5 Epistemology and research ethics

The quantitative character of this study follows an objectivist epistemology, assuming that reality can be captured through variables and relationships that can be measured in a single-point-in-time survey (Guba & Lincoln, 1994). Hypothesis development and testing further align with this paradigm.

Ethical considerations were carefully addressed. Informed consent was explicitly obtained, and participation was entirely voluntary. Participants were clearly informed about the nature of the study – 2025 *Telework Research*, affiliated with Radboud University – and their right to withdraw at any time. The survey was completely anonymous; no identifying information was collected. Data were treated with strict confidentiality. The researcher remained reflexively aware of her own positionality throughout the research process and took care not to influence outcomes.

4. Results

This section presents the data analysis conducted for the study, along with the results of the statistical procedures performed. It begins with the preliminary analyses, followed by a general overview of the relationships observed in the data. Subsequently, ordinary multiple regression and moderation analyses are conducted to test the proposed hypotheses.

4.1 Preliminary analyses

The preliminary analyses include both the descriptive statistics for the non-metric and metric variables, as well as the tests conducted to assess whether the assumptions for regression analysis were met.

4.1.1 Descriptive statistics

Table 2 presents the frequencies of the non-metric control variables included in this study. The distribution between male (49.1%) and female respondents (50.9%) is relatively balanced. There is a notably higher number of respondents with a full-time job (87.7%) compared to those with a part-time job (12.3%), as well as respondents with a permanent contract (83.5%) compared to those with a temporary contract (16.5%). Regarding job function, a higher portion of the respondents holds a higher position (72.4%) than a lower position (27.6%). Finally, most respondents work in a large organization (72.7%) compared to a small organization (27.3%).

Table 2: Frequencies of the non-metric variables

Variable	***Categories***	***Valid percent***
Gender	Female[1]	50.9%
	Male	49.1%
Type of job	Full-time job[1]	87.7%
	Part-time job	12.3%
Type of contract	Permanent contract[1]	83.5%
	Temporary contract	16.5%
Type of function	Lower staff	27.6%
	Higher staff[1]	72.4%
Organization size	Small organization	27.3%
	Large organization[1]	72.7%

[1] = Reference category

The metric variables consist of the final control variable (age), the independent variable (telework intensity), the dependent variables (job demands and job resources), and the moderating variables (bureaucracy, functional concentration, specialization, formalization, and centralization). Their descriptives can be found in Table 1 and Appendix 3, Table B. The average age of the respondents is 43. The average telework intensity is 4.31, indicating that respondents work approximately 43% of their time from home or another telework location.

Among the job demands, the highest average is for work-life balance (M = 2.73) on a scale from 1 to 5. The lowest average is for emotional workload (M = 1.73). Regarding social job resources, the mean for performance feedback is 3.79, and for support it is 3.57. As for structural job resources, autonomy has the highest average (M = 4.13), while role clarity has the lowest (M = 3.90). Overall, respondents experience more job resources than job demands.

Bureaucracy has a mean score of 3.26, also on a 5-point scale. Among the structure parameters, specialization has the highest average score (M = 3.61), whereas centralization has the lowest (M = 2.47). This suggests that, on average, respondents perceive lower levels of centralization and relatively higher levels of specialization within their organizations.

Figure 5: Mean of work-life imbalance plotted against telework intensity

Telework intensity has several significant correlations with job demands and resources. The highest correlation among job demands is with work-life imbalance; a negative correlation ($p \leq .01$)

For social job resources, telework intensity shows a negative correlation with social support ($p \leq .05$), and for the structural job resources the highest correlation is with autonomy ($p \leq .01$), which is a positive correlation.

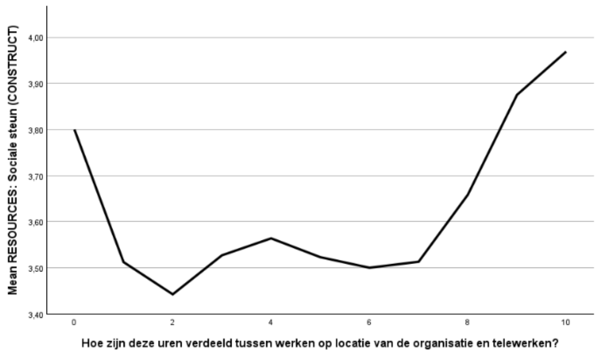

Figure 6: Mean of social support plotted against telework intensity

At first glance, these support the hypotheses, as telework intensity is inversely related to job demands and social job resources, but positively related to structural job resources. Figures 5 to 7 display the mentioned correlations by plotting the mean values of the dependent variables against telework intensity.

Figure 7: Mean of autonomy plotted against telework intensity

Additionally, significant correlations were found between organizational structure variables and various job demands and resources, with different parameters showing different directions of correlations. For example, formalization is negatively correlated with role conflict ($p \leq .01$), while centralization is positively correlated with role conflict ($p \leq .01$). Other correlations are more consistent, with functional concentration, formalization, and specialization all being negatively correlated with work-life conflict ($p \leq .01$, $p \leq .01$, $p \leq .01$), and both overall bureaucracy as well as centralization being positively correlated with autonomy ($p \leq .01$). These correlations suggest that further analysis of potential moderation effects is indeed warranted.

4.1.2 Assumption testing

The assumptions underlying multiple regression analysis were tested prior to interpreting the results. The assumption of normally distributed residuals was assessed using the normal P-P plot. Linearity and homoscedasticity were evaluated by inspecting the scatterplot of standardized residuals versus predicted values. Independence of error terms was confirmed by using the Durbin-Watson statistic. Multicollinearity was examined by reviewing the Variance Inflation Factor (VIF) values and tolerance levels (Hair et al., 2018; Field, 2018). No violations of assumptions were observed, indicating that all assumptions for conducting multiple regression were met. The output of these diagnostic tests is presented in Appendix 4 (4.1 to 4.3).

4.2 Hypotheses testing

After testing the assumptions, the data were deemed suitable for hypothesis testing. Hypotheses 1, 2, and 3 were examined using ordinary multiple regression analysis. Hypotheses 4a, 4b, 5a, 5b, 6a, and 6b were tested using multiple regression analyses that included a moderation effect.

4.2.1 The effect of telework intensity on job demands and (social and structural) job resources (hypothesis 1, 2, and 3)

In order to test the first three hypotheses – *Telework intensity is inversely related to job demands* (1) and *social job resources* (2), and *positively related to structural job resources* (3) – multiple regression analyses were conducted. Table 3 below summarizes the key findings from the analyses. The detailed output of the analyses can be found in Appendix 5, in Tables C to N under Model 1.

First, the effects of telework intensity on various job demands were tested. Telework intensity has a significant negative effect on quantitative workload ($p \leq .01$), emotional workload ($p \leq .01$), and work-life imbalance ($p \leq .01$), indicating that higher levels of intensity are associated with lower levels of perceived quantitative workload, emotional workload, and work-life imbalance among respondents. In addition, it shows a marginally significant positive effect on role conflict ($p = .072$). This suggests that higher telework intensity is associated with higher levels of role conflict. Lastly, telework intensity has no significant effect on work-life conflict. Overall, these findings partially support hypothesis 1, since telework intensity is only partially inversely related to job demands.

Second, the effects of telework intensity on social job resources were tested. Telework intensity has no effect on performance feedback, but it does have a significant positive effect on social support ($p \leq .05$). This means that a higher telework intensity increases employees' perceived social support. Since this observed relationship is in the opposite direction than expected, hypothesis 2 must be rejected.

Subsequently, the effects of telework intensity on structural job resources were examined. Telework intensity did not show significant effects on task identity, skill variety, or role clarity. However, it did have significant positive effects on perceived autonomy ($p \leq .01$) and development opportunities ($p \leq .05$). The found effects are in line with the hypothesized relationship, and therefore, hypothesis 3 is mostly accepted.

Table 3: Key findings of the effects of telework intensity on JD-R

JD-R variable	Direct effect TWI	Explanation
		Job demands
Quantitative workload	Significantly inverse	High telework intensity reduces quantitative workload
Emotional workload	Significantly inverse	High telework intensity reduces emotional workload
Role conflict	Marginally positive	High telework intensity somewhat increases role conflict
Work-life conflict	No effect	
Work-life imbalance	Significantly inverse	High telework intensity reduces work-life imbalance
		Social job resources
Performance feedback	No effect	
Social support	Significantly positive	High telework intensity increases social support
		Structural job resources
Autonomy	Significantly positive	High telework intensity increases autonomy
Development opp.	Significantly positive	High telework intensity increases development opportunities
Task identity	No effect	
Skill variety	No effect	
Role clarity	No effect	

4.2.2 The moderating effect of organizational structure on the relationship between telework intensity and job demands (hypothesis 4a and 4b)

The next hypotheses follow up on hypothesis 1: *Organizational structure as a moderator weakens inverse effects of telework intensity on job demands when parameter values are high, while strengthening inverse effects when parameter values are low* (4a), and *The moderating effect is stronger for functional concentration, centralization, and formalization than for specialization* (4b). These hypotheses were tested by multiple regression analyses including interaction terms through the PROCESS macro, again taking into account the control variables (see Table 4, details in Appendix 5, Table C to G, Model 3).

Hypothesis 4a concerns the moderating role of overall organizational structure. Therefore, bureaucracy – operationalized as a composite scale – was used as the moderator variable in this analysis. The results indicate no clear interaction effects. Only one very marginally significant inverse moderation effects was observed for quantitative workload ($p = .177$). Interestingly, this inverse direction is contrary to the hypothesized direction, as it implies that high parameter values rather strengthen the inverse relationship between telework intensity and job demands than weaken, while lower values do the opposite. This finding leads to the rejection of hypothesis 4a.

Table 4: Key findings of the effects of telework intensity on job demands and bureaucracy as moderator

JD variable	*Direct effect TWI*	*Interaction effect BUR*	*Explanation*
Quantitative workload	Significantly inverse	Very marginally inverse	Inverse effect TWI on JD stronger when BUR is higher
Emotional workload	Significantly inverse	No moderation	
Role conflict	Marginally positive	No moderation	
Work-life conflict	No effect	No moderation	
Work-life imbalance	Significantly inverse	No moderation	

Although hypothesis 4a is rejected, the effects of the separate parameters were still examined. Separate moderation analyses were conducted for each parameter (see Table 5, details in Appendix 5, Table C to G, Model 3a to 3d).

A few marginally significant interaction effects were observed (see Figure 8 and Figure 9). For the relationship between telework intensity and quantitative workload, an inverse moderating effect was found for both functional concentration (p = .090) and specialization (p = .073). This suggests that in organizations with high functional concentration and specialization, higher intensity is associated with lower perceived quantitative workload. Results suggest a similar interaction pattern for formalization in the relationship between intensity and work-life imbalance. However, this effect was very marginally significant (p = .175).

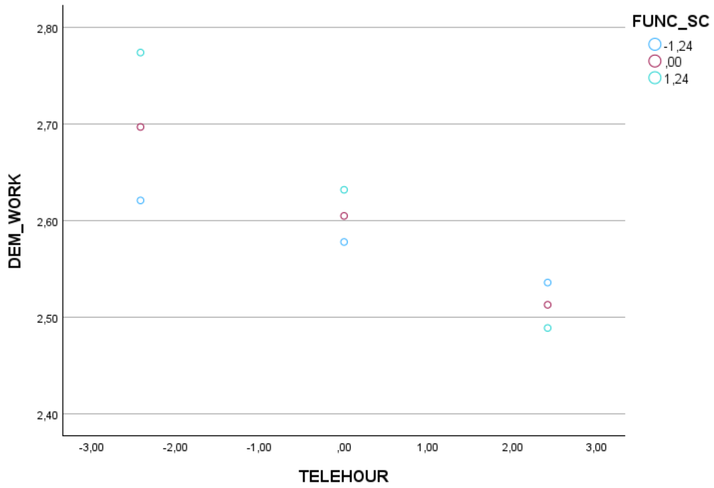

Figure 8: Moderating effect functional concentration on quantitative workload

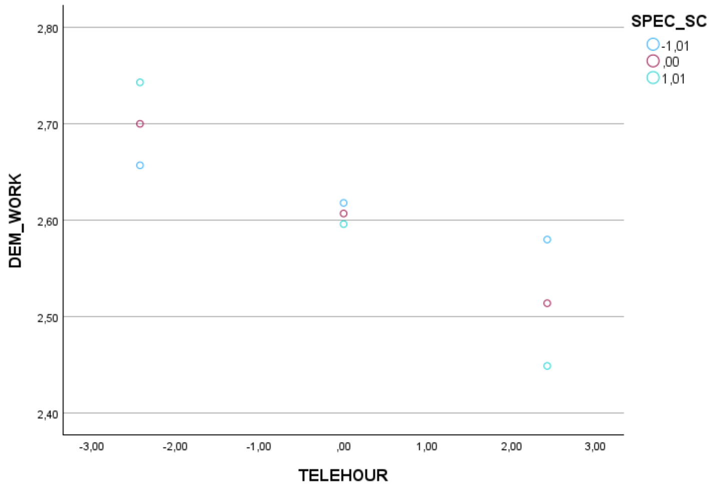

Figure 9: Moderating effect specialization on quantitative workload

Additionally, a different kind of pattern was found for the interaction between functional concentration and telework intensity on work-life conflict, but this interaction was only very marginally significant (p = .123). This effect was inverse as well, but indicates that the effect of telework intensity on work-life conflict is context-dependent. The direct effect is non-significant, but at lower levels of functional concentration, intensity has a positive effect and leads to greater work-life conflict, while at high levels, this relationship becomes negative.

Overall, among the structure parameters, functional concentration appears to play the most prominent role as a moderator, followed by specialization and, to a lesser extent, formalization. Centralization does not appear to have a moderating effect on the relationship between telework intensity and job demands. Nevertheless, hypothesis 4b must still be rejected, as higher parameter values continue to strengthen the inverse effect of telework intensity on job demands, which is contrary to the hypothesized direction.

Table 5: Key findings of the effects of telework intensity on job demands and structure parameters as moderator

JD variable	***Direct effect TWI***	***Interaction effect FUNC***	***Interaction effect SPEC***	***Interaction effect CENT***	***Interaction effect FORM***	***Explanation***
Quantitative workload	Significantly inverse	Marginally inverse	Marginally inverse	No moderation	No moderation	Inverse effect TWI on JD stronger when FUNC and SPEC are higher
Emotional workload	Significantly inverse	No moderation	No moderation	No moderation	No moderation	
Role conflict	Marginally positive	No moderation	No moderation	No moderation	No moderation	
Work-life conflict	No effect	Very marginally inverse	No moderation	No moderation	No moderation	Effect TWI on JD positive when FUNC is lower, inverse when FUNC is higher
Work-life imbalance	Significantly inverse	No moderation	No moderation	No moderation	Very marginally inverse	Inverse effect TWI on JD stronger when FORM is higher

4.2.3 The moderating effect of organizational structure on the relationship between telework intensity and social job resources (hypothesis 5a and 5b)

The following hypotheses build upon hypothesis 2 and state: *Organizational structure as a moderator strengthens inverse effects of telework intensity on social job resources when parameter values are high, while weakening inverse effects when parameter values are low* (5a), and *The moderating effect is stronger for functional concentration and specialization than for centralization and formalization* (5b) (see Table 6, details in Appendix 5, Table H and I, Model 3).

Hypothesis 5a again concerns the moderating role of overall organization structure; bureaucracy was used as the overarching moderator variable. The results show that bureaucracy does not have any significant interaction effects with telework intensity on any of the social job resources. Hypothesis 5a is rejected.

Table 6: Key findings of the effects of telework intensity on social job resources and bureaucracy as moderator

Social JR variable	*Direct effect TWI*	*Interaction effect BUR*	*Explanation*
Performance feedback	No effect	No moderation	
Social support	Significantly positive	No moderation	

Next, the effects of the separate parameters were examined to test hypothesis 5b (see Table 7, details in Appendix 5, Table H and I, Model 3a to 3d). The results indicate no clear interaction effects. Only two very marginally significant moderation effects were found, both involving centralization as a moderator. For performance feedback, centralization showed a positive interaction effect (p = .118). The pattern suggests that the impact of telework intensity is context-dependent; the effect on performance feedback is negative when centralization is low, but reverses to a positive relationship when centralization is high. For social support, the interaction effect is also positive (p = .117). The positive effect of intensity is strengthened as centralization increases, and weakened in organizations with low centralization.

Concluding, in the relationship between telework intensity and social job resources, centralization is the only structure parameter that may show a moderating effect. Hypothesis 5b must be rejected, as not only does the direction of the relationship between telework intensity and social job resources contradict the hypothesized direction – positive instead of inverse, as hypothesis 2 has shown – but possible interaction effects also contradict it: instead of strengthening any inverse effects, higher parameter values rather strengthen the positive effects of intensity on social job resources.

Table 7: Key findings of the effects of telework intensity on social job resources and structure parameters as moderator

Social JR variable	*Direct effect TWI*	*Interaction effect FUNC*	*Interaction effect SPEC*	*Interaction effect CENT*	*Interaction effect FORM*	*Explanation*
Performance feedback	No effect	No moderation	No moderation	Very marginally positive	No moderation	Effect TWI on social JR inverse when CENT is lower, positive when CENT is higher
Social support	Significantly positive	No moderation	No moderation	Very marginally positive	No moderation	Positive effect TWI on social JR stronger when CENT is higher

4.2.4 The moderating effect of organizational structure on the relationship between telework intensity and structural job resources (hypothesis 6a and 6b)

The final two hypotheses build upon hypothesis 3: *Organizational structure as a moderator weakens positive effects of telework intensity on structural job resources when parameter values are high, while strengthening positive effects when parameter values are low* (6a), and *the moderating effect is present for all parameters* (see Table 8, details in Appendix 5, Table J to N, Model 3).

To examine the moderating role of overall organizational structure, bureaucracy was used as the moderator. The results indicate that bureaucracy only shows an interaction effect in the relationship between telework intensity and development opportunities (see Figure 10). A marginally significant positive interaction effect observed (p = .058), meaning that the positive relationship between intensity and development opportunities becomes stronger as perceived bureaucracy increases.

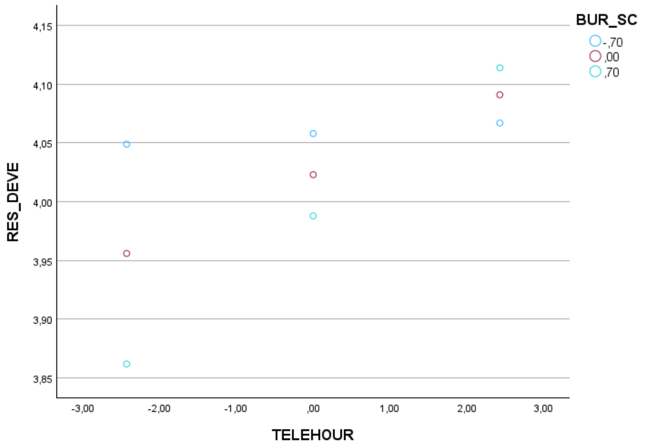

Figure 10: Moderating effect bureaucracy on development opportunities

This finding is not in line with the expected direction of the moderation, as higher levels of bureaucracy were hypothesized to weaken, rather than strengthen, the positive effect of telework on structural job resources. Therefore, hypothesis 6a must be rejected.

Table 8: Key findings of the effects of telework intensity on structural job resources and bureaucracy as moderator

Structural JR	*Direct effect TWI*	*Interaction effect BUR*	*Explanation*
Autonomy	Significantly positive	No moderation	
Development opportunities	Significantly positive	Marginally positive	Positive effect TWI on structural JR stronger when BUR is higher
Task identity	No effect	No moderation	
Skill variety	No effect	No moderation	
Role clarity	No effect	No moderation	

For hypothesis 6b, separate moderation analyses were conducted for each parameter (see Table 9, details in Appendix 5, Table J to N, Model 3a to 3d). The results suggest several interaction effects. Regarding the relationship between telework intensity and development opportunities, two interaction effects were identified – a significant positive effect for centralization ($p \leq .05$, see Figure 11), and a marginally significant positive effect for specialization ($p = .087$) (see Figure 12). For centralization, in the case of low centralization, intensity negatively affects development opportunity, while the effect is positive under high centralization.

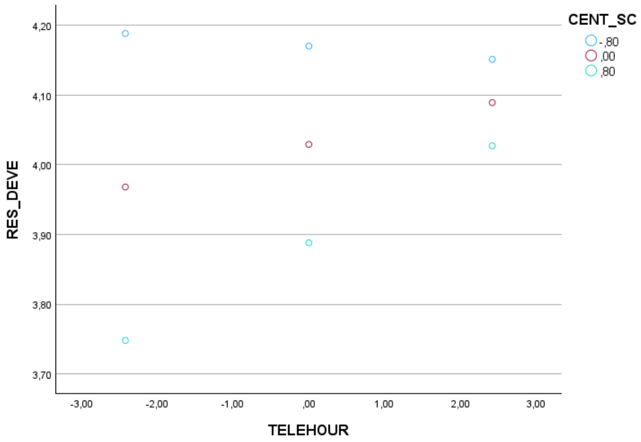

Figure 11: Moderating effect centralization on development opportunities

For specialization, the positive effect of intensity on development opportunities becomes stronger as the level of specialization increases.

A final possible interaction was found between telework intensity and skill variety, which is a very marginally significant positive moderation effect for centralization ($p = .176$). This pattern mirrors the effect found for centralization as moderator in the relationship between intensity and development opportunities.

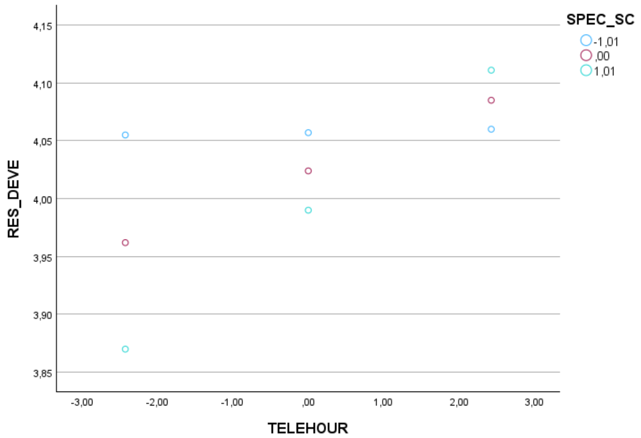

Figure 12: Moderating effect specialization on development opportunities

These findings suggest that among the four parameters, centralization seems to have the most prominent moderating effects in the relationship between telework intensity and structural job resources, followed by specialization. Functional concentration and formalization do not appear to play a moderating role in this relationship. Therefore, hypothesis 6b must also be rejected, as higher parameter values were hypothesized to weaken the positive effects of telework on structural job resources, while they actually appear to strengthen them.

Table 9: Key findings of the effects of telework intensity on structural job resources and structure parameters as moderator

Structural JR variable	***Direct effect TWI***	***Interaction effect FUNC***	***Interaction effect SPEC***	***Interaction effect CENT***	***Interaction effect FORM***	***Explanation***
Autonomy	Significantly positive	No moderation	No moderation	No moderation	No moderation	
Development opportunities	Significantly positive	No moderation	Marginally positive	Significantly positive	No moderation	Positive effect TWI on structural JR stronger when SPEC is higher, effect TWI on structural JR inverse when CENT is lower, positive when CENT is higher
Task identity	No effect	No moderation	No moderation	No moderation	No moderation	
Skill variety	No effect	No moderation	No moderation	Very marginally positive	No moderation	Effect TWI on structural JR inverse when CENT is lower, positive when CENT is higher
Role clarity	No effect	No moderation	No moderation	No moderation	No moderation	

4.2.5 The effect of control variables

Several control variables demonstrated significant effects across the models. Regarding job demands, both part-time employment and holding a temporary contract were significantly negatively associated with the experience of job demands. This suggests that employees working past-time or under temporary contracts perceive fewer job demands than those working full-time or with permanent contracts.

In relation to social job resources, age was found to have a significant negative effect. This indicates that relatively older employees report receiving less performance feedback and social support compared to younger employees.

For structural job resources, multiple control variables were significant. Age had a positive effect, implying that older employees experience more structural job resources than younger employees. Organization size was also relevant, with smaller organizations being positively associated with the perception of structural job resources. Additionally, type of function played a role: employees with lower-level positions reported significantly fewer structural job resources than those in higher-level roles.

4.3 Additional analyses testing the direct effects of the structure parameters

Given that several models did not yield significant interaction effects for bureaucracy or structure parameters as moderators – and that many of the hypotheses were rejected – it is informative to conduct an additional analysis to examine whether for these models the structure parameters did have a significant direct effect on job demands and resources. These additional analyses take a step back from the moderation focus and test the independent predictive value of organizational structure (see Appendix 5, Table C to N, Models 2 to 2d for the detailed output).

4.3.1 Direct effects on job demands

The regression analyses reveal that structure parameters contribute differently to perceptions of job demands. Centralization emerged as the most consistent predictor, showing significant positive effects across all job demand variables ($p = .090$ for quantitative workload, $p \leq .01$ for all other variables). Centralization did not show any moderation effects earlier, which means that centralization only influences job demands directly and not in interaction.

In contrast, formalization showed an opposite direct effect: it had significant negative effects on role conflict ($p \leq .01$), work-life conflict ($p \leq .01$), and work-life imbalance ($p = .094$), suggesting that higher formalization may help reduce certain job demands.

For the other two parameters, no strong direct effects were found. Only for functional concentration a marginal negative effect was found on emotional workload ($p = .059$), and very marginal direct effects on role conflict ($p = .181$) and work-life conflict ($p = .108$).

The direct effect of centralization aligns with the hypothesized direction – high parameter values increasing job demand – while the outcomes of formalization and functional concentration contradict this hypothesis. The latter are more aligned with the findings of the hypothesis testing, namely that high parameter values can reduce job demands and potentially strengthen the inverse effects of telework intensity. Besides, while it was hypothesized that functional concentration, centralization, and formalization would play a greater moderating role than specialization, it now appears that these parameters – particularly centralization – have more impact than specialization on job demands, but not necessarily in the expected direction, nor as moderators.

4.3.2 Direct effects on social job resources

Regarding social job resources, the structure parameters again show varied effects. Centralization demonstrates a significant negative effect on performance feedback ($p \leq .01$) and marginally significant on social support ($p = .091$). When comparing with the hypotheses testing, centralization had positive interaction effects. This suggests that centralization in itself reduces employees' perceived social job resources, but increased teleworking within highly centralized organizations may actually enhance employee well-being by increasing the perception of available social resources.

Conversely, formalization had significant positive effects on both social job resources ($p \leq .01$), suggesting that higher formalization fosters greater perceptions of performance feedback and social support. It is noteworthy that this parameter did not show any interaction effects earlier in the relationship between telework intensity and social job resources. Functional concentration and specialization did not show any significant direct effects on social job resources.

The direction of the direct centralization effect aligns with the theoretical expectation that higher parameter values reduce social job resources and thereby could strengthen the inverse effects of telework intensity. However, the effect of formalization contradicts this expectation. In terms of which parameters play the largest role, the findings are opposite to what was hypothesized: centralization and formalization were more influential than functional concentration and specialization.

4.3.3 Direct effects on structural job resources

The effects of the parameters on structural job resources were also varied. Centralization had significant negative direct effects on almost all structural job resources ($p \leq .01$), except development opportunities. Similar to structural job resources, centralization previously showed positive interaction effects, which means that centralization in itself also reduces employees' perceived structural job resources, but higher telework intensity in a centralized organization enhances the perception of structural job resources.

Formalization, on the other hand, had significant positive effects across nearly all structural job resources ($p \leq .01$ for development opportunities, task identity, and role clarity; $p \leq .05$ for skill variety), except for autonomy. Similarly to social job resources, formalization did not show any interaction effects in combination with telework intensity, but a higher degree of formalization consistently enhances employees' perceptions of structural job resources directly.

The other two parameters did not show strong direct effects. Specialization had only very marginal effects: a negative effect on skill variety ($p = .138$) and a positive effect on role clarity ($p = .136$). Thus, high specialization possibly limits perceived skill variety but enhances role clarity.

The direction of centralization's effects is in line with the theoretical assumption: high parameter values reduce structural job resources and could thus weaken the positive effects of telework intensity. The effects of formalization, however, are again contrary to expectations. Specialization showed inconsistent effects depending on the resource. Regarding overall parameter impact, the original hypothesis does not hold: all parameters were expected to play a role, yet the findings highlight centralization, formalization, and to a lesser extent specialization as showing more relevant direct effects, with functional concentration being absent.

5. Discussion

In this final section, a general conclusion is first formulated in response to the research question. This is followed by an interpretation of the findings that led to this conclusion. Subsequently, the theoretical contribution of the study is discussed. The limitations of the research and directions for future studies are then addressed, ending with the managerial implications.

5.1 Conclusion

Telework has been increasingly adopted worldwide (Tavares, 2017), with the COVID-19 pandemic further accelerating its prevalence (Verelst et al., 2023). In the Netherlands, at least 52% of the employed workforce usually or occasionally works from home (CBS, 2025). The intensity of telework can have various consequences for employees (Dettmers & Plückhahn, 2021). These outcomes are often examined through the Job Demands-Resources (JD-R) model, focusing on both positive and negative indicators of employee well-being (Demerouti & Bakker, 2011). While telework intensity is generally assumed to benefit employee well-being (Gajendran & Harrison, 2007), its effects are not straightforward (Nakrošienė et al., 2019).

Most research on the JD-R model focuses on the individual level, whereas contextual factors may also play a significant role (Bakker & Demerouti, 2017), such as the organizational structure within which the employee operates (Sutton & Rousseau, 1979). Existing literature suggests that this organizational structure might serve as a moderating factor. Aligning with the purpose of the study to explore this possible interaction effect, the research question was: *To what extent does organizational structure moderate the relationship between telework intensity and the interplay of job demands and job resources?* After formulating various hypotheses based on the literature, data was collected through the *2025 Telework Research* survey, targeting Dutch employees with teleworking experiences over the past year. The hypotheses were tested through multiple regression analyses, including interaction effects, examining the impacts of many different dependent variables.

The findings of this study show indications that organizational structure plays a moderating role. The effects of telework intensity may be stronger under certain values of structure parameters, may change direction depending on those values, or may only become apparent when organizational structure is considered as a moderating variable. Additionally, the manner in which organizational structure interacts differs from the initial hypotheses. Contrary to the initial expectations that high values on structure parameters would weaken the inverse relationship between telework intensity and job demands, the results suggest that these high values may rather reinforce such effects. Additionally, intensity was found to have a positive rather than a negative association with social job resources, and this relationship appeared to be further strengthened in more bureaucratic organizations. Likewise, the expected positive effects of intensity on structural job resources were more pronounced in organizations characterized by higher levels of the structure parameters. This implies that in highly bureaucratic organizations, telework intensity may be more strongly linked to reduced job demands and increased job resources. Therefore, higher values of structure parameters appear to enhance, rather than inhibit, the beneficial effects of intensity on employee wellbeing.

5.2 Interpretation of the findings

The conclusion formulated in response to the research question is grounded in the outcomes of the various hypothesis tests conducted. The first set of hypotheses examined the relationships between telework intensity and job demands and resources. Hypothesis 1, which posited an inverse relationship between telework intensity and job demands, was supported: intensity was negatively related to quantitative workload and emotional workload, and work-life imbalance. Hypothesis 2, expecting an inverse relationship with social job resources, was rejected: intensity showed a significant positive relationship with social support. Hypothesis 3, predicting a positive association with structural job resources, was supported, as telework intensity affected autonomy and development opportunities positively. Collectively, the results suggest that higher telework intensity has a positive impact on employee wellbeing.

The next set of analyses explored whether organizational structure moderated the relationship between telework intensity and job demands. Hypothesis 4a proposed that high parameter values would weaken the inverse relationship, but this was rejected. Instead, higher levels of bureaucracy rather strengthened the negative relationship. Hypothesis 4b, predicting stronger moderation for functional concentration, centralization, and formalization than for specialization, was also rejected. Nevertheless, significant inverse interaction effects were found for functional concentration, specialization, and formalization. In organizations with higher values on these parameters, more intensive telework was associated with lower perceived workload, work-life conflict and imbalance.

Subsequent analyses examined the moderating effect of organizational structure on the relationship between telework intensity and social job resources. Since intensity was found to have a positive, rather than inverse, effect on social resources, hypotheses 5a and 5b were automatically rejected. For hypothesis 5a, the analysis confirmed that bureaucracy overall had no significant moderating effect. For hypothesis 5b, stronger moderation was expected for functional concentration and specialization. However, centralization was the only parameter to exhibit a possible moderating effect, which was positive. It indicates that in highly centralized organizations, employees may perceive greater social support and performance feedback when teleworking more intensively.

The final set of hypotheses focused on structural job resources. Contrary to expectations in hypothesis 6a, high parameter values again strengthened rather than weakened the positive effects of telework intensity. Centralization and specialization showed positive moderating effects, indicating that employees in more centralized and specialized organizations perceive greater development opportunities and skill variety when teleworking more intensively. Hypothesis 6b, which expected effects for all parameters, was also rejected; centralization and specialization were the only parameters with a possible moderating effect.

Given the rejection of several interaction hypotheses, additional ordinary multiple regressions were conducted to assess direct effects of structural parameters. Centralization was consistently associated with higher job demands and lower social and structural job resources. In contrast, formalization was linked to lower job demands and higher levels of both types of job resources. These findings suggest that centralization and formalization exert the most pronounced direct effects: centralization appears burdensome, while formalization is generally supportive. These direct effects are particularly noteworthy when contrasted with the limited or even contradictory interaction effects found earlier. For job demands, centralization exerted only a direct effect; for both job resources, the same was true for formalization. Furthermore, centralization had negative direct effects on resources but positive interaction effects with telework; in highly centralized organizations, the benefits of intensity may be more salient and offer greater relief compared to decentralized settings. Overall, the additional findings support the main conclusion that organizational structure plays a role – either through interaction with telework intensity or through direct effects on job demands and resources – with the nature and direction of these effects varying depending on the specific structural parameter.

5.3 Theoretical contribution

This study contributes to theoretical understanding in several important ways. First, the study presents a novel integration of two well-established domains: telework research and sociotechnical systems theory. Although both fields have been extensively studied, the interaction between telework intensity and organizational structure had not yet been empirically explored. This research demonstrates that telework intensity has clear direct effects – reducing job demands (as previously suggested by other authors, such as Gajendran and Harrison (2007), Golden and Veiga (2005), and Narkošienė et al. (2019)), but also enhancing structural job resources (which was also previously suggested, among others by Dettmers and Plückhahn (2021), Sardeshmukh et al. (2012), and Stempel and Siestrup (2022)). Contrary to prior research (e.g., Cooper & Kurland, 2002; Gajendran and Harrison, 2007; Tavares, 2017) telework intensity actually also increases social job resources. At the same time, the findings underscore that organizational structure actively shapes how employees experience telework by moderating its outcomes, reinforcing the importance of studying their interaction to better understand the impact on employee wellbeing.

Second, the study emphasizes the significance of organizational structure as a contextual factor within the JD-R model. Structure parameters not only moderate the relationship between telework intensity and job characteristics, but also exert direct effects on job demands and resources themselves. These insights extend the JD-R model beyond its traditional focus on the individual level to a multilevel perspective – as suggested by Bakker and Demerouti (2017) – highlighting how organizational-level factors influence wellbeing outcomes.

Finally, the research offers more differentiated theoretical insights into the role of separate structure parameters. Drawing on sociotechnical systems theory (Achterbergh & Vriens, 2019; De Sitter et al., 1997), it was expected that high values of the parameters would be uniformly associated with reduced employee wellbeing, but the findings reveal a more nuanced picture. For instance, the direct effects are more parameter-specific; centralization is associated with higher job demands and lower job resources, aligning with expectations of constraint. In contrast, formalization appears beneficial. Additionally, interaction effects show that high parameter values often allow for a stronger manifestation of the positive effects of telework intensity on employee wellbeing, rather than weakening these positive effects. These results together challenge the notion that bureaucracy is inherently harmful and instead suggest a more complex, conditional relationship.

5.4 Limitations and directions for further research

This study explored the moderating role of organizational structure in the relationship between telework intensity and job demands and resources. While theoretical frameworks suggested such a role, empirical findings were mixed: some significant effects emerged, but many hypotheses were rejected. These results highlight the need for further research to refine the measurement, conceptualization, and modeling of these relationships, in order to deepen the understanding of how telework intensity interacts with organizational structure to shape employee wellbeing.

A key avenue for future research is to clarify the role of organizational structure. In this research, organizational structure was examined as both a moderator and direct antecedent of job demands and resources, but interpretation was complicated by the presence of seemingly contradictory interaction effects. For example, high centralization was associated with lower job resources directly, yet in interaction it amplified the positive effects of telework intensity. Besides, there is also the possibility of organizational structure preceding both telework intensity and its outcomes. Morgeson et al. (2010) suggested that the organizational structure can also influence work design. Telework, as a work arrangement, might therefore also be influenced by organizational structure, for example by providing a certain degree of telework autonomy. Structural equation modeling could be a useful tool to test these multiple paths simultaneously (Hair et al., 2018).

Measurement issues also emerged, particularly due to the limited availability of well-developed survey instruments measuring perceived parameter values. Some parameters, such as functional concentration, lacked robust multi-scale items (Hair et al., 2018), and complex sociotechnical terminology may have reduced response validity. Although one might attempt to assess organizational structure objectively through indicators such as organizational charts, it is ultimately employees' subjective perceptions of the structure they operate in that shape their experiences and wellbeing. Therefore, future research should invest in the development and validation of more comprehensive instruments that accurately capture perceived organizational structure, while ensuring that terminology is accessible and meaningful to respondents across a wide range of roles and sectors.

Additionally, the cross-sectional design limits causal inference (Verelst et al., 2023). A different research design, such as a repeated measures design (Vennix, 2019), could better capture causality and within-person changes in job demands and resources as telework intensity increases over time. The current assumption that between-person variation approximates within-person effects may not hold, particularly when contextual variables such as organizational structure are involved.

Quantitative methods could provide additional insight into the mechanism behind the – sometimes unexpected – findings (Myers, 2020). This study relied on theory-driven interpretation of the statistical patterns, but in-depth interviews or case studies could help explain why, for example, high levels of formalization were associated with increased employee wellbeing, or why high structural parameter values appear to strengthen rather than weaken the effects of intensity. Such results appear counterintuitive from the theoretical standpoint that high parameter values decrease employee wellbeing (Achterbergh & Vriens, 2019; De Sitter et al., 1997), but they could reflect, for instance, the idea that teleworking provides relief in highly bureaucratic environments. Similarly, the finding that high centralization enhanced the positive effect of intensity on performance feedback may not stem from centralization per se, but from feedback mechanisms that are already stronger in such contexts regardless of telework. Qualitative follow-up research could help determine whether certain statistical findings reflect meaningful real-world dynamics or are merely artifacts of the data or analytical approach.

Another limitation is the assumption of linearity in the relationships studied. Although linear models were used for interpretability, prior research suggests that the effects of telework on various job demands and resources may be non-linear (Golden & Veiga, 2005). Some data patterns in this study also hinted at non-linear dynamics, such as optimal levels of intensity beyond which additional gains may diminish, but the findings still suggest that higher intensity generally accentuates the effects of telework (Gajendran & Harrison, 2007), but testing for curvilinear effects in future research could help to more accurately model these dynamics.

Finally, the conceptual model could be broadened. Future studies might include additional outcomes such as burnout, motivation, jobcrafting or job performance (Bakker & Demerouti, 2017). A deliberate choice was made to include only specific components of the JD-R model to focus on exploring any moderation effects, but further research could incorporate additional outcomes and examine how these are influenced by organizational structure. For example, Oldham and Hackman (1981) found that the relationship between organizational structure and structural job resources could further influence employees' internal motivation. The interplay between demands and resources could also be modeled more precisely by, for instance, distinguishing between hindering and challenging job demands (Bakker & Demerouti, 2017). Structural equation modeling could again be employed to investigate the combined effect of different job demands and resources on employee wellbeing (Hair et al., 2018), moving beyond additive models to better reflect the complexity of the JD-R model.

5.5 Managerial implications

This study offers several potential practical insights for organizations navigating the complexities of telework arrangements while aiming to support employee wellbeing. First, higher telework intensity is generally beneficial: it reduces job demands and enhances both social and structural job resources. However, these effects are not uniform but depend on organizational structure.

High levels of functional concentration, specialization, and formalization may strengthen the positive effects of intensity on job demands, while centralization and specialization potentially enhance its benefits for structural job resources. Centralization also amplifies the positive effect on social job resources. This suggests that in more bureaucratic organizations, teleworking should be encouraged to help improve employees wellbeing.

Yet, the findings also highlight that these benefits are conditional on specific structure parameters. In some cases, low parameter values (e.g., low centralization or low functional concentration) may even reverse the expected beneficial effects; for instance, by increasing work-life conflict or reducing development opportunities. This underlines the importance of aligning the encouragement of telework intensity with the organization's structural realities.

Additionally, structural features themselves have direct implications. Perceived centralization – for example, managerial approval is always required before action can be taken – appears detrimental and should be reduced where possible. Formalization, on the other hand, offers protective effects. By providing clear guidelines, expectations, and standard procedures, employee wellbeing can be maintained and improved. Functional concentration – operating in specialized departments – modestly lowers job demands.

In sum, if the results of this study are useful for practical application, promoting telework can enhance wellbeing, especially in bureaucratic organizations – but only if organizations carefully consider how their specific organizational structure interacts with the intensity of telework, as their design choices can either amplify or undermine the intended positive effects.

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Appendix 1: Variable constructions

Table A: Operationalization of the included variables (their items)

	Control variables
Age	Wat is uw leeftijd?
Gender	Ik ben…
Type of job	Hoeveel uur per week werkt u (gemiddeld) voor deze organisatie?
Type of contract	Mijn contract bij deze organisatie is…
Organization size	Hoe groot is de organisatie/het bedrijf waar u werkt?
Type of function	Selecteer in het vak hieronder wat het meest overeenkomst met uw functie.
	Independent variables
Telework intensity	Hoe zijn deze uren verdeeld tussen werken op locatie van de organisatie en telewerken?
	Moderator variables
Functional concentration	In mijn organisatie/bedrijf zijn er voor het leveren van diensten/producten aparte afdelingen, waarbij elke zich richt op één specifieke taak (bijv. een afdeling verkoop en een aparte afdeling voor verzending/aflevering).
Specialization	In mijn organisatie/bedrijf zijn de teams die werken aan het leveren van de producten/diensten duidelijk gescheiden van de teams die werken aan voorbereidende taken, zoals inkoop en planning.
	In mijn organisatie/bedrijf zijn de teams die werken aan het leveren van de producten/diensten duidelijk gescheiden van de teams die werken aan ondersteunende taken, zoals HR, IT en financiën.
Centralization	In mijn organisatie/bedrijf kan alleen actie worden ondernomen als de leidinggevende dit goedkeurt.
	In mijn organisatie/bedrijf moeten zelfs kleine zaken worden voorgelegd aan iemand hogerop voor een definitief antwoord.
	In mijn organisatie/bedrijf moet vrijwel alles wat ik doe of beslis door de baas worden goedgekeurd.
Formalization	In mijn organisatie/bedrijf zijn er een groot aantal schriftelijk vastgelegde regels en procedures.
	In mijn organisatie/bedrijf worden voortdurend alle werkprestaties formeel vastgelegd.
	In mijn organisatie/bedrijf hebben (vrijwel) alle functies uitgebreide functieomschrijvingen.
	Dependent variables – job demands
Quantitative workload	In de afgelopen 3 maanden moest ik erg snel werken.
	In de afgelopen 3 maanden was mijn werklast ongelijk verdeeld zodat het werk zich opstapelde.
	In de afgelopen 3 maanden had ik onvoldoende tijd om het werk af te krijgen.
Emotional	In de afgelopen 3 maanden kwam ik door mijn werk in aangrijpende situaties terecht.

workload	In de afgelopen 3 maanden was mijn werk emotioneel belastend.
	In de afgelopen 3 maanden werd ik in mijn werk met dingen geconfronteerd die me persoonlijk raakten.
Role conflict	In de afgelopen 3 maanden moest ik werken aan de hand van vage opdrachten en richtlijnen.
	In de afgelopen 3 maanden moest ik dingen doen die beter op een andere manier uitgevoerd hadden kunnen worden.
	In de afgelopen 3 maanden kreeg ik te maken met tegenstrijdige regels of richtlijnen.
Work-life conflict	In de afgelopen 3 maanden was het vermoeiend om naast het werk ook te zorgen voor het huishouden.
	In de afgelopen 3 maanden maakte ik me zorgen over het werk terwijl ik eigenlijk vrij had.
	In de afgelopen 3 maanden zorgde het werk ervoor dat ik te weinig tijd had voor gezin of vrienden.
	In de afgelopen 3 maanden kon ik me minder goed focussen op mijn werk door dingen in mijn privéleven.
	In de afgelopen 3 maanden kon ik me tijdens mijn werk moeilijk concentreren omdat ik me druk maakte over privédingen.
	In de afgelopen 3 maanden verminderde mijn werkprestatie door stress of bezorgdheid over mijn privéleven.
Work-life imbalance	Hoe was voor u de balans tussen werken een privé in de afgelopen drie maanden?
	Dependent variables – social job resources
Performance feedback	Ik krijg genoeg feedback van mensen binnen de organisatie op wat ik doe.
	Mijn werk wordt gezien en gewaardeerd door de leidinggevende(n).
Social support	Mijn leidinggevende biedt duidelijke aansturing, coaching of begeleiding.
	Mijn collega's helpen en ondersteunen mij in mijn werk.
	Dependent variables – structural job resources
Autonomy	Ik kan mijn werk uitvoeren zoals ik wil.
	Ik heb voldoende vrijheid in mijn werk.
Development opportunities	Mijn baan biedt mij mogelijkheden om nieuwe dingen te leren.
	Mijn baan biedt mij mogelijkheden voor persoonlijke ontwikkeling.
Task identity	Mijn werk bestaat uit het doen van complete taken, van begin tot eind.
	Mijn werk en taken geven duidelijke, zichtbare resultaten.
Skill variety	Mijn werk biedt afwisseling van vaardigheden die ik kan toepassen.
	In mijn werk is er gelegenheid voor het benutten van mijn talenten.
Role clarity	In mijn werk weet ik precies wat er van mij verwacht wordt.
	In mijn baan zijn mijn verantwoordelijkheden mij duidelijk.

Appendix 2: Confirmatory Factor Analysis (CFA)

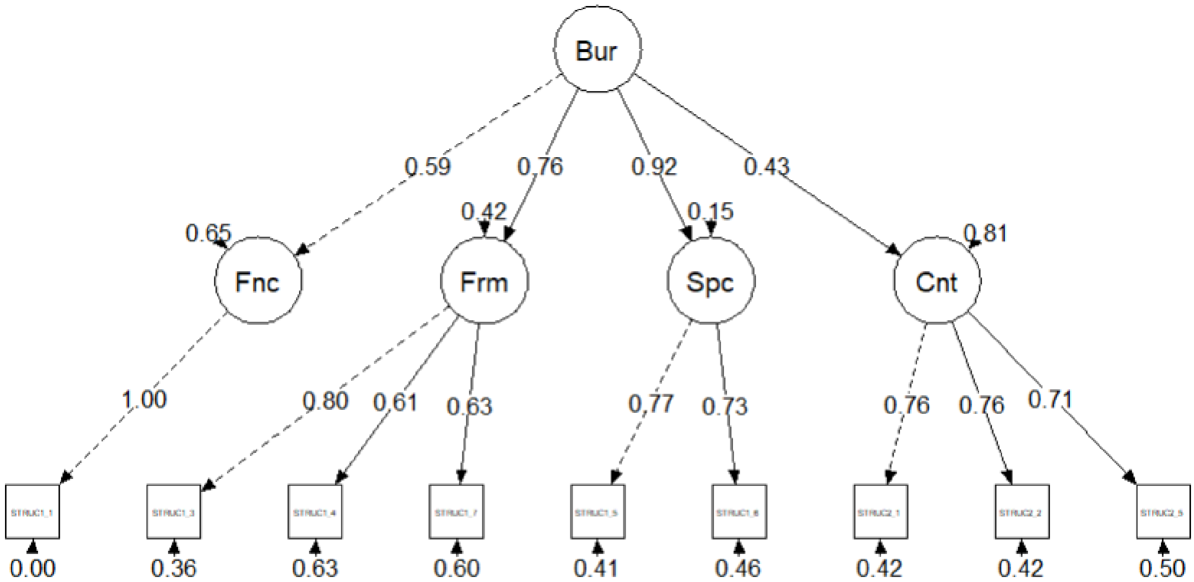


Figure A: Confirmatory Factor Analysis

An initial measurement model distinguished between two aspects of centralization – hierarchical centralization and participative decision-making – based on earlier work by Pugh et al. (1969). However, the participative items did not load onto the broader bureaucracy construct and showed no meaningful correlation with hierarchical centralization. As a result, only items pertaining to hierarchical centralization were retained under the construct of centralization.

Furthermore, functional concentration was originally measured using two items derived from Oldenhof et al. (2025). However, these items were found to be conceptually inconsistent: respondents often gave high scores to both, despite the fact that they represented opposing interpretations of functional concentration. Therefore, the item with the lowest factor loading – the second item – was excluded from the analysis.

The final measurement model yielded the following fit indices: CFI/TLI = 0.960/0.940; RMSEA = 0.066; SRMR = 0.052. These values meet commonly accepted thresholds for good model fit (CFI/TLI > 0.90 or > 0.95; RMSEA < 0.08 or < 0.06; SRMR < 0.08 or < 0.06).

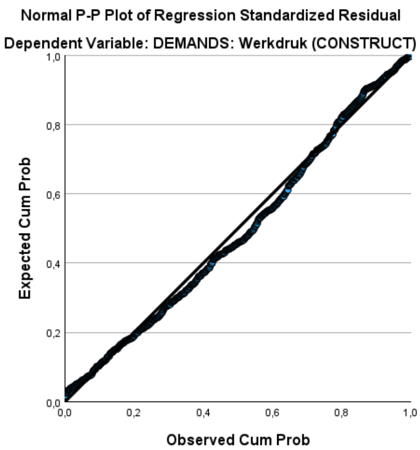
Appendix 3: Descriptives of the metric variables

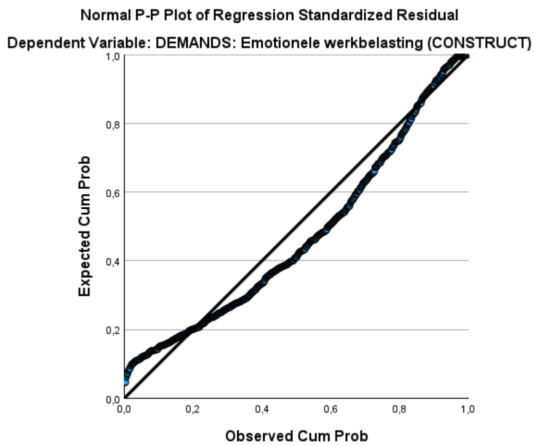
Table B: descriptives of the metric variables (Pearson's correlations)

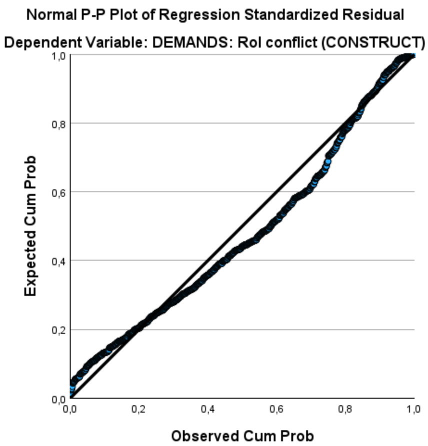
Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*
1. Age																			
2. TW intensity	.038																		
3. Quan. load	.112**	-.090**																	
4. Emo. load	.104**	-.104**	.419**																
5. Role conflict	-.147**	.055~	.220**	.308**															
6. WL-conflict	-.125**	.007	.345**	.400**	.320**														
7. WL-imbalance	.037	-.158**	.492**	.401**	.239**	.435**													
8. Feedback	-.044~	.025	-.069*	-.113**	-.282**	-.135**	-.211**												
9. Support	-.090**	.074*	-.105**	-.107**	-.296**	-.118**	-.191**	.565**											
10. Autonomy	.161**	.116**	-.053~	-.146**	-.279**	-.156**	-.264**	.379**	.215**										
11. Develop. opportunities	-.002	.072*	.011	-.041	-.214**	-.075*	-.157**	.472**	.394**	.357**									
12. Task ID	.090**	.041	.021	-.059†	-.272**	-.092**	-.154**	.446**	.344**	.399**	.346**								
13. Skill variety	.172**	.049~	.098**	-.003	-.203**	-.065†	-.092**	.463**	.321**	.437**	.707**	.416**							
14. Role clarity	.107**	.041	-.044~	-.128**	-.429**	-.224**	-.228**	.474**	.503**	.356**	.299**	.489**	.339**						
15. Bureauc	.084*	-.023	-.013	-.033	.036	-.064†	-.028	-.007	.041	-.140**	-.042	-.054~	-.095**	.054~					
16. Func. concentration	.090**	-.022	.010	-.081*	.034	-.091**	-.044~	-.025	.006	.000	-.036	-.024	-.060†	.034	.729**				
17. Special.	.086*	.010	-.023	-.030	.036	-.067*	-.053~	.002	.029	-.049~	-.028	-.058†	-.060†	.053~	.814**	.485**			
18. Central.	-.078*	-.027	-.002	.080*	.150**	.113**	.094**	-.107**	-.045~	-.344**	-.174**	-.156**	-.215**	-.123**	.576**	.178**	.250**		
19. Formal.	.136**	-.038	-.007	-.051~	-.117**	-.123**	-.058†	.102**	.125**	-.055~	.097**	.073*	.052~	.169**	.749**	.378**	.494**	.340**	

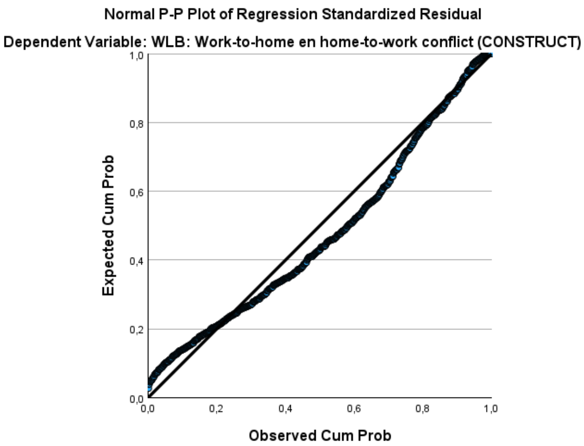
Appendix 4: Assumptions testing

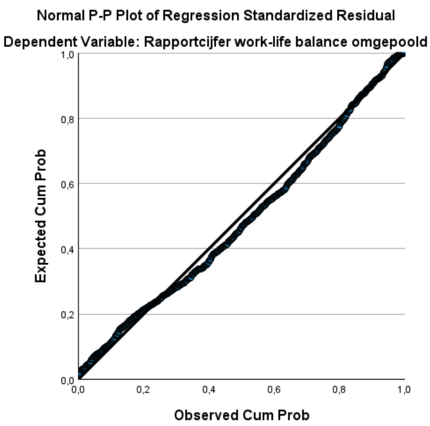
Appendix 4.1: Normally distributed residuals

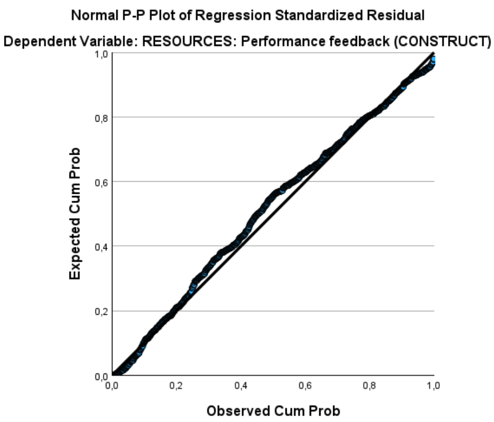


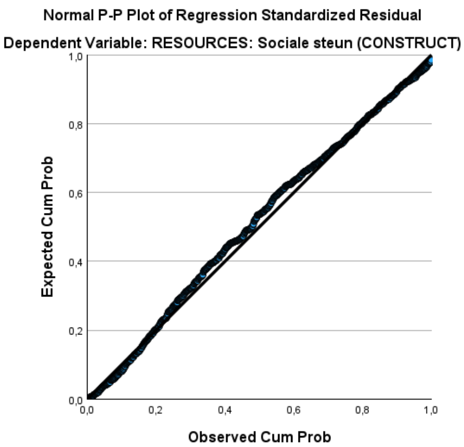


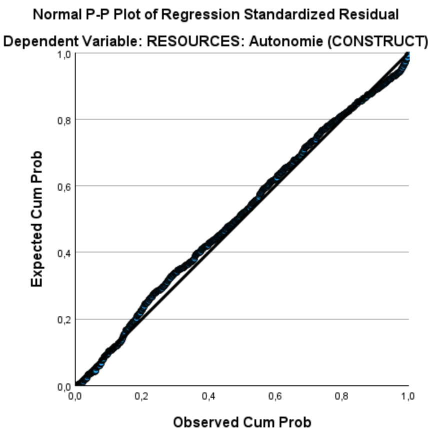


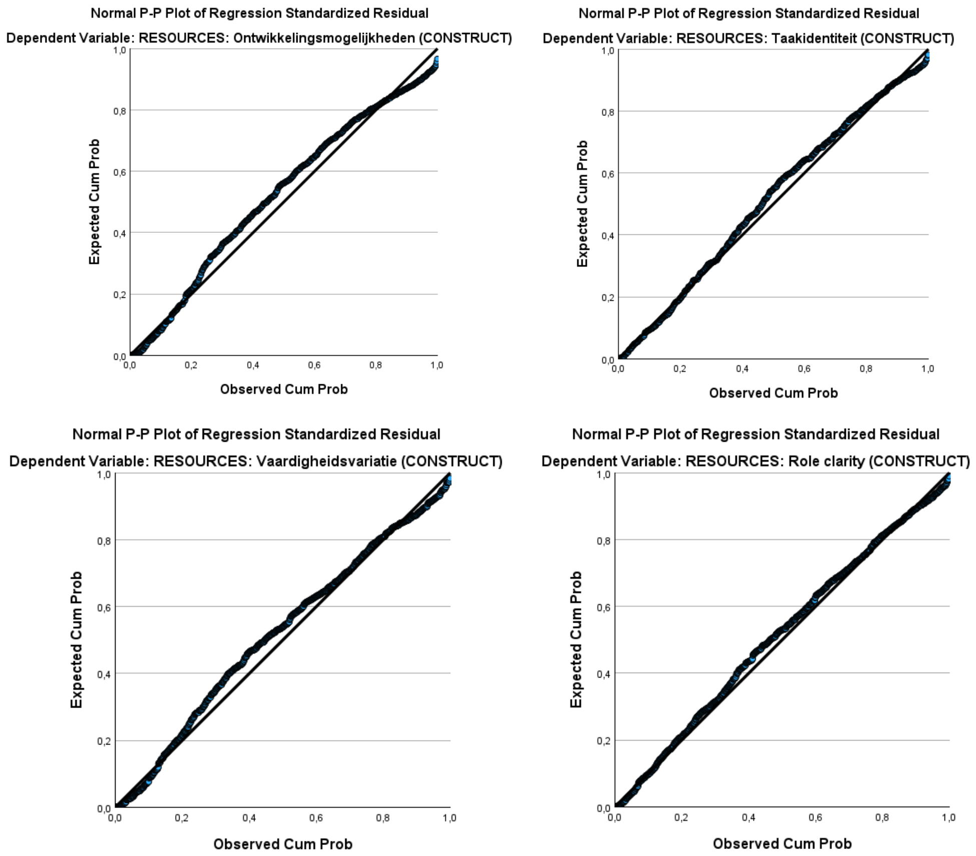






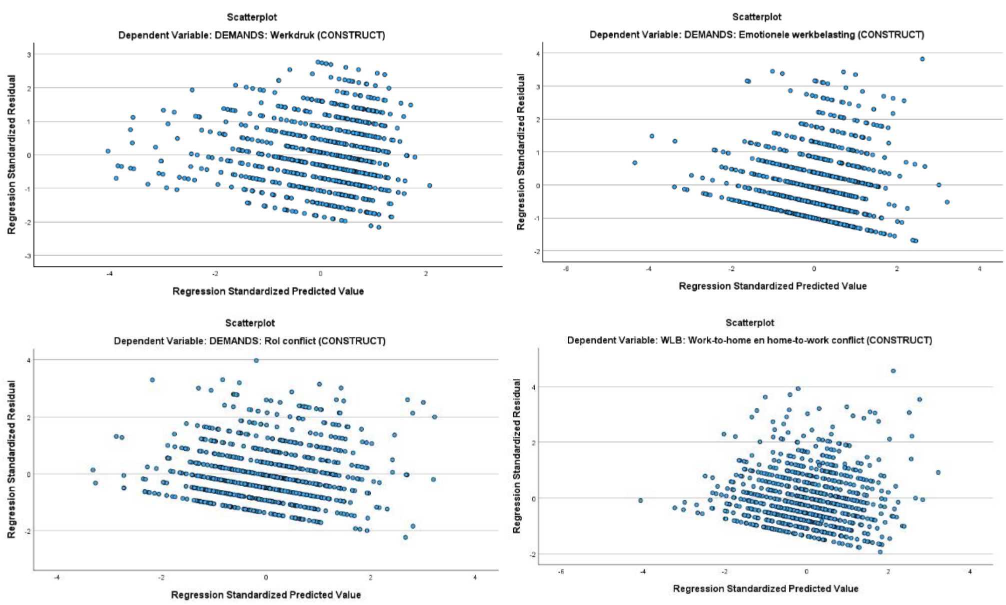


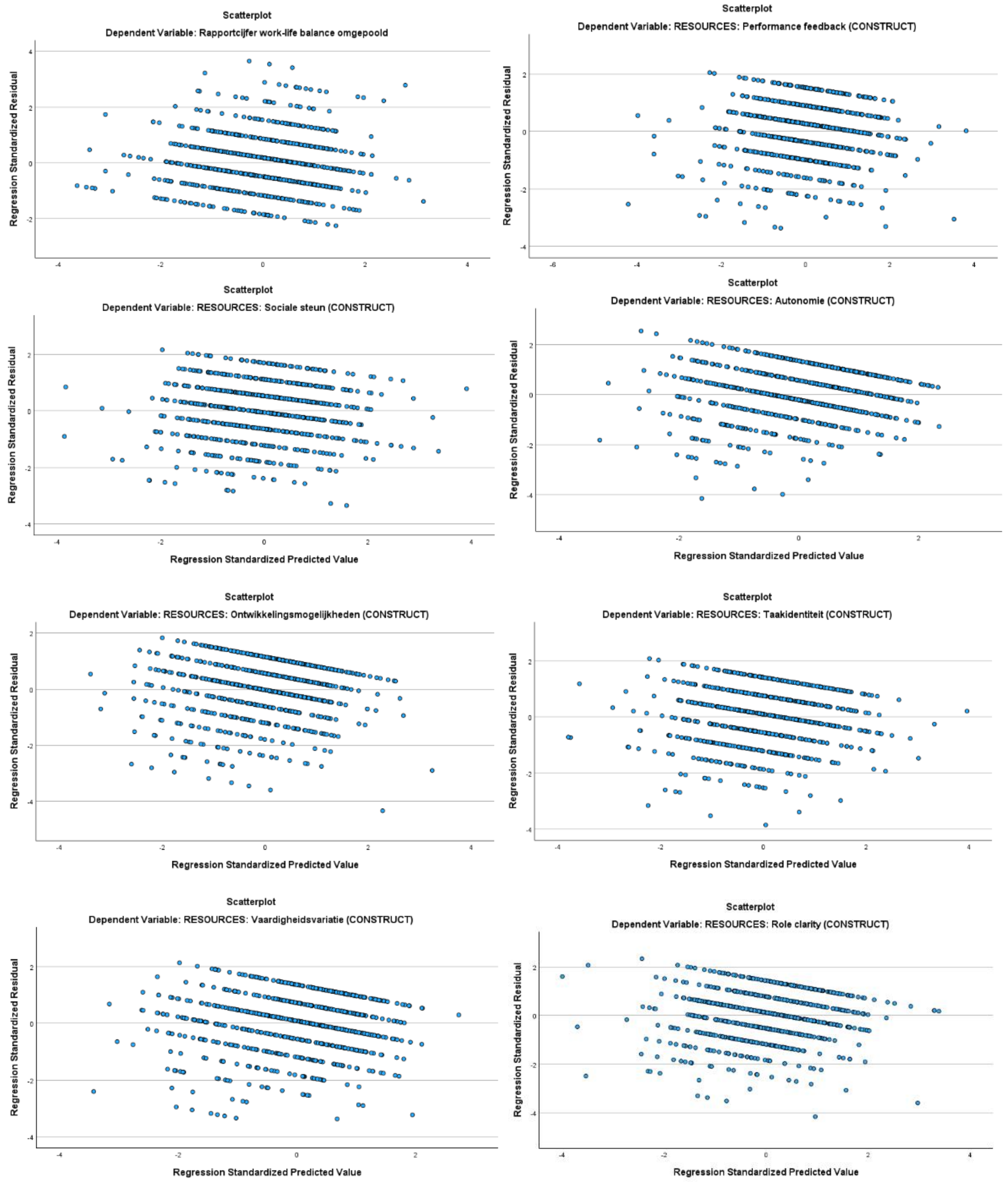




The normality of residuals was assessed using normal P-P plots. The residuals appear to be approximately normally distributed, as the data points for the dependent variables are generally aligned along the diagonal line. In a few cases, a slight skewness was observed, but regression analysis is known to be robust to moderate deviations from normality. This is particularly acceptable given the relatively large sample size, which increases the tolerance for minor violations of this assumptions (Hair et al., 2018).

Appendix 4.2: Linearity and homoscedasticity





Linearity and homoscedasticity were tested using scatterplots for all dependent variables. The assumption of linearity was met, as the plots indicated a constant unit change in the dependent variable for a constant unit change in the independent variable, suggesting a linear relationship. Regarding homoscedasticity, the scatterplots showed that the variance of the error terms remained constant across the range of values of the independent variables, with no indication of heteroscedasticity or clustering of residuals within a limited range. Therefore, both assumptions were satisfied.

Appendix 4.3: Independence of error terms and multicollinearity

The independence of error terms was assessed using the Durbin-Watson statistic, which tests whether residuals are uncorrelated from one observation to the next. A value around 2.0 indicates that there is no correlation between residuals (Field, 2018). For all dependent variables, the values of the Durbin-Watson statistic ranged from 1.830 (for role conflict) to 2.067 (for development opportunities), indicating that the assumption of independence of error terms was met.

Multicollinearity was assessed using the Variance Inflation Factor (VIF) and the Tolerance values. A VIF score above 10 and a Tolerance value below .10 indicate a high level of multicollinearity, suggesting that independent variables may be strongly correlated and not contribute unique variance to the model (Hair et al., 2018). For all models across the different dependent variables, the VIF values ranged from 1.006 to 1.628 and the Tolerance values ranged from .614 to .995. These results indicate that multicollinearity is not a concern, as all values fall well within the acceptable thresholds.

Appendix 5: Statistical analyses for hypotheses testing

Table C: statistical analyses predicting quantitative workload (JD)

QUANTITATIVE WORKLOAD

	Model 1 (TWI)	Model 2 (BUR)	Model 2a (FUNC)	Model 2b (SPEC)	Model 2c (CENT)	Model 2d (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.072**	.073**	.073**	.075**	.077**	.073**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	2.808**	2.853**	2.743**	2.867**	2.634**	2.853**
Age	-.002	.003	.002	.002	.003	.003
Man	-.057	-.057	-.062	-.066	-.057**	-.057
Parttime	-.348**	-.359**	-.353**	-.355**	-.362**	-.359**
Temporary contract	-.345**	-.347**	-.347**	-.366**	-.349**	-.347**
Small organization	.091~	.084	.109~	.083	.120†	.084
Lower function	-.168*	-.159*	-.174*	-.158*	-.191**	-.159*
Telework intensity (X)	-.037**	-.037**	-.037**	-.037**	-.037**	-.037**
Parameter (W)		-.013	.021	-.012	.066†	-.013
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.079**	.076**	.079**	.077**	.073**
Model		**B**	**B**	**B**	**B**	**B**
Constant		2.662**	2.659**	2.680**	2.634**	2.652**
Age		.002	.002	.002	.003	.002
Man		-.070	-.061	-.060	-.058	-.055
Parttime		-.363**	-.357**	-.367**	-.367**	-.359**
Temporary contract		-.381**	-.358**	-.385**	-.342**	-.353**
Small organization		.116~	.101~	.074	.120†	.081
Lower function		-.162*	-.166*	-.150*	-.193**	-.157*
Telework intensity (X)		-.040**	-.038**	-.038**	-.037**	-.038**
Parameter (W)		.029	.021	.074	.064~	-.009
*Interaction (X * W)*		-.025~	-.017†	-.150†	.009	-.009
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		-.023~	-.018	-.016	-.044**	-.029†
Mean		-.040**	-.038**	-.038**	-.037**	-.038**
+1SD		-.057**	-.059**	-.061**	-.029~	-.046**

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table D: statistical analyses predicting emotional workload (JD)

						EMOTIONAL WORKLOAD
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.050**	.048**	.053**	.050**	.066**	.049**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	1.728**	1.720**	1.864**	1.739**	1.397**	1.870**
Age	.004*	.004†	.005*	.004†	.005*	.004*
Man	-.009	-.018	.000	-.013	.002	-.012
Parttime	-.202*	-.207*	-.217**	-.213**	-.229**	-.208*
Temporary contract	-.087	-.116~	-.082	-.110~	-.096~	-.095
Small organization	.154**	.162†*	.110†	.154*	.194**	.118†
Lower function	-.144*	-.139*	-.121*	-.136*	-.184**	-.132*
Telework intensity (X)	-.034**	-.033**	-.034**	-.034**	-.033**	-.034**
Parameter (W)		.012	-.041†	.002	.126**	-.036
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.049**	.053**	.050**	.066**	.052**
Model		**B**	**B**	**B**	**B**	**B**
Constant		1.618**	1.577**	1.604**	1.566**	1.604**
Age		.004†	.005*	.004†	.005*	.004*
Man		-.016	.000	-.013	.002	-.009
Parttime		-.208**	-.218**	-.214**	-.229**	-.208**
Temporary contract		-.122†	-.084	-.111~	-.096~	-.105~
Small organization		.159*	.108†	.154*	.194**	.114†
Lower function		-.136*	-.120*	-.136*	-.184**	-.130*
Telework intensity (X)		-.034**	-.034**	-.034**	-.033**	-.035**
Parameter (W)		.013	-.041†	.002	.126**	-.030
*Interaction (X * W)*		-.009	-.002	-.002	.000	-.015
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		-.028†	-.031†	-.032*	-.033*	-.022~
Mean		-.034**	-.034**	-.034**	-.033**	-.035**
+1SD		-.040*	-.037*	-.036*	-.033†	-.047**

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table E: statistical analyses predicting role conflict (JD)

						ROLE CONFLICT
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.036**	.039**	.038**	.038**	.064**	.048**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	2.322**	2.036**	2.220**	2.167**	1.873**	2.697**
Age	-.009**	-.008**	-.009**	-.009**	-.008**	-.008**
Man	.071~	.074~	.067	.064	.084~	.076~
Parttime	-.206*	-.232**	-.208*	-.216*	-.242**	-.225**
Temporary contract	.050	.074	.048	.057	.046	.050
Small organization	-.009	.048	.019	.029	.047	-.105~
Lower function	-.027	-.045	-.041	-.037	-.084	.012
Telework intensity (X)	.020†	.020†	.020†	.019†	.021†	.019†
Parameter (W)		.078†	-.031~	.043~	.171**	-.113**
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.040**	.038**	.039**	.064**	.048**
Model		**B**	**B**	**B**	**B**	**B**
Constant		2.380**	2.415**	2.410**	2.384**	2.380**
Age		-.009*	-.009**	-.009**	-.008**	-.008**
Man		.076*	.067	.065	.084~	.077~
Parttime		-.233	-.209*	-.219*	-.242**	-.225*
Temporary contract		.067~	.045	.054	.046	.048
Small organization		.044	.016	.027	.047	-.106~
Lower function		-.041	-.039	-.036	-.084~	.013
Telework intensity (X)		.020†	.020†	.019†	.021†	.019†
Parameter (W)		.078~	.031~	.044~	.171**	-.111**
*Interaction (X * W)*		-.010	-.005	-.004	.000	-.004
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.027†	.026~	.024~	.021~	.022~
Mean		.020†	.020†	.019†	.021†	.019†
+1SD		.012	.014	.015	.021	.016

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table F: statistical analyses predicting work-life conflict (JD)

						WORK-LIFE CONFLICT
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.051**	.050**	.054**	.052**	.067**	.059**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	2.200**	2.279**	2.296**	2.276**	1.910**	2.497**
Age	-.007**	-.007**	-.007**	-.007**	-.006**	-.006**
Man	-.121**	-.125**	-.114**	-.122**	-.108*	-.127**
Parttime	-.259**	-.266**	-.263**	-.259**	-.279**	-.272**
Temporary contract	-.124*	-.131*	-.121†	-.135*	-.131*	-.127*
Small organization	.130**	.106†	.101*	.111*	.165**	.052
Lower function	-.015	.004	-.002	-.008	-.054	.019
Telework intensity (X)	.000	-.001	.001	.000	.002	-.002
Parameter (W)		-.025	-.030~	-.019	.109**	-.085**
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.052**	.057**	.054**	.068**	.060**
Model		**B**	**B**	**B**	**B**	**B**
Constant		2.198**	2.198**	2.215**	2.185**	2.191**
Age		-.007**	-.007**	-.007**	-.006**	-.006**
Man		-.122**	-.114**	-.119**	-.109*	-.126**
Parttime		-.267**	-.265**	-.265**	-.282**	-.272**
Temporary contract		-.141*	-.128*	-.145*	-.127*	-.130*
Small organization		.102†	.095†	.107†	.165**	.051
Lower function		.009	.004	-.005	-.055	.020
Telework intensity (X)		-.002	.000	.000	.002	-.002
Parameter (W)		-.024	-.029~	-.019	.108**	-.083*
*Interaction (X * W)*		-.013	-.012~	-.010	.006	-.004
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.007	.015	.010	-.002	.001
Mean		-.002	.000	.000	.002	-.002
+1SD		-.011	-.015	-.011	.007	-.006

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table G: statistical analyses predicting work-life imbalance (JD)

WORK-LIFE IMBALANCE

	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.049**	.050**	.047**	.049**	.063**	.050**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	3.335**	3.389**	3.459**	3.602**	2.664**	3.775**
Age	.000	.000	.000	.000	.001	.000
Man	-.167~	-.197†	-.158~	-.166~	-.147~	-.192†
Parttime	-.291†	-.269~	-.291†	-.282†	-.326*	-.290†
Temporary contract	-.370*	-.415**	-.366*	-.403**	-.384*	-.399**
Small organization	.181~	.195~	.147	.119	.271*	.088
Lower function	-.174~	-.185~	-.162~	-.155	-.283*	-.137
Telework intensity (X)	-.101**	-.103**	-.101**	-.102**	-.099**	-.104**
Parameter (W)		-.006	-.038	-.067	.247**	-.114†
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.060**	.047**	.050**	.063**	.053**
Model		**B**	**B**	**B**	**B**	**B**
Constant		2.939**	2.894**	2.932**	2.849**	2.945**
Age		-.001	.000	.000	.001	.000
Man		-.191†	-.158~	-.162~	-.145~	-.185†
Parttime		-.271†	-.293†	-.290†	-.317*	-.289†
Temporary contract		-.439**	-.372*	-.416**	-.397*	-.421**
Small organization		.184~	.142	.113	.270*	.079
Lower function		-.175~	-.157	-.150	-.280*	-.132
Telework intensity (X)		-.105**	-.101**	-.102**	-.099**	-.105**
Parameter (W)		-.004	-.037	-.067	.250**	-.100~
*Interaction (X * W)*		-.031	-.010	-.014	-.017	-.032~
	Conditional effects of the focal predictor at values of the moderator					
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		-.083**	-.089**	-.087**	-.086**	-.078**
Mean		-.105**	-.101**	-.102**	-.099**	-.105**
+1SD		-.126**	-.114**	-.117**	-.113**	-.133**

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table H: statistical analyses predicting performance feedback (social JR)

						PERFORMANCE FEEDBACK
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.009	.010	.009	.009	.020*	.028**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	3.904**	3.882**	3.943**	3.887**	4.193**	3.390**
Age	-.004†	-.004†	-.004†	-.004†	-.004†	-.005*
Man	.081~	.084~	.085~	.074~	.075~	.095†
Parttime	-.050	-.041	-.047	-.049	-.028	-.037
Temporary contract	-.056	-.070	-.055	-.067	-.049	-.046
Small organization	.026	.038	.015	.038	-.009	.153*
Lower function	-.075	-.075	-.072	-.074	-.035	-.113†
Telework intensity (X)	.008	.009	.008	.007	.007	.011
Parameter (W)		.010	-.013	.009	-.109**	.144**
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.011	.010	.009	.023*	.029*
Model		**B**	**B**	**B**	**B**	**B**
Constant		3.947**	3.934**	3.933**	3.953**	3.943**
Age		-.004†	-.004~	-.004~	-.004†	-.005*
Man		.081~	.085~	.071	.071	.093†
Parttime		-.040	-.048	-.044	-.041	-.037
Temporary contract		-.058	-.058	-.059	-.031	-.039
Small organization		.044	.013	.041	-.008	.156*
Lower function		-.080	-.070	-.077	-.039	-.115†
Telework intensity (X)		.010	.008	.008	.009	.012
Parameter (W)		.009	-.013	.008	-.113**	.140**
*Interaction (X * W)*		.016	-.004	.009	.023~	.011
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		-.002	.013	-.001	-.010	.003
Mean		.010	.008	.008	.009	.012
+1SD		.021	.002	.017	.027~	.021~

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table I: statistical analyses predicting social support (social JR)

						SOCIAL SUPPORT
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.018*	.022*	.018*	.018†	.024**	.043**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	3.672**	3.466**	3.656**	3.557**	3.849**	3.024**
Age	-.007**	-.007**	-.007**	-.006**	-.007**	-.008**
Man	.059	.062	.059	.049	.062	.071
Parttime	-.065	-.064	-.053	-.062	-.053	-.051
Temporary contract	-.060	-.064	-.061	-.059	-.059	-.043
Small organization	.000	.053	.010	.033	-.022	.159*
Lower function	.081	.059	.071	.071	.108~	.032
Telework intensity (X)	.027*	.028*	.028*	.026*	.028*	.029*
Parameter (W)		.067~	.004	.031	-.065†	.180**
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.023*	.018†	.018†	.027**	.043**
Model		**B**	**B**	**B**	**B**	**B**
Constant		3.797**	3.790**	3.779**	3.804**	3.789**
Age		-.007**	-.007**	-.006*	-.007**	-.008**
Man		.059	.058	.048	.058	.071
Parttime		-.063	-.052	-.059	-.068	-.051
Temporary contract		-.050	-.058	-.055	-.038	-.043
Small organization		.059	.012	.035	-.022	.159*
Lower function		.054	.069	.069	.103~	.031
Telework intensity (X)		.029*	.028*	.026*	.029*	.029*
Parameter (W)		.066	.004	.031	-.070~	.180**
*Interaction (X * W)*		.017	.004	.005	.026~	.000
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.017	.023~	.022	.009	.029~
Mean		.029*	.028*	.026*	.029*	.029*
+1SD		.041*	.034†	.031†	.050**	.030~

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table J: statistical analyses predicting autonomy (structural JR)

						AUTONOMY
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.077**	.078**	.078**	.079**	.0164**	.078**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	3.744**	3.836**	.676**	3.821**	4.460**	3.836**
Age	.007**	.007**	.006**	.001**	.006**	.007**
Man	.058	.062~	.053	.058	.035	.062~
Parttime	-.084	-.082	-.080	-.075	-.029	-.082
Temporary contract	-.084	-.084	-.085	-.091~	-.060	-.084
Small organization	.159**	.139*	.180**	.137*	.065	.139*
Lower function	-.239**	-.237**	-.250**	-.239**	-.148**	-.237**
Telework intensity (X)	.030**	.029**	.030**	.029**	.027**	.029**
Parameter (W)		-.025	.021	-.020	-.271**	-.025
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.087**	.079**	.079**	.165**	.078**
Model		**B**	**B**	**B**	**B**	**B**
Constant		3.881**	3.877**	3.870**	3.907**	3.874**
Age		.007**	.006**	.007	.006**	.007**
Man		.066~	.053	.056**	.034	.062~
Parttime		-.072	-.081	-.072	-.036	-.082
Temporary contract		-.085	-.089	-.086	-.051	-.085
Small organization		.062	.177**	.139*	.065	.139*
Lower function		-.205**	-.248**	-.241**	-.150**	-.237**
Telework intensity (X)		.029**	.029**	.029**	.028**	.029**
Parameter (W)		-.124**	.021	-.021	-274**	-.025
*Interaction (X * W)*		.002	-.005	.005	.012	-.001
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.028*	.036**	.024†	.018†	.030**
Mean		.029**	.029**	.029**	.028**	.029**
+1SD		.030*	.023~	.035*	.037*	.029**

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table K: statistical analyses predicting development opportunities (structural JR)

						DEVELOPMENT OPPORTUNITIES
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.055**	.057**	.056**	.057**	.076**	.068**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	4.305**	4.463**	4.352**	4.422**	4.747**	3.821**
Age	-.004†	-.005†	-.004†	-.004†	-.005*	-.005*
Man	-.097~	-.085~	-.095~	-.092~	-.106†	-.084~
Parttime	-.236*	-.203*	-.226*	-.217*	-.200*	-.208*
Temporary contract	-.094	-.100	-.094	-.104	-.079	-.080
Small organization	-.055	-.100	-.065	-.085	-.117†	.056
Lower function	-.353**	-.347**	-.350**	-.351**	-.296**	-.398**
Telework intensity (X)	.024*	.026*	.024*	.024*	.023†	.027*
Parameter (W)		-.048	-.016	-.033	-.168**	.133**
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.062**	.056**	.062**	.085**	.068**
Model		**B**	**B**	**B**	**B**	**B**
Constant		4.405**	4.402**	4.393**	4.425**	4.406**
Age		-.004~	-.004~	-.004~	-.004†	-.005†
Man		-.091~	-.095~	-.099~	-.113†	-.086~
Parttime		-.201*	-.225*	-.204*	-.222*	-.208*
Temporary contract		-.074	-.090	-.082	-.048	-.076
Small organization		-.088	-.063	-.076	-.116~	.058
Lower function		-.358**	-.353**	-.360**	-.304**	-.399**
Telework intensity (X)		.028*	.025†	.025*	.025*	.028*
Parameter (W)		-.050	-.016	-.033	-.175**	.130**
*Interaction (X * W)*		.035†	.005	.024†	.041*	.006
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.004	.018	.001	-.008	.022
Mean		.028*	.025†	.025*	.025*	.028*
+1SD		.052**	.031†	.050*	.058**	.033†

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table L: statistical analyses predicting task identity (structural JR)

TASK IDENTITY

	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.033**	.035**	.034**	.034**	.049**	.054**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	3.579**	3.589**	3.567**	3.634**	3.920**	3.047**
Age	.005*	.004*	.005*	.005*	.004†	.004†
Man	.124*	.138*	.124*	.127*	.122*	.137*
Parttime	-.024	-.017	-.011	-.007	.005	-.018
Temporary contract	-.128~	-.129~	-.129~	-.128~	-.118~	-.114~
Small organization	.218**	.217**	.226**	.203**	.169**	.353**
Lower function	-.031	-.031	-.039	-.035	.013	-.07
Telework intensity (X)	.013	.014~	.013	.013	.013	.016~
Parameter (W)		-.004	.002	-.017	-.130**	.146**
		Model 3 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.036**	.035**	.036**	.050**	.054**
Model		**B**	**B**	**B**	**B**	**B**
Constant		3.632**	3.631**	3.618**	3.653**	3.633**
Age		.005*	.005*	.005*	.004*	.004†
Man		.136*	.123*	.123*	.120*	.137**
Parttime		-.016	-.010	.001	.000	-.018
Temporary contract		-.118	-.126~	-.116	-.110	-.115~
Small organization		.222**	.228**	.208**	.170*	.352**
Lower function		-.036	-.041	-.040	.011	-.069
Telework intensity (X)		.015~	.014	.013	.013	.015~
Parameter (W)		-.005	.002	-.017	-.132**	.147**
*Interaction (X * W)*		.014	.004	.013	.010	-.002
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.006	.008	.000	.005	.017
Mean		.015~	.014	.013	.013	.015~
+1SD		.025~	.019	.027†	.021	.014

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table M: statistical analyses predicting skill variety (structural JR)

						SKILL VARIETY
	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.094**	.096**	.096**	.096**	.114**	.099**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	3.743**	4.005**	3.806**	3.912**	4.170**	3.433**
Age	.006**	.006**	.006**	.006**	.005*	.006*
Man	.008	.017	.014	.010	-.003	.017
Parttime	-.179*	-.146~	-.166†	-.162†	-.147†	-.150†
Temporary contract	-.183*	-.197*	-.181*	-.200*	-.171*	-.177*
Small organization	.085~	.027	.070	.049	.032	.160*
Lower function	-.381**	-.363**	-.380**	-.372**	-.325**	-.413**
Telework intensity (X)	.013	.015~	.014	.013	.013	.016~
Parameter (W)		-.078†	-.022	-.045~	-.161**	.085*
		Model 2 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.097**	.096**	.098**	.116**	.099**
Model		**B**	**B**	**B**	**B**	**B**
Constant		3.810**	3.789**	3.800**	3.825**	3.804**
Age		.006*	.006**	.006*	.006*	.006*
Man		.015	.0141	.006	-.006	.017
Parttime		-.145~	-.116†	-.156†	-.158†	-.150~
Temporary contract		-.186†	-.180†	-.190†	-.155~	-.178†
Small organization		.032	.070	.053	.032	.159*
Lower function		-.368**	-.380**	-.376**	-.329**	-.412**
Telework intensity (X)		.016~	.014	.014	.014	.016~
Parameter (W)		-.079†	-.022	-.045~	-.165**	.086*
*Interaction (X * W)*		.014	.001	.011	.021~	-.002
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.006	.015	.003	-.003	.017
Mean		.016~	.014	.014	.014	.016~
+1SD		.025~	.015	.025~	.031†	.014

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level

Table N: statistical analyses predicting role clarity (structural JR)

ROLE CLARITY

	Model 1 (TWI)	**Model 2** (BUR)	**Model 2a** (FUNC)	**Model 2b** (SPEC)	**Model 2c** (CENT)	**Model 2d** (FORM)
Model summary	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
	.048**	.051**	.049**	.050**	.065**	.085**
Model	**B**	**B**	**B**	**B**	**B**	**B**
Constant	3.474**	3.238**	3.405**	3.310**	3.838**	2.724**
Age	.006**	.006*	.006**	.006**	.005*	.005*
Man	.108*	.116*	.108*	.100†	.105†	.122*
Parttime	.246**	.260**	.258**	.252**	.279**	.265**
Temporary contract	-.238**	-.239**	-.239*	-.235**	-.224**	-.219**
Small organization	.092~	.141*	.114†	.133†	.041	.269**
Lower function	.171**	.140*	.154*	.153*	.213**	.116†
Telework intensity (X)	.013	.015~	.014	.012	.013	.017~
Parameter (W)		.072~	.019	.045~	-.139**	.207**
		Model 2 (BUR)	**Model 3a** (FUNC)	**Model 3b** (SPEC)	**Model 3c** (CENT)	**Model 3d** (FORM)
Model summary		**R-sq**	**R-sq**	**R-sq**	**R-sq**	**R-sq**
		.051**	.049**	.051**	.065**	.086**
Model		**B**	**B**	**B**	**B**	**B**
Constant		3.538**	3.530**	3.529**	3.551**	3.533**
Age		.006*	.006**	.006**	.005*	.005*
Man		.117*	.108*	.103*	.105†	.123*
Parttime		.260**	.257**	.248**	.281**	.265**
Temporary contract		-.245**	-.241**	-.242**	-.228**	-.222**
Small organization		.139*	.112†	.130*	.041	.268**
Lower function		.142*	.156*	.156*	.214**	.116†
Telework intensity (X)		.014	.013	.012	.012	.016~
Parameter (W)		.072~	.019	.045~	-.138**	.209**
*Interaction (X * W)*		-.007	-.004	-.008	-.004	-.004
		Conditional effects of the focal predictor at values of the moderator				
Parameter		**Effect**	**Effect**	**Effect**	**Effect**	**Effect**
-1SD		.020	.019~	.020	.016	.020
Mean		.014	.013	.012	.012	.016~
+1SD		.009	.008	.003	.009	.013

** = significant at the .01 level, * = significant at the .05 level, † = significant at the .1 level, ~ = significant at the .20 level