The Effects of Telecommuting Support on Employee Work and Well-being Outcomes During the Covid-19 Lockdown Period in New Zealand.

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Abstract

Across the globe, much of the world's workforce has embraced working from home or telecommuting due to the Covid-19 pandemic and associated lockdowns. However, much of the research on telecommuting is based on the context that most workers are not telecommuting, and those that are telecommuting, are doing so for some special reason or with special permission. Hence, there are unknowns around how firms support telecommuting and what effect this has on employees in a Covid-19 context where most people are telecommuting. In response to this unknown, the present study explores organisational support for telecommuting and tests its influence on employee job and well-being outcomes. In addition, two moderators are included: (1) the job changes driven by Covid-19 as a relevant contextual factor, and (2) the role that sector plays, with expectations that public sector employees will be better supported. Overall, hypotheses are tested using two samples of New Zealand employees from just after lockdown: (1) N=446 employees and (2) N=357 employees. In study two, organisational-based self-esteem is included as a mediator to provide additional insights. Overall, findings show consistent telecommuting support effects, positively related to job satisfaction, work engagement, happiness, and work-life balance. Telecommuting support is also negatively related to turnover intentions, job anxiety, and job depression. Several significant moderation effects are found – especially in sample one – supporting the notion that public sector workers (in particular) do best, especially when Covid-19 job changes are low. The implications for organisations and Human Resource Management are discussed.

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ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed ……

Farid Rahabneh

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Chapter 1 GENERAL INTRODUCTION

1.1 INTRODUCTION

The increased number of dual work, family-care responsibilities, and competitive economy demanded organisations adapt to a new way of working and remove the time-related and physical boundaries in their work arrangements (Nicklin, Cerasoli, & Dydyn, 2016). Also, the massive revolution in communication and information technology encouraged organisations to accept the employees demand of providing flexible work arrangements (Nicklin et al., 2016). In recent decades, organisations have introduced work-life arrangements, including flexible work arrangements, leave policies, childcare, working from home, and part-time work to help employees manage responsibilities at work and home (Been, den Dulk, & van der Lippe, 2016; Den Dulk, Peters, & Poutsma, 2012).

Studies have underlined the consequences of working from home or telecommuting, including lower work-family conflict, higher job autonomy, better job satisfaction, better work performance, less turnover and stress (Allen, Golden, & Shockley, 2015; Hornung & Glaser, 2009; Onyemaechi, Chinyere, & Emmanuel, 2018). Furthermore, the literature has addressed the psychