# Does it matter where I work? Examining the effect of Remote Work on employees' Work Engagement and Burnout

Lebogang Tlotlo Tau

710631

A research report submitted to the Faculty of Humanities, University of the Witwatersrand, in partial fulfillment of the requirements of the degree of Master of Arts in Social and Psychological Research

Johannesburg, 2023

Supervised by Dr Michael Pitman

Declaration

I, Lebogang Tlotlo Tau, declare that this research project (Ethics clearance number: MASPR/21/011) is my own unaided work. It has not been submitted before for this or any other degree or for examination at this or any other university.

Signed: 

Date: 30 August 2023

**Research report for Masters in Social and Psychological Research**

**Surname:** Tau

**First Names:** Lebogang Tlotlo

**Supervisor:** Dr Michael Pitman

**Research report title: Does it matter where I work? Examining the effect of Remote Work on employees' Work Engagement and Burnout**

**Total word count (excluding references & appendix):** 9 769

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I, Lebogang Tlotlo Tau, understand and accept that plagiarism is morally and professionally reprehensible. I consequently declare that:

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**Abstract**

The global COVID-19 pandemic caused a significant shift in how and where work is conducted. Governments around the world initiated national lockdowns to enforce certain restrictions to curb the spread of infection and keep society functioning as normal. Businesses and institutions had to adopt flexible, remote working arrangements to achieve their ends during the pandemic. This study examined if remote work had any effect on employees' work engagement and burnout, and if this relationship would be moderated or mediated by work overload and organisational support in South African organisations. A cross-sectional questionnaire design was utilized to obtain data from the sample. A sample of 103 employees from different organisations in South Africa participated in the study. Work overload and organisational support was measured using their respect subscales on the Job Demands-Resource scale. The Utrecht Work Engagement Scale, Oldenburg Burnout Inventory were used to measure the work engagement and burnout respectively. The results indicate that remote work does not predict both work engagement and burnout, nor was this relationship moderated by work overload and organisational support.

Keywords: remote work, overload, employees, organisational support, burnout, work engagement

**Acknowledgements**

I would like to sincerely thank my supervisor, Dr. Michael Pitman, for his amazing support and guidance in completing this study. Dr Pitman displayed high levels of professionalism at all times and granted me patience – even at times when it was difficult to do so. A humbly appreciate the support and I have gained immeasurable skills and knowledge from working with Dr. Pitman.

Secondly, I would like to thank my colleagues, friends, and the broader social media community for their participation in this study. Taking time out of your day to complete and share the questionnaire meant a lot to me.

Lastly, I am immensely grateful for the gift and grit of life. For those late nights where completion of this study seemed impossible, to early mornings where I had made breakthroughs that made me believe that I would indeed complete it. Completion of this study marks a new era in my life which is dedicated to finishing what I start – to the best of my ability.

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# Chapter One: Introduction

The novel coronavirus, COVID-19, became a global pandemic in early 2020, causing major disruptions to economies, healthcare, education, and everyday social and work life. The contagious manner of the virus prompted governments to impose certain restrictions and hygiene protocols in order to curb the spread of the virus. Such restrictions and protocols include social distancing of at least one meter, the compulsory wearing of face masks in public and the frequent sanitization of hands. In order to effectively reduce the risk of infections rising, the South African government announced the national lockdown on the 26th of March 2020.

The national lockdown meant that only essential workers were permitted to leave their households while non-essential workers and the rest of the citizens were instructed to stay indoors and to only leave for emergencies and/or to buy food and other essential goods. Essential workers are those members of the workforce who ensure that a society functions as 'normal' and that all the operational needs are met (Song et al., 2021). These are the healthcare and emergency services workers, workers involved in the production and distribution of food and medical supplies, and public workers (Song et al., 2021). Conversely, non-essential workers are deemed not vital to the critical operational needs of society (Song et al., 2021). However, we can argue that certain jobs that are classified as non-essential facilitate and/or enable some of the functions of essential workers and the normal functioning of society. Examples include employees in the financial services, information and communication technology (ICT) and engineering/manufacturing sectors. Employees in the engineering/manufacturing industries not only play a critical role in the supply of materials and devices used to curb the spread of and monitor/detect the infection of COVID-19, but they are also crucial in the construction of test and quarantine sites. All of which are helpful to essential workers. Furthermore, employees in the financial services sector facilitate

important transactions (payment for goods and services, remuneration and living expenses), while ICT employees make communication possible – these are all arguable necessary for essential workers and for society to function as normal. These employees, albeit non-essential, play a pivotal role in the functioning of society and can carry out their duties in a remote location or alternative site – provided they have access to electricity, reliable internet connection and access to specialized machinery (in the case of engineering/manufacturing sector). Businesses in these sectors had to innovate and devise strategies to allow their non-essential employees to get the job done without being in the office/primary site while still achieving their business or institutional objectives. Thus, many businesses and institutions in South Africa have enabled their workers to work from home or alternate site(s) for the duration of the lockdown.

As a result, more employees were scheduled to work fully or partially remotely, even those who could not before the pandemic. Not being in the office or being in the office for a limited amount of time invariably has an effect on how duties are carried out. For example, meetings, presentations, training, coaching, and all other information sharing activities must take place online, through the use of virtual technology platforms such as Microsoft Teams, Skype and Zoom. Informal discussions and opportunities to collaborate in person are limited and this may affect how employees engage with one another and the organization. On the other hand, working remotely can save employees commuting costs and give them more freedom to perform their duties in an environment most convenient for them. How an employee experiences their job demands and resources is influenced by the adoption of a remote working arrangement (Wang et al., 2021). To understand these changes to how and where work is carried out, we call upon the theoretical perspective of work design. Parker (2014) defines work design as "the content and organisation of work tasks, activities, relationships, and responsibilities" (Wang et al., 2020.: p. 18). These changes in how and

where work is conducted essentially constitute an altered organization of an employee's functions/duties. The work design theory provides evidence that remote working (fully or partially) can have significant effects on job demands and job resources (Wang et al., 2021).

A meta-analysis conducted by Gajendran and Harrison (2007) revealed that engaging in remote work was beneficial to employees' perceived autonomy (a job resource) and another study by Cooper and Kurland (2002) revealed that remote work was detrimental for the more social and relational aspects of the job (Wang et al., 2021). Using the framework of work design in remote work, this study investigated the possible effects of remote work on the demands and resources associated with an individuals' job, and its subsequent relationship with burnout and engagement.

# Chapter Two: Literature Review

This chapter details the relevant literature on remote work, JD-R model, work engagement and burnout. Firstly, an overview of current trends in remote work is given, followed by a discussion on the JD-R model. Work engagement and burnout are then introduced in relation to the energetic and motivation processes outlined by the JD-R model. Finally, a brief discussion of COVID-19 and remote working is given, to highlight a few studies which have demonstrated the effects of the pandemic on the location of work and work outcomes.

## Remote Work

Greater advances in the capabilities of information and communications technologies (ICTs), coupled with access to high-speed internet facilities, have enabled remote working to be an alternative mode of working in the last two decades (Felstead & Henseke, 2017; Wang et al., 2021). Remote work is also commonly referred to as 'telecommuting' in the literature. Di Martino and Wirth (1990: p. 530) define remote working as "flexible work arrangements where employees carry out their duties in locations different from their primary offices or sites, where the employees have no physical contact with their co-workers but are able to communicate with them through various use of technology". This definition of remote working is what is used throughout this paper and is operationalised in the Methods chapter. Research carried out by Felstead and Henseke (2017) report a significant increase in remote work in the UK, with 13.9% of their workforce on remote working in 2014. In 2015, both the US and Europe, as a whole, have seen a 2% and 2.9% increase in remote working, respectively, as reported in the American Community Survey (2017) and Eurofound (2017). These increases in remote working are attributed to two main trends. Firstly, the rise of a new 'knowledge' economy, which places emphasis on non-physical economic assets, such as software, new ideas and service (Felstead & Henseke, 2017). In this knowledge economy, the focus is on educated (or experienced) professionals' ability to draw upon abstract, specialised or theoretical knowledge to do their work, thus adding value through their thinking and

not with their hands (Felstead & Henseke, 2017). Knowledge creation and solving of business problems becomes less spatially bound – unless in professions such as health and manufacturing where the use of specialised equipment and machinery is central to the job. Secondly, organisations are structuring labour in a manner which is more consistent with where and when work is required - think of the rise of labour brokers, and the prevalence of consulting and/or advisory firms (Felstead & Henseke, 2017). This is based on the 'flexible' worker model which refers to how employers offer flexibility in working time and adjust where the work is done, according to the demands of the business (Felstead & Henseke, 2017).

However, these preliminary contexts of remote work were voluntary, experimental, and almost exclusively available to high-income, white-collar workers, managers, and other professionals (Felstead & Henseke, 2017; Wang et al., 2020). Now the COVID-19 pandemic has made it mandatory for millions of employees across the globe to consider remote work, rendering the pandemic a global de facto experiment of remote working (Kniffin et al., 2020). The vast body of research on remote working and the meta-analyses conducted on the topic may tempt us into assuming that we currently understand the psychological risks and challenges facing remote workers in the pandemic (Wang et al., 2020). This is largely because research in remote working has yielded evidence of two distinct outcomes. Firstly, the social exchange theory has suggested that remote workers reciprocate the opportunity to alter where they work by putting in extra effort and doing more than is required, out of an implicit obligation to their employees and colleagues working at the office (Elsbach et al., 2012; Golden & Gajendran, 2019). The second outcome draws from the idea the work/life border theorist put forward. These theorists argue that the transition from work to home is difficult as employers' work demands often spill into the employees' private lives, as these employees lack the ability to 'switch-off' work and find it difficult to unwind after work (Felstead & Henseke, 2017). While these observed outcomes are arguable tempting, it is important to reiterate that these studies were not conducted when remote

working was at such a large scale as during the pandemic and cannot encompass the unique demands brought upon by a global pandemic.

Furthermore, Lapierre (2016) argued that the previous findings of remote work research are plagued by a selection bias, since the participants engaged in remote working voluntarily. So, the outcomes mentioned above might only be true for employees who were interested in or have the ability to work remotely (Wang et al., 2020). In this study, working remotely is not merely an option, but was a mandatory requirement to non-essential workers, at the start of the National Lockdown on 26 March 2020 (National Institute of Communicable Diseases, 2020). The focus is on the impact of the change in the nature of work brought upon by remote working in the pandemic.

The application of the work design theory allows for a critical examination of how the employee's work characteristics change in the unique context of remote work during the pandemic (Wang et al., 2020). Work design theory holds significant importance in the remote working literature and has identified three distinct approaches of understanding remote work and work characteristics. For the scope of this study, we will only focus on the first two approaches. Here is a brief definition of the variables used in the work design literature:

- Remote working intensity (Independent Variable): the percentage of time spent working remotely per week (Golden & Gajendran, 2019; Wang et al., 2020).
- Perceived work characteristics (Moderating and Mediating Variable): aspects of the nature of the work, such as task interdependence, task autonomy, skill variety, social support etc. (Felstead & Henseke, 2017; Golden & Gajendran, 2019; Wang et al., 2020).
- Outcomes (Dependent Variable): includes a wide-range of employee-level organisational behaviours and measures such as job performance, job satisfaction, work engagement, turnover intention etc. (Felstead and Henseke, 2017; Wang et al., 2020).

The first approach locates perceived work characteristics as a moderating variable between remote working and remote worker outcomes (Wang et al., 2020). This line of research is interested in identifying the types of jobs which are better equipped for remote working (Wang et al., 2020). In a study of 273 remote workers and their supervisors, the relationship between remote working and supervisor-related job performance (outcome) was moderated by task interdependence, social support, job complexity and problem-solving. The observed relationship was strong for employees with complex jobs and employees with lower task interdependence and lower social support (Golden & Gajendran, 2019). The assumption here is that specific work will not be affected by remote working activities, thus such characteristics should be considered as the benchmark to be used when conceptualising remote work policy (Wang et al., 2020).

The second approach argues against the assumption of the first approach, by postulating that work characteristics are mediated by information and communication technologies (ICTs) inherent in remote work (Wang et al., 2020). Thus, the way an employee views or experiences their work characteristics is altered by them engaging in remote work (Wang et a., 2020). More specifically "engaging in remote work practices can significantly change job demands, autonomy, and relational aspects of work, which in turn influence employee outcomes" (Wang et al., 2020: p. 21).

A qualitative study conducted in mid-February 2020 recruited 39 Chinese employees from various industries to share their experiences while working remotely during COVID-19. The interviewers conducted semi-structured interviews in Chinese, which included questions about their perceptions of their new work environment as well as how they feel carrying out their tasks while working remotely (Wang et al., 2020). The findings of this study revealed three themes; *remote work challenges*, *virtual work characteristics* and *individual factors* (Wang et al., 2020). The most salient theme relevant to this study is the virtual work characteristics - these are *job autonomy, monitoring, workload* and *social support* and they reflect the qualities of the employees'

job while they are working remotely (Wang et al., 2020). The employees reported that these characteristics mediated the relationship between the challenges they experienced when working remotely and their well-being and work effectiveness (Wang et al., 2020). For example, seven employees revealed that social support was a crucial job resource that empowered them to complete more tasks when working remotely and also allowed them to feel less lonely (Wang et al., 2020). In addition, workload was mentioned in great length by ten employees who complained about excess work demands while working remotely and that working remotely increased their working time, which had a negative impact on their well-being (Wang et al., 2020)

This study tested the first and second approach of remote work literature on a South African sample. The work characteristics that are to be measured are *organisational support* and *work overload*, which are drawn from the JD-R model.

**Job Demands-Resources model (JD-R)**

Early research conducted on job characteristics was centred around a key idea that the way a job is structured or designed has certain physical, emotional, and psychological attributes which have a massive impact on an employees' wellbeing – both positively and negatively (Bakker and Demerouti, 2006; Schaufeli and Bakker, 2004). For example, jobs that are characterised by role ambiguity, intense emotional demands and high work pressure may lead to adverse health effects (i.e., negative employee wellbeing) such as exhaustion and insomnia (Bakker and Demerouti, 2006). Conversely, jobs which allow the employee to have high levels of autonomy in their work, flourishing relationships with colleagues and leaders, and regular, constructive feedback may inspire positive aspects of employee wellbeing (Bakker and Demerouti, 2006; Demerouti et al., 2001). These positive aspects include high levels of work engagement, motivation, commitment to the organisation and personal development (Bakker and Demerouti, 2006; Demerouti et al., 2001). In the most basic reduction of the JD-R model, job characteristics that are associated with positive

employee wellbeing are referred to as job resources, whereas those associated with negative employee wellbeing are known as job demands.

The first key tenet of Demerouti et al.'s (2001) JD-R model is that while every job may have its own assortment of work characteristics related to an employee's wellbeing – it is appropriate to categorize these characteristics into two broad categories – job demands and job resources (Bakker and Demerouti, 2006; Demerouti et al. 2001; Jackson and Rothmann, 2005). *Job demands* are the physical, social, organisational, or psychological aspects of a job that elicit prolonged psychological and/or physical effort thus relate to certain psychological and/or physiological outcomes (Bakker and Demerouti, 2006; Demerouti et al. 2001; Jackson and Rothmann, 2005). Examples include dealing with emotionally draining customers, adhering to tight deadlines and uncomfortable working conditions. *Job Resources* refer to the physical, social, organisational, or psychological aspects of a job that assist to achieve work objectives, spur personal development, and minimize job demands (Bakker and Demerouti, 2006; Jackson and Rothmann, 2005). Job resources can either intrinsically motivate an employee through personal development or extrinsically motivate an employee through assisting them achieving work goals (Jackson and Rothmann, 2005). Examples include job security, performance feedback and a supportive team climate (Jackson and Rothmann, 2005). Overall, job demands, and job resources have an antagonistic relationship, as high work pressure and a high workload may negate the mobilisation of job resources (Jackson and Rothmann, 2005). In addition, great, supportive relationship with colleagues and an abundance of growth opportunities may reduce the psychological and physiological effects of job demands (Jackson and Rothmann, 2005).

The second key tenet of the JD-R model is how job characteristics evoke two distinct psychological processes, namely a *motivational process* whereby the lack of job resources hinders the ability to deal with job demands therefore leading to mental withdrawal and an *energetic process* where high job demands drain an employee's energy (Demerouti et al. 2001; Jackson and

Rothmann, 2005). When institutions and organisations do not furnish employees with adequate job resources, employees are prone to disengage from work and experience reduced commitment and motivation – making it harder from them to achieve work goals and grow or advance in their careers (Demerouti et al. 2001; Jackson and Rothmann, 2005). Likewise, when employees are constantly operating under increased levels of workload, they need to dig deep and generate additional mental effort to maintain task performance (Jackson and Rothmann, 2005). This constant generation of extra effort can lead to acute fatigue and over time, chronic health effects such as burnout.

In summary, the JD-R model demonstrates how job demands predict burnout, job resources predict work engagement and job resources can interact with job demands to influence burnout (Lesener et al., 2019; Schaufeli and Bakker, 2004). Work overload and organisational support are the job demand and resource which are investigated in this study. This is largely due to the expected changes in those demands and resources in the context of remote working. Organisational support refers to the degree to which a job makes it accessible for an employee to seek and obtain assistance and advice from colleagues and managers (Golden & Gajendran, 2019). Arguably, there are reduced opportunities for physical communication between staff working remotely. This has the potential to delay and/or prolong the time it takes to get critical feedback or advice from colleagues. In addition, how employers provide support to their remote working staff is pivotal because it sets the tone of how the organisation as a whole is responding to their employees' safety and job security concerns during the pandemic (Lilja et al., 2022).

Lastly, work overload refers to the extent to which employees are required to perform numerous tasks in a relatively shorter period of time. Remote working during the pandemic can result in an increase in workload in numerous ways. For example, employees in the financial services experienced more demands to process credit arrangements, life and funeral claims in a short space of time. Employees in the manufacturing and engineering sectors might be required to

increase speed of production of medical supplies, devices and the construction of temporary sites. Also, the rapid move to online communication can alter how tasks are performed, thus increasing the perceived workload (Lilja et al., 2022). These examples lend strength to the argument that an increased workload is observed to be the most prevalent COVID-19 pandemic-induced job demand – regardless of sector (Lilja et al., 2022). Furthermore, the work/life border theory postulates that it is difficult to 'switch off' from work when working remotely, and thus employees might use their own private time to finish outstanding or additional tasks (Felstead and Henseke 2017). This variable is considered to be the most powerful predictor of burnout, especially the exhaustion component because it demands sustained psychological and physical energy (Huang, Wang, & You, 2016).

**Burnout**

Maslach et al. (2001) defined burnout as "a persistent, negative, work-related state of mind (or syndrome) developing over time in so-called 'normal' individuals, characterised by an array of physical, psychological and attitudinal symptoms, primarily exhaustion, and accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional personal and societal attitudes and behaviours at work" (as cited in Jackson and Rothmann, 2005: p.108). Furthermore, burnout was conceptualised to consist of three related dimensions; *Exhaustion*, *Cynicism* and *Professional Efficacy* (Maslach et al. 2001; Schaufeli et al., 1996). Following the above definition of burnout (and its subsequent dimensions) Schaufeli et al. (1996) developed the Maslach Burnout Inventory – General Survey (MBI-GS) to measure burnout across a variety of occupations. The MBI-GS is an updated version of the MBI-HSS (1986), which expands on its predecessor's limitation of only measuring burnout in human service occupations (Demerouti & Bakker, 2007). In burnout literature, the MBI-GS is the most commonly used instrument to measure burnout (Demerouti & Bakker, 2007; Demerouti et al., 2010; Halbesleben & Demerouti, 2005).

Despite its widespread use and excellent invariability across nationalities and occupations, the wording of the MBI's scale items prove to be a major psychometric vulnerability. The items in the MBI-GS (and its predecessor, MBI-HSS) are only framed in one-direction, i.e., items in the exhaustion and cynicism subscale are framed in a negative direction and items in the professional efficacy subscale in the positive (Demerouti & Bakker, 2007; Demerouti et al., 2010; Halbesleben & Demerouti, 2005).This one-directional phrasing of the items gives rise to a psychometric vulnerability in that the scales of the MBI can lead to artificial factor solutions (Demerouti & Bakker, 2007; Demerouti et al., 2010; Halbesleben & Demerouti, 2005).

In this study, a different measure of burnout – which overcomes the psychometric vulnerabilities of the MBI – named Oldenburg Burnout Inventory, was utilized. The OBI follows a similar conceptual definition of burnout than the MBI, but it consists of both negatively and positively phrased items, to measure its two core tenets of burnout: *exhaustion* and *disengagement*. (Demerouti & Bakker, 2007). Exhaustion refers to the result of prolonged duress from intense cognitive, physical and affective strain inherent in some job demands (Block et al., 2020; Demerouti et al., 2001; Demerouti & Bakker, 2007). Disengagement is conceptualised as negative emotions towards one's work tasks, overall job and the relationship with the employer (Block et al., 2020; Demerouti et al., 2001; Demerouti & Bakker, 2007).

According to Maslach et al. (2001), exhaustion and disengagement may arise from high work overload and social conflict, and the lack of appropriate resources can increase these levels of exhaustion and disengagement. Excessive job demands and diminished job resources, (i.e., high work overload and lack of organisational support), have been shown to lead to burnout and its' dimensions – but what about jobs where there is a complementary mix of demands and resources? Jobs which have abundant resources that make the demands more bearable and make the job more challenging and rewarding. More specifically, are remote working employees who receive good organisational support more engaged than those who do not? If we revert to the second key tenet of

the JD-R, we can expect that such jobs can have positive *energetic* and *motivational* processes which can ultimately increase an employee's work engagement.

**Work Engagement**

Earlier conceptions of work engagement were centered on the idea that engagement is the direct opposite of burnout (Schaufeli & Bakker, 2003). Unlike employees who experience burnout, engaged employees experience bursts of energy and progressive connections with their work duties and view themselves as capable of overcoming any demands inherent in their work (Maslach & Leiter, 1997; Schaufeli & Bakker, 2003). Since burnout was conceptualised to be comprised of three tenets, namely cynicism, exhaustion and low professional efficacy, engagement was expressed as the antonyms of the burnout tenets, i.e., involvement, energy, and absorption, respectively (Maslach & Leiter, 1997; Schaufeli & Bakker, 2003). The overarching criticism of this approach is that it is implausible for burnout and engagement to be perfectly negatively correlated, thus measurable using one instrument (Schaufeli & Bakker, 2003). For example, it does not mean that when an employee is low on engagement, she/he is burnt out (Schaufeli & Bakker, 2003). Vice versa, an employee cannot be assumed to be non-engaged just because they are burnt out. Thus, in this study, engagement and burnout are defined as separate concepts (even though the key tenets are antonyms) and are measured independently.

Work engagement is conceptualised "as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Bakker & Demerouti, 2008: p 1; Schaufeli et al., 2002). *Vigour* refers to the high levels of mental resilience and energy when engaging in work (Bakker & Demerouti, 2008). *Dedication* is the intense involvement in the work and is characterised by feelings of enthusiasm, significance, and challenge (Bakker & Demerouti, 2008). Lastly, *Absorption* is defined as being fully immersed in one's job to a point whereby employees cannot resist the urge to detach from performing their duties (Bakker & Demerouti,

2008). Despite acknowledging the implausibility of burnout and work engagement being perfectly negatively correlated, the key tenets of engagement are the opposite of burnout, i.e., vigour vs exhaustion and dedication vs cynicism. However, the third tenet of burnout – professional efficacy – does not have its like-for-like counterpart in the engagement concept. As outlined above, engagement is a key outcome of the JD-R model and several studies have supported this statement.

**JD-R and Engagement**

In line with the intrinsic and extrinsic motivational roles that job resources play, job resources have been found to be correlated positively with work engagement. (Bakker & Demerouti, 2008). In a sample of four different groups of Dutch employees, there was a positive relationship between job resources such as coaching, social support and performance feedback and all three tenets of work engagement (Schaufeli & Bakker, 2004). Similarly, Koyuncu et al. (2006) found that job resources (rewards and recognition, and control) of 286 women professionals and managers were significant predictors of all three work engagement tenets. Even in longitudinal studies, these findings still apply. Schaufeli et al. (2008) and Mauno et al. (2007) found that changes in job resources had predictive power in determining work engagement, over one- and two-year periods, respectively.

Drawing on the conservation of resources (COR) theory by Hobfoll (2002), employees "seek to obtain, retain, and protect things they value, including for instance material, social, personal, or energetic resources" (Bakker & Demerouti, 2008: p. 213). This theory argues that we can understand the stress experienced by employees vis-à-vis the potential or actual loss of the resources mentioned above (Bakker & Demerouti, 2008). In the face of resource loss (i.e., through draining and intense job demands) gaining resources becomes of utmost importance (Bakker & Demerouti, 2008; Hobfoll, 2002). This entails that job resources become more important and fulfil their motivational prowess when employees are faced with excessive job demands, because such resources can assist with overcoming the demands (Bakker & Demerouti, 2008). Furthermore,

more research drawing from COR hypothesized that job resources significantly predict work engagement when the job demands are high (Bakker & Demerouti, 2008). Hakanen et al. (2005) found that variance in professional skill (as a job resource) was most beneficial to work engagement when the perceived workload was high. Similarly, in a study on Finnish teachers, job resources played a significant role in work engagement when the teachers were confronted with challenging pupil misbehaviour (Bakker et al., 2007). There is an increasing body of literature on this observed relationship between JD-R and work engagement, typically conducted in European and Western contexts – this study set out to contribute to the literature by investigating this relationship in a South African context.

**Potential Moderating and Mediating effects of JD-R**

The pandemic has arguably brought about two main stressors for employees: 1) change of work environment, and 2) increased feelings of uncertainty regarding keeping their jobs (Yang et al., 2021). Despite the pandemic leading to massive retrenchments, employees who are still working also face an overwhelming concern regarding the uncertainty of their jobs existing in the future (Yang et al., 2021). Furthermore, this uncertainty is also exacerbated by the lack of, or decreased, social interactions typically associated with being in the office. (Yang et al., 2021).

Jobs which offer good levels of organisational support are characterised by a lot of opportunities for information-sharing between colleagues and often help to complete tasks quicker and reduce work-related stress (Golden & Gajendran, 2019). Furthermore, organisational support is not only possible through face-to-face, it can also be done through instant messaging technologies, and through video and phone calls (Golden & Gajendran, 2019). Regardless of an employees' location of work, social support is a resource that all employees need in order to function effectively. Preliminary evidence suggests that employees who remote work intensely and received high levels of social support outperform their peers who received low social support (Golden & Gajendran, 2019). Remote workers receiving high levels of social support are able to make up for

the loss of informal information cues present in the office. While some remote workers face a challenge of not being able to communicate and receive support while working remotely, the autonomy of choosing and designing their own remote workspace can be an additional resource that may buffer the effects of the abovementioned challenges.

In conclusion, this study first sets out to determine if working remotely has an effect on both burnout and work engagement. Secondly, to test the first and second approach of work design theory on remote work, i.e., the moderating and mediating affects work characteristics (work overload and organisation support) on remote work and remote work outcomes (burnout and work engagement). There also has not yet been an exploration of the direct effects of remote work on burnout and engagement in a South African sample – this study addressed this knowledge gap.

**Research Questions**

1. Does remote work predict burnout?
2. Does remote work predict work engagement?
3. Do work overload and organisational support moderate the relationship between remote work and burnout?
4. Do work overload and organisational support moderate the relationship between remote work and work engagement?
5. Do work overload and organisational support mediate the relationship between remote work and burnout?
6. Do work overload and organisational support mediate the relationship between remote work and work engagement?

# Chapter 3: Methodology

This section of the paper outlines the approach took to answer the research questions and the aims of the paper. The design of this research is explained first, followed by the demographic characteristics of the sample and the procedure of how the data was obtained from the sample. Next, the instruments used to measure of variables of interest are discussed in depth, together with the statistical techniques that are used to analyse the data. Lastly, key ethical concerns around this paper are addressed.

## Research Design

This study utilized a quantitative, non-experimental research design to address the research questions. There is no manipulation of remote work (independent variable) and no control or experimental groups. The information will only be measured once from the sample, thus making the study a single cross-sectional design (Babbie and Mouton, 2004). Furthermore, this form of cross-sectional, non-experimental design is predictive in nature, as the primarily interest is to examine the effects (if any) of remote work on burnout and work engagement, and whether this relationship is moderated or mediated by work overload and organisational support (Creswell, 2012). The main flaw in this design is that there is no degree of control, thus it does not have the potential to establish causality. However, this is not wholly important as this design does not intend to establish causality – but rather to explore predictions of variables and moderation and mediations effects.

## Sample

A sample of 103 participants, between the ages of 18-65, who have been employed from at least the 1st of January 2020 to 31st of January 2022, was obtained for this study. These participants were employed in organisations or institutions that have allowed remote working to a certain degree, since the commencement of the National Lockdown on the 26th of March 2020. The participants had experience of work before COVID-19 and its subsequent optional or compulsory

working from home requirements. The obtained sample size was relatively small and potentially non-representational; thus, it will be difficult to generalize the results to other contexts (Laher and Botha, 2012). However, to improve this study's external validity, one can replicate this study across other contexts with a larger sample.

The average age of the participant was 30 (standard deviation of 5.67). Furthermore, obtained sample was relatively well educated and gainfully employed, with over 40% of the participants having an Honours Degree or a Postgraduate Diploma and 53% occupying junior management and specialist roles. See below Table 1 to Table 4 for a detailed breakdown of the sample characteristics.

**Table 1**

*Demographic breakdown of sample characteristics: Gender*

| Gender | N | Proportion of Sample |
|---|---|---|
| Female | 73 | 71% |
| Male | 30 | 29% |

**Table 2**

*Demographic breakdown of sample characteristics: Race*

| Race | Female | | Male | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Black | 62 | 85% | 26 | 87% | 88 | 85% |
| Coloured | 1 | 1% | 1 | 3% | 2 | 2% |
| Indian | 1 | 1% | 0 | 0% | 1 | 1% |
| Other | 1 | 1% | 0 | 0% | 1 | 1% |
| White | 7 | 19% | 3 | 10% | 10 | 10% |
| Unspecified | 1 | 1% | 0 | 0% | 1 | 1% |

**Table 3**

*Demographic breakdown of sample characteristics: Highest Qualification*

| Highest Qualification | Female | | Male | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Bachelor's Degree | 15 | 21% | 10 | 33% | 25 | 24% |
| Honours Degree or Postgraduate Diploma | 30 | 41% | 12 | 40% | 42 | 41% |
| Master's or Doctorate Degree | 14 | 19% | 3 | 10% | 17 | 17% |
| Matric or High School Diploma | 5 | 7% | 2 | 7% | 7 | 7% |
| National Diploma | 9 | 12% | 3 | 10% | 12 | 12% |

**Table 4**

*Demographic breakdown of sample characteristics: Position in organisation*

| Position in organisation | Female | | Male | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Executive or Senior Management | 5 | 7% | 3 | 10% | 8 | 8% |
| General Staff | 19 | 26% | 3 | 10% | 22 | 21% |
| Junior Management | 20 | 27% | 8 | 27% | 28 | 27% |
| Middle Management | 13 | 18% | 5 | 17% | 18 | 18% |
| Specialist | 16 | 22% | 11 | 37% | 27 | 26% |

**Procedure**

An invite to complete the questionnaire was distributed through LinkedIn, through the researcher's personal LinkedIn account. The link was shared by connections of the researcher on LinkedIn and on various other social media, at the discretion of the people sharing. Furthermore, participants who received the link were able to forward it to their colleagues and/or acquaintances. The link to the questionnaire was accompanied by a Participant Information sheet (see Appendix B), where participants were made aware that this study is for the completion of MA Social and Psychological Research degree at the University of the Witwatersrand. Once the link was accessed participants had to confirm if they were older than 18 years and if they consent to participating in this study (see Appendix B). Consenting participants over 18 completed the questionnaire and the information was stored on REDCap. The researcher exported the data from REDCap to Microsoft

Excel where the data was cleaned. Entries with significant missing values were excluded from the final sample. The cleaned data was then exported to SPSS where all the statistical analysis was conducted.

### Instruments

The following instruments were used to measure JD-R, Burnout, Work Engagement, Remote Work and the demographic information, respectively. For a full view of each of the scales, please refer to Appendix A.

### Job Demands-Resource

The overload and organisational support subscales of the Job Demands-Resources Scale (JDRS) were used to measure work overload and organisational support (Jackson & Rothmann, 2005). See below summary for the subscales (Jackson and Rothmann, 2005). This scale uses a 4-point scale, where 1- never and 4-always.

**Table 5**

*Subscales for the JD-R Scale*

| Subscale | Example Item | Internal Consistency |
|---|---|---|
| Overload (6 items) | "Do you work under time pressure?" | 0.75 |
| Organisational Support (12 items) | "Can you count on your supervisor when you come across difficulties?" | 0.88 |

### Burnout

The 16 items of the Oldenburg Burnout Inventory (Demerouti, 1999) were used to measure the two core dimensions of burnout, namely exhaustion and disengagement (measures cynicism). Each of the subscales contains 8-items. The scale uses a 4-point self-report rating scale (1=

strongly disagree, 4= strongly agree). Example items from the exhaustion scale includes: “There are days when I feel tired before I arrive at work” and the disengagement scale: “I feel more and more engaged in my work”. The internal consistency estimates for the subscales are 0.69 and 0.78 for disengagement and exhaustion respectively. These estimates are moderate and acceptable (Demerouti, Mostert & Bakker, 2010).

**Work engagement**

Schaufeli and Bakker’s (2004) Utrecht Work Engagement Scale (UWES) was used to measure Vigour, Dedication and Absorption. The scale displayed good internal consistency, as in most cases the Cronbach’s alpha values always exceeded or were equal to 0.70 (Schaufeli & Bakker, 2004). This is a 17-item, seven-point frequency self-report rating scale, ranging from 0 (never) to 6 (daily). Example items include: “I can continue working for very long periods at a time”, “My job inspires me” and “Time flies when I'm working” for vigour, dedication and absorption respectively.

**Remote Work**

This variable was measured using a four-item Remote Work Scale (adapted from Siemers, *personal communication*). Participants are asked to indicate on a percentage scale (in 10 percent increments from 0% to 100%) and an example item is: “In the last 6 months, how much of your work has been conducted remotely?”. These four items are summed to form a cumulative measure of percentage time spent working remotely.

Because of the gradually easing up of the lockdown levels (at least from January 2021 to May 2021) and nationwide wide issues such as loadshedding, more employees might have to go into the office, on a planned or ad hoc basis. Thus, these four items captured information on a range of workspaces and activities that might be performed more or less remotely.

### Demographics

An assortment of demographic questions were presented in the questionnaire. These include the participants: Age, Gender, Race, Industry of their Organisation, Tenure in the Organisation, Position in the Organisation, Highest Qualification, Number of Dependants and Living with Partner/Spouse. While none of these variables were used to answer any of the research questions, they served a purely descriptive purpose which allowed the researcher to meaningfully describe the sample characteristics.

### Ethics

Ethics clearance for this study was obtained from the University of the Witwatersrand Human Research Ethics Committee (HREC) – Non-medical (clearance certificate number MASPR/21/011). The participants were assured of the voluntary nature of completing the questionnaire in the Participant Information Sheet. Furthermore, their responses are kept anonymous and confidential and no personally identifying information (like names and identity numbers) was requested. Participants were free to withdraw from participating in the questionnaire at their discretion, before their responses were submitted. The data and results were stored in a password-protected computer and on REDcap and the data obtained was for the exclusive use for this study.

### Data Analysis

The data was exported from REDCap into an Excel worksheet where it was thoroughly assessed for missing entries and invalid responses. The total cleaned responses on Excel were 105 and were later imported into the statistical analysis software, SPSS. In SPSS, two entries were removed because the UWES scale was not completed at all, and one of those two entries did not confirm consenting to participation despite completing a significant portion of the questionnaire.

The data was summarised using a range of descriptive statistics. These include measures of central tendency (mean, median and mode), measures of spread (range, standard deviation, and

variance) and measures of shape (skewness and kurtosis). This was primarily used to determine the distribution of the data. Knowledge of whether the variables are normally distributed or not, was useful in determining which inferential statistic to use. Furthermore, the following functions and outputs in SPSS were used to check the assumptions of simple linear regression:

- Histograms depicting the frequency distribution of work engagement and burnout respectively, to visually represent the normal distribution of the data.
- Collinearity statistics showing the tolerance and VIF values to assess for multicollinearity.
- Scatter plots of remote work against work engagement and burnout to assess a linear relationship between the predictor and the outcome variables.
- Scatter plots of the regression standardized residuals against the regression standardized predicated values for both work engagement and burnout, to assess for homogeneity of variance.

The data is normally distributed and therefore met parametric assumptions listed above, thus simple linear regression was used to analyse the relationship between the variables.

**Moderator and mediator distinction**

To test for the mediation and moderation effects of work overload and organisational support on the relationship between remote working and burnout/work engagement, a moderated/mediated regression will be used.

The hypothesized moderator variables in this study, work overload and organisational support, are the variables that will determine 'when' or 'under which conditions' the predictor variable (remote work) is related to the outcome variables (work engagement and burnout) (Frazier et al., 2004). More bluntly, the moderator variables change the strength and direction of the relationship between the predictor and outcome variables (Barron and Kenny, 1986; Frazier et al., 2004). There are three ways in which interactions effect this relationship: 1) *enhancing*, this is

where the moderating variable increases the effect of the predictor variable on the outcome variables; 2) *buffering*, describes when the moderator variable deteriorates the effect the predictor variable has on the outcome variable; and 3) *antagonistic*, this is where the moderator and predictor variable have the same effect on the outcome variable in opposite ways (Frazier et al., 2004). For this study, it was not an aim to distinguish which interaction effect we were looking for, but rather to explore if there is indeed a moderation effect. Work overload and organisational support could either enhance, buffer or negate the potential effects of remote work on burnout and work engagement.

A mediator variable, on the other hand, is a variable that explains 'why' or 'how' a predictor variable effects the outcome variable (Frazier et al., 2004). Thus, a mediation effect describes a phenomenon where the relationship between the predictor and outcome variable is best described through an extra third variable (Frazier et al., 2004). This third mediating variable is caused by the predictor variable, while also causing the outcome variable. Thus, the first crucial step in performing a mediation analysis is to establish a significant relationship between the outcome and predictor variable (Barron and Kenny, 1986; Frazier et al., 2004).

# Chapter 4: Results

This section of the paper illustrates the results from the analysis of the collected data. The reliabilities of the scales used are provided first followed by the descriptive statistics of the variables of interest. Next, the correlation matrix is presented, followed by the assumptions of linear regression. Lastly, simple linear and moderated regression outputs are presented to answer the research questions.

## Reliabilities of the scales

All the Cronbach's alphas are above .7, which illustrates good to excellent internal consistency.

**Table 6**

*Reliability coefficients for the scales.*

| Scale | Cronbach's alpha α | No. of items |
|---|---|---|
| Remote work | .73 | 2 |
| Work overload | .7 | 5 |
| Organisational support | .9 | 12 |
| Burnout | .88 | 16 |
| Work engagement | .96 | 17 |

## Descriptive statistics of the variables

Table 7 below illustrates the descriptive statistics (rounded to two decimal points) for all the variables in the study. The two dependent variables, work engagement and burnout, are normally distributed. This is evident in their Skewness coefficients and Kurtosis values lying between -1 and 1 range. Normality of the dependent variables is a key assumption that should be met when

performing parametric tests, such as the multiple and moderated linear regressions, which were utilised in this study (Uyanik & Guller, 2013).

**Table 7**

*Descriptive statistics of the variables.*

| | Remote Work | Burnout | Work Engagement | Overload | Support |
|---|---|---|---|---|---|
| N | 101 | 103 | 103 | 103 | 103 |
| Mean | 15.63 | 40.02 | 62.68 | 14.42 | 34.88 |
| Std Deviation | 5.43 | 7.84 | 24.66 | 2.45 | 6.87 |
| Range | 20 | 40 | 99 | 13 | 34 |
| Minimum | 0 | 20 | 3 | 7 | 14 |
| Maximum | 20 | 60 | 102 | 20 | 48 |
| Skewness | -1.44 | .01 | -.36 | .04 | .04 |
| Std Skewness Error | .24 | .24 | .24 | .24 | .24 |
| Kurtosis | 1.37 | -.45 | -.91 | -.16 | -.15 |
| Std Kurtosis Error | .48 | .48 | .47 | .47 | .47 |

### Assumptions

**Figure 1**

*Histograms depicting the frequency distributions of work engagement and burnout, respectively*

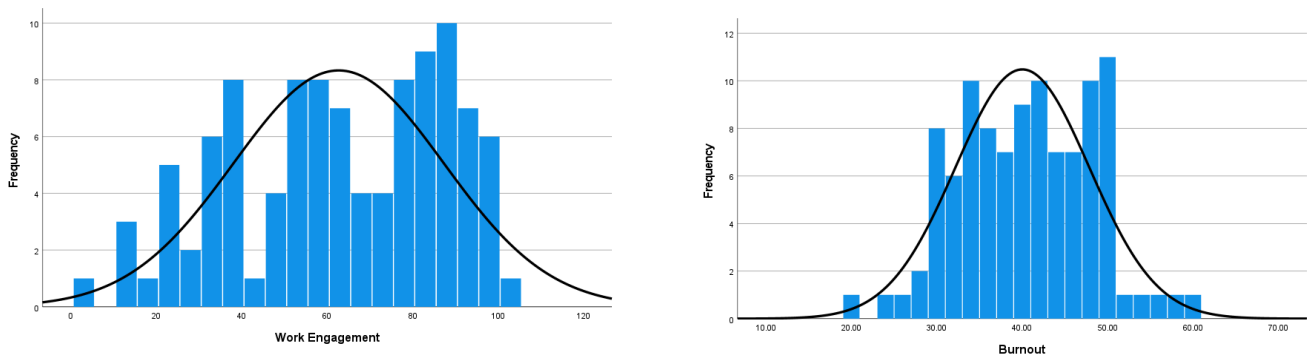


**Table 8**

*Coefficients for Remote Work and Burnout regression model*

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 39.518 | 2.412 | | 16.387 | <,001 | | |
| | Remote Work | .028 | .146 | .019 | .190 | .850 | 1.000 | 1.000 |

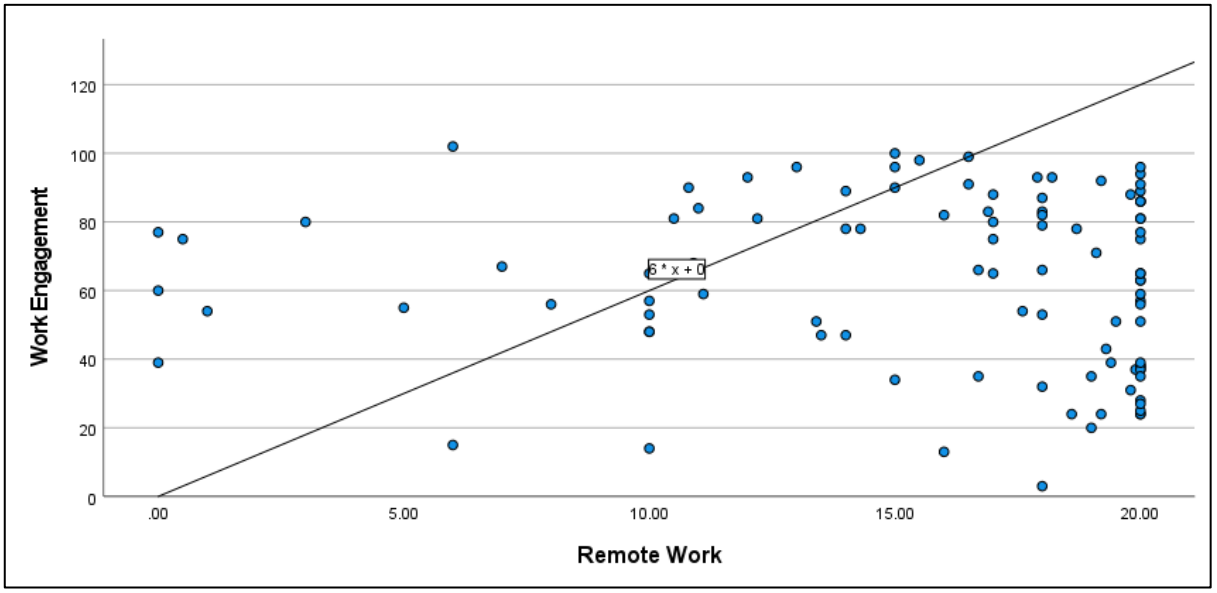
**Table 9**

*Coefficients for Remote Work and Work Engagement regression model*

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 67.768 | 7.606 | | 8.909 | <,001 | | |
| | Remote Work | -.324 | .460 | -.071 | -.704 | .483 | 1.000 | 1.000 |

**Figure 2**

*Scatterplots of remote work and work engagement & remote work and burnout respectively*



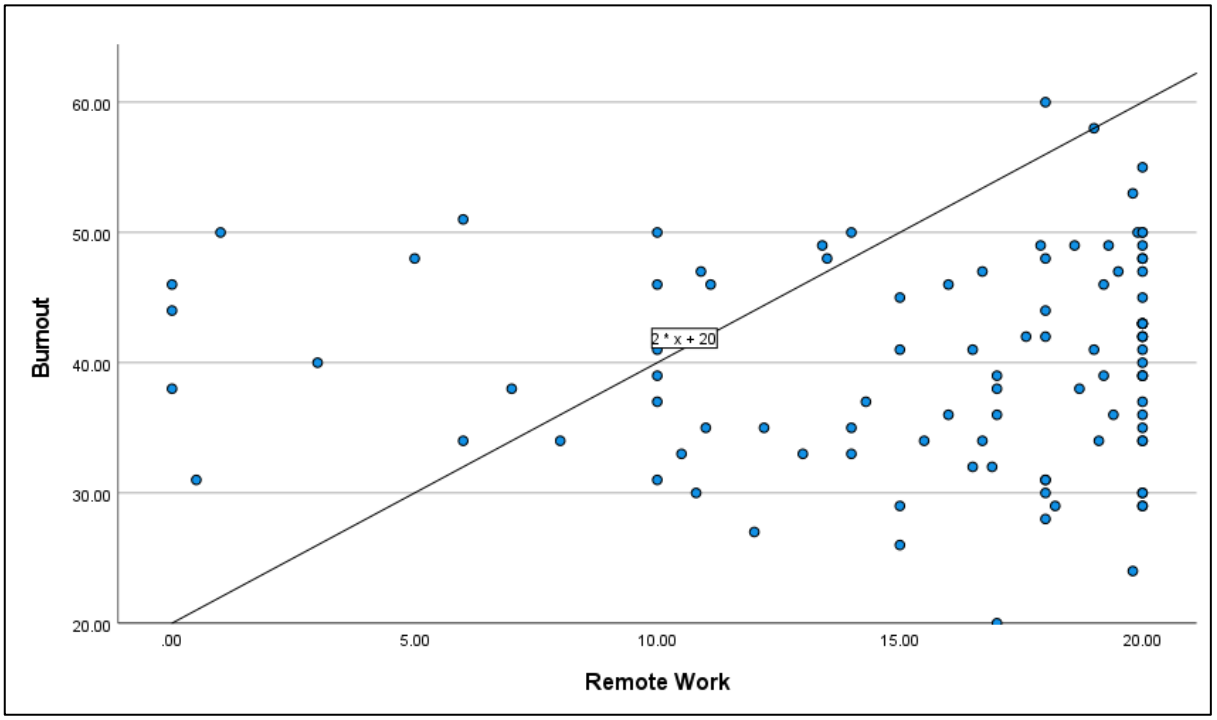
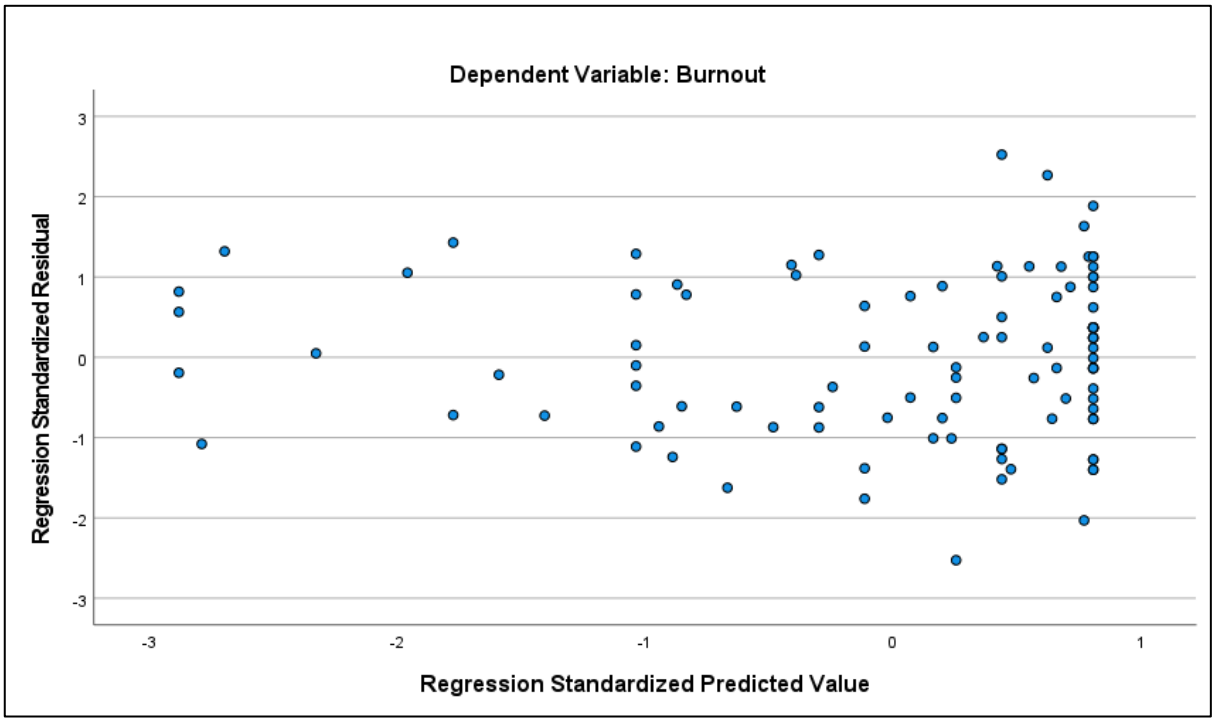
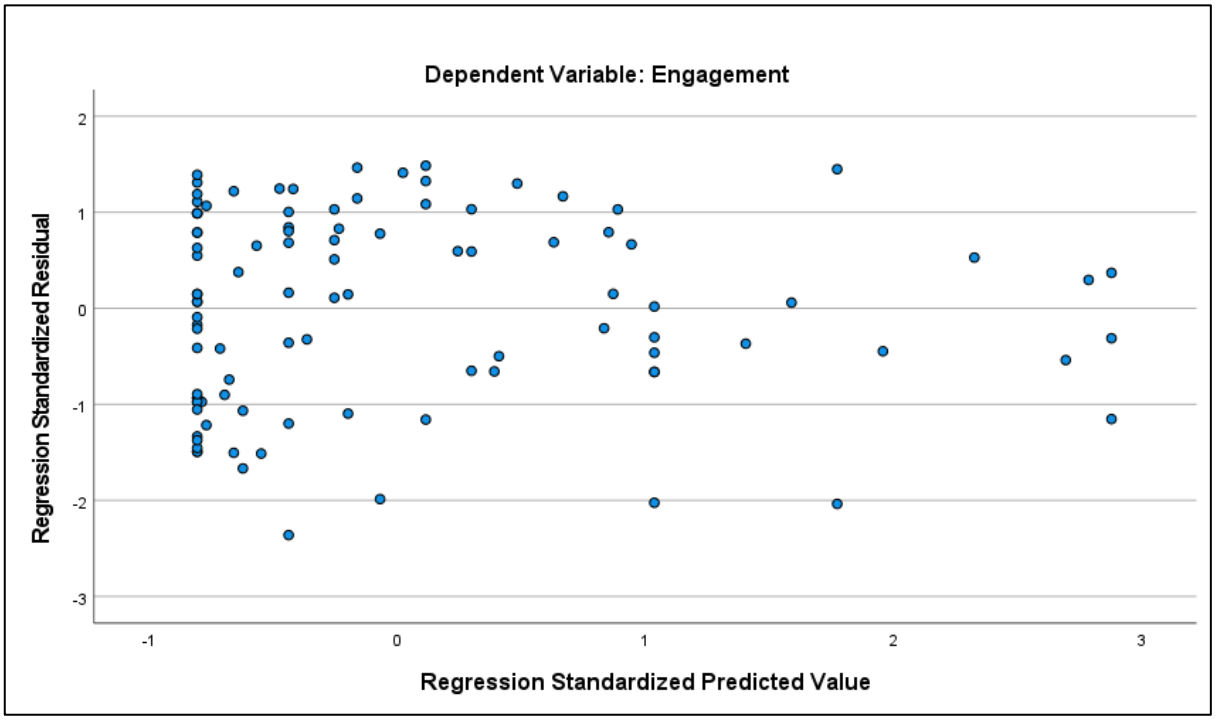



**Figure 3**

*Scatterplots of the predicted values and residuals for both burnout and work engagement respectively.*






All the assumptions of running a multiple linear regression were met. The outcome variables burnout and work engagement are normally distributed, and they each have a linear relationship with remote work as depicted by Table 7 and Figure 2 respectively. There was no multicollinearity as evident in the VIF values ranging between 1.001 and 1.054 in Table 8 and Table 9 respectively. If multicollinearity was present, our regression models would not have been able to accurately associate the variance on the dependent variable to the correct independent variable (Hair et al., 2013). Figure 3 illustrates the equal spread of the variance, indicating homogeneity of variance.

**Correlation matrix**

The below table shows the strength and direction of the relationships between all the continuous variables that were measured in this study. The Pearson's correlation was used to measure these relationships and significant values are shown with an asterisk next to them. Where * is a correlation significant at p<.05 and ** denotes significance at p<.001.

**Table 10**

*Correlation Matrix*

| | Age | No. of Dependents | Tenure | Work Overload | Organisational Support | Work Engagement | Burnout | Remote Work |
|---|---|---|---|---|---|---|---|---|
| Age | 1 | .240* | .679** | .154 | .024 | .024 | -.002 | .226* |
| No. of Dependents | .240* | 1 | .260* | .144 | .212* | 0.98 | -.198* | .043 |
| Tenure | .679* | .260* | 1 | .174 | .023 | .123 | -.071 | .186 |
| Work Overload | .154 | .144 | .174 | 1 | -.022 | -.064 | .365** | .184 |
| Organisational Support | .024 | .212* | .023 | -.022 | 1 | .478** | -.533** | .218* |
| Work Engagement | .024 | .098 | .123 | -.064 | .478** | 1 | -.712** | -.017 |
| Burnout | -.002 | -.198* | -.071 | .365** | -.533** | -.712** | 1 | .019 |
| Remote Work | .226* | .043 | .186 | .184 | .218* | -.071 | .019 | 1 |

**Multiple linear regression**

A multiple linear regression was carried out to investigate whether remote work could significantly predict burnout and work engagement. The results, shown in Table 11, indicate that the models are both strongly insignificant. The $R^2$ values for both the models indicate that none of the variance in burnout and work engagement can be explained by remote work. Thus, there is no prediction of the dependent variables. To answer question 1 and 2, remote work does not predict burnout and work engagement.

**Table 11**

*Regression Outputs*

| Model | df | *F* | *p* | R | $R^2$ |
|---|---|---|---|---|---|
| Burnout | 1 | .04 | .85 | .02 | .00 |
| Work Engagement | 1 | .67 | .67 | .15 | .007 |

**Moderated linear regression.**

A moderator analysis was conducted using Andrew Hayes PROCESS macro to answer question 3 and 4. The results show that the interaction between remote work and overload was insignificant [β=.02, 95% CI (-.08;.11), p=.73]. Similarly, the interaction between remote and organisational support also lacked statistical significance [β=0, 95% CI (-.03;.04), p=.79). Thus, we can confidently conclude that overload and organisational support do not moderate the relationship between remote work and burnout.

The same moderator analysis was performed to test the moderation effect of overload and organisational support on the relationship between remote work and work engagement. The interaction between remote work and overload was insignificant [β=.05, 95% CI (-.27; .37), p=.74] in predicting work engagement. In addition, the interaction between remote work and organisational support was also insignificant [β=-.01, 95% CI (-.11; .1), p=.87]. Hence, these results confirmed that overload and organisational support do not moderate the relationship between remote work and work engagement.

**Mediation Analysis**

A mediation analyses was the proposed technique to be used to answer question 4 and 5, however our observed relationships have indicated that our data violates a key assumption of mediation analyses. Seminal work by Baron and Kenny (1986) in the moderator-mediator variable distinction outline that to establish mediation certain assumptions must be met. Firstly, there has to be relationship between the predictor and outcomes variables (Baron & Kenny, 1986; Uyanik & Guller, 2013). As shown by the multiple regressions conducted to answer question 1 and 2, we can see that there no signification relationship between remote work and burnout and work engagement. The $R^2$ values show that our predictor variable account for 0% variance in our outcome variable, and they have high, insignificant *p*-values. Violation of this assumption means that we would be unable to establish any mediation effects. For there to be a mediation, the effect

of the predictor variable on the outcome variable must be smaller than the effect of the predictor variable on the outcome variable when the moderator variable is included (Baron & Kenny, 1986; Uyanik & Guller, 2013). Thus, work overload and organisational support does not mediate the relationship between remote work and burnout/work engagement.

## Chapter 5: Discussion

Expanding on previous studies highlighting a relationship between job demands and resources and burnout and work engagement, this study sought to investigate the effects (if any) that remote work would have on this relationship. Remote work was implied to function as either a job resource or demand, which could then potentially be related burnout and work engagement. This is consistent with the work design theory, which positions remote work design as an alternative execution of an employees' tasks and duties to the traditional execution of tasks in a fixed office or site (Wang et al., 2020). The alternative execution of the employees' tasks and duties becomes salient work characteristics which influence the employees' work experience and work-related outcomes such as work engagement, burnout, job satisfaction and turnover intention (Felstead and Henseke, 2017; Wang et al., 2020). In theory, remote work could very well be a job resource and/or demand. The latter being that many employees reported feeling increased workload when they are working remotely, because the employers' work demands carry over into their private lives thus, they are unable to 'switch-off' after work (Felstead and Henseke, 2017). Remote work can also be a job resource in that employees reciprocate the opportunity to have autonomy over their work location by going the extra mile out of an implicit obligation to their employers (Elsbach et al., 2012; Golden & Gajendran, 2019).

However, the results illustrate that remote working does not predict burnout and work engagement for this sample. There is no evidence to conclude that remote work is either a job demand or resource because it is not related to burnout and work engagement – which are key outcomes of job demands and resources. The participants frequency of remote work was not a salient physical, social and organisational aspect of their job that influenced their physiological state (i.e., burnout) nor did it affect how engaged they are in their work (Bakker and Demerouti, 2006; Jackson and Rothman, 2005). The theorised job demand and resource – work overload and

organisational support – were at least significantly correlated to burnout and work engagement respectively.

**JD-R model and burnout and work engagement**

Consistent with earlier research; work overload has a moderately positively relationship with burnout (r=.37), this is in line with the energetic process of JD-R model. The energetic process describes how high job demands drain an employees' energy and leads to adverse health effects like strain and burnout (Bakker and Demerouti, 2006; Demerouti et al., 2001). Burnout has a strong negative relationship with organisational support (r=-.53), which supports the motivational process of the JD-R model because an abundance of job resources (i.e., organisational support) equips the employees with the ability to handle job demands and thus reduce burnout (Bakker and Demerouti, 2006; Demerouti et al., 2001). Furthermore, organisational support has a moderate positive relationship with work engagement (r=.48). Employees who reported more support from their organisations were more likely to be engaged in their jobs and can draw upon such support to handle job demands.

The strongest correlation is between work engagement is between work engagement and burnout – these variables have a strong negative correlation (r=-.7). The more employees are engaged, the lower their burnout levels. This is very interesting from a construct validity point of view because of how burnout and work engagement are operationalized. These two outcome variables are operationalized in an antagonistic manner. The subscales of each instrument are the opposites of each other, i.e., vigor vs exhaustion and dedication vs cynicism. The strong negative correlation between these variables confirms each instrument's construct validity because conceptually, vigor (for example) is expected to be negatively related to exhaustion. An employee cannot approach their work with vigor if they are exhausted.

Lastly, organisational support has a small positive relationship with remote work (r=.22). Although this is a weak relationship, it sheds light on the direction in which remote work relates to organisational support.

# Chapter 6: Conclusion

This last chapter of the study outlines several key closing arguments in relation to the integrity of the research design and more importantly, what the results mean in the South African context. The arguments can be broadly categorised as the study's limitation and implications – which are discussed respectively, followed by the concluding remarks.

## Limitations

This study has a few limitations which may persuade us to critically examine the relevance of these findings in a South African context. The limitations are categorised into three areas of concern; the reliability of the remote work scale, the relatively small sample size obtained, and the research questions asked in relation to the aim of the study.

The instrument used to measure remote work is a new and was developed specifically for this study. This instrument follows a self-report response format, whereby participants had to select the frequency working remotely and the frequency of having their meetings remotely. Participants made their selections by means of sliding a cursor across a 0-100 continuum, for all the items. Being a newly developed instrument, with only four items, there is a possibility that there was construct underrepresentation – especially since this scale was not tested prior to use in this study. Construct underrepresentation describes a phenomenon whereby the salient aspects of a construct are not adequately captured largely due to the narrow/under-sampling of the constructs content domain (Kaplan & Saccuzo, 2009; Spurgeon, 2017). Remote work was operationalized straightforwardly to quantitatively measure how much time spent was spent working remotely and how much of their meetings were conducted remotely. The combination of these four items essentially quantifies what we want to measure because it allows us to capture any variation of the frequency of remote work. For example, some employees worked almost entirely at the office but still had a majority of their meetings remotely whereas some employees worked almost fully remotely yet had half of their meetings remotely.

Despite not having a clear (or already established) conceptual framework for remote working, these four items proved sufficient in representing the construct of remote work for the purposes of this study. Furthermore, adept reviewers play a significant role in determining the extent to which items represent the conceptual framework (Spurgeon, 2017). The four-item instrument (and the subsequent scoring of it) were thoroughly reviewed and revised by senior psychology lecturers at the University of the Witwatersrand. Lastly, the remote work scale had a very good internal consistency coefficient of .73, meaning that the two items are consistent in measuring remote work, with little to no variability.

The second limitation is regarding the generalization and/or relevance of the results of the study because of the relatively small sample size obtained. The initial target sample size was 200, however the final obtained sample was 103. While this study did not define a population of which to extrapolate these findings to, the obtained sample size of 103 was sufficient to draw meaningful statistical inferences. This sample size is consistent with the Central Limit Theorem (CLT) which has a general rule of accepting sample sizes 30 and greater (Islam, 2018). In the most basic sense, the CLT asserts that the mean of the sampled data will approach the overall population mean as the sample sizes increases from 30 (Islam, 2018), The CLT is useful because it allows us to make the assumption that the sampling distribution of the means will be normally distributed and hence meeting an important criterion in performing parametric statistical tests. The tests used in this study were all parametric and adhered to the condition of normality.

The last limitation deals with the type of research questions asked about our variables of interest. The aim of this study was to examine the effects (if any) of remote work on the JD-R and subsequently on burnout and work engagement. Previous studies had shown that job demands can predict burnout and reduce work engagement (Bakker and Demerouti, 2006) and there was a temptation to believe that this prediction can be tested for in the South African context. Perhaps a preliminary line of enquiry could have sought to explore whether or not remote work is related to

burnout and work engagement and then only testing for the predictions and moderations. Centring the research questions on predictions is indicative of a confirmation bias because it does not move away from the findings of existing studies on JD-R and burnout and work engagement.

Furthermore, seeing that remote work was operationalized as a work characteristic – it would have been valuable to explore if there would be differences along work-related variables. These work-related variables are industry, tenure, position (amongst others). Nonetheless, this does offer an opportunity for further research on these variables in a South African context.

**Implications**

The results of this study have two important implications. The first implication is centred on remote work and its role as a work characteristic. The second set of implications are insights that organisational design specialists and management can use from the observed correlations. As mentioned in the results section, remote work did not predict burnout and work engagement – nor was it moderated and mediated by work overload and organisational support. This suggests that, for our sample, remote work is not a salient work characteristic that has a causal impact on work-related outcomes such as burnout and work engagement. Thus, an employees' frequency of remote work has no bearing on their burnout and work engagement levels. However, the correlations found between the moderating variables, work overload and organisational support, and the outcome variables, burnout and work engagement, yield important insights for managers in terms of job design and organisational culture.

From a job design perspective, managers could relook and/or redesign how specific tasks are designed, hire additional staff, or adjust the required timelines, to avoid employees from being overloaded, which in turn could be associated with lower burnout levels. Not only does lower burnout levels have an impact on turnover (subsequently performance) but it would be correlated with higher work engagement, as per the observed findings. Secondly, managers can leverage off implementing supportive policies to boost work engagement. This will have other positive impacts

on other employment outcomes. Of course, these designs aimed at redesigning the jobs against overload, and initiatives and policies aimed at instilling or embedding a supportive work environment would have to be closely monitored and evaluated to see if they achieve the required end.

In the context of the global COVID-19 pandemic, organizations have had to adjust and implement more flexible work arrangements to achieve organisational objectives while adhering to government regulations to limit the spread of the virus. While remote work was historically for more skilled, experience white-collar workers, the pandemic made it mandatory for other workers to adopt a more flexible approach to where they perform their jobs. This study investigated whether remote work would function as a work characteristic that would affect work outcomes such as burnout and work engagement, and whether this relationship would be moderated or mediated by work overload and organisational support. In our sample, we did not find any significant effect of remote work on burnout and work engagement, nor did the job demand and resource moderate or mediate this relationship. The non-existence of a relation between remote work and burnout and work engagement meant we could not even test for a mediation effect.

The limitations of this study present multiple opportunities to further research on this topic in a South African context and the observed correlations can give organisational design specialists and mangers a good starting point in designing work to reduce work overload and boost organisational support.

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## APPENDIX A - Instruments

### Job Demands-Resources Scale (JDRS) (Jackson & Rothmann, 2005)

Overload (5 items). One item removed because not relevant to our sample.

1. Do you have to be attentive to many things at the same time?
2. Do you have too much work to do?
3. Do you have to remember many things in your work?
4. Are you confronted in your work with things that affect you personally?
5. Does your work put you in emotionally upsetting situations?

Organisational Support (12 items)

6. Do you receive sufficient information on the results of your work?
7. Do you receive sufficient information on the purpose of your work?
8. Does your direct supervisor inform you about how well you are doing?
9. Do you know exactly what your supervisor thinks of your performance?
10. Are you kept adequately up-to-date about issues in the Department?
11. In your work, do you feel appreciated by your supervisor?
12. Do you get on well with your supervisor?
13. Do you know exactly what other people expect of you in your work?
14. Can you discuss work problems with your direct supervisor?
15. Can you count on your supervisor when you come across difficulties?
16. Do you know exactly for what you are responsible and what not?
17. Can you participate in decisions about the nature of your work?

### Oldenburg Burnout Inventory (Demerouti & Bakker, 2007)

1. I always find new and interesting aspects in my work.
2. There are days when I feel tired before I arrive at work.
3. It happens more and more often that I talk about my work in a negative way.
4. After work, I tend to need more time than in the past in order to relax and feel better.
5. I can tolerate the pressure of my work very well.
6. Lately, I tend to think less at work and do my job almost mechanically.
7. I find my work to be a positive challenge.
8. During my work, I often feel emotionally drained.
9. Over time, one can become disconnected from this type of work.
10. After working, I have enough energy for my leisure activities.
11. Sometimes I feel sickened by my work tasks.
12. After my work, I usually feel worn out and weary.
13. This is the only type of work that I can imagine myself doing.
14. Usually, I can manage the amount of my work well.
15. I feel more and more engaged in my work.
16. When I work, I usually feel energized.

**Remote Work Scale**

**Please consider the following statements about your work:**

In the last 6 months, how much of your work has been conducted remotely (i.e. not from an office or site)?

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |

In the last 6 months, how many of your meetings with colleagues and/or clients have been conducted via an online platform?

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |

In the last 6 months, how much time have you spent working from your work office/ place of employment?

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |

In the last 6 months, how much of your work was conducted in a traditional face-to-face or non-remote format?

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |

**Demographic Information**

Age (in years)

Gender:

a) Female
b) Male
c) Prefer not to say

Race:

a) Black
b) Coloured

c) Indian
d) White

No. of Dependents:

Are you living with your spouse/partner?

a) Yes
b) No

How many years have you been working in your organisation?

Which Industry best describes your current organisation? Select one of the below options:

a) Financial Services
b) Legal
c) Media
d) Healthcare
e) Media
f) Engineering/Manufacturing
g) Retail
h) Information and Communications Technology
i) Travel and tourism
j) Public Sector
k) Other

What is your position in the organisation? Select one of the below options:

a) Executive or Senior Management
b) Middle Management
c) Lower Management
d) General Staff

What is your highest qualification?

a) Matric or High School Diploma
b) National Diploma
c) Bachelors' Degree
d) Honours Degree or Postgraduate Diploma
e) Masters or Doctorate Degree

## APPENDIX B – Participant Information Sheet

Dear Sir/Madam

I am a Masters' student from the University of the Witwatersrand conducting a research project on the effects of Remote Work on the relationship between Job Demands-Resources and Burnout and Work Engagement. The aim of this study is to examine whether a full-time, employed individual's predominant work location has an effect on their work engagement and burnout levels. The study is being conducted by as part of my MA in Social and Psychological Research. If you are currently employed full-time and above 18 years of age, I would like to invite you to participate in this exciting study.

If you agree to participate, you will be asked to complete a questionnaire online. This questionnaire will commence by asking about your demographic characteristics, such as your age, gender, number of dependents (if any), position in the organization etc. Thereafter, it will include questions and statements regarding your perceived burnout and work engagement levels, as well as statements regarding the demands and resources available at your job. The questionnaire will take around 20- 30 minutes to complete, via an online survey link we will provide.

Participation in this study is voluntary and you have the right to decline participation. Any questions you do not wish to complete can be left out. There will be a checkbox at the end of this information sheet; if you check this box, you are indicating your informed consent to participate in this study. Additionally, submitting your online responses will be taken as further confirmation of your consent.

This study is not sponsored or commissioned by your organisation and thus, you will not receive any direct benefits from participating in this study, and there are no disadvantages or penalties for not participating. Even after you agree to participate and begin the study, you are still free to withdraw up until the point where you submit your responses. After submission of your response, your submission will be anonymous and thus unable to be traced and subsequently withdrawn.

Any responses you provide will be treated confidentially. We will not ask you for any personal details such as your name and any responses you provide will be completely anonymous. The questionnaire will not record IP addresses or any other identifying information. The data and results will be stored in a password-protected computer and on the Google Cloud.

The data obtained from this study may be used as part of a future research project or student training, and it may be reported in a journal article.

If you have any questions afterwards about this research, feel free to contact me on the details listed below. If you would like to receive a summary sheet detailing the results of the study, please contact me on the details listed below.

If you have any concerns or complaints regarding the ethical procedures of this study,

you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email: hrecnon-medical.researchoffice@wits.ac.za.

Thank you for considering this invitation to participate in this project. Your participation will be highly appreciated and will help to contribute to understanding burnout and work engagement in different remote working arrangements.

Lebogang Tau

710631@students.wits.ac.za

0716703117

Supervisor: Michael Pitman

michael.pitman@wits.ac.za

0117174505

**Consent Questions:**

Are you 18 years or older?

- Yes
- No

By completing and submitting the questionnaire you are consenting to take part in this study.

- Continue to the questionnaire
- Exit the survey

## APPENDIX C – Ethics Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

**SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT ETHICS COMMITTEE**
**CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)**

**CLEARANCE CERTIFICATE: PROTOCOL NUMBER: MASPR/21/011**

**PROJECT TITLE:** Does it matter where I work? Examining the effect of Remote Work on employees' Work Engagement and Burnout.

**INVESTIGATOR** Tau Lebogang (710631)

**SCHOOL/DEPARTMENT OF INVESTIGATOR** SHCD/Psychology

**DATE CONSIDERED** 13 September 2021

**DECISION OF THE COMMITTEE** Approved unconditionally

**RISK LEVEL** Minimal Risk

**EXPIRY DATE** 31 December 2023

**ISSUE DATE OF CERTIFICATE** 21 September 2021

**CHAIRPERSON**

(Dr Sahba Besharati)

cc: Dr Michael Pitman (Supervisor)

**DECLARATION OF INVESTIGATOR**

To be completed in duplicate and **ONE COPY** returned to the Chairperson of the School/Department ethics committee.

I fully understand the conditions under which I am are authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

**Date** 04 / 10 / 2021

Signature

**PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES**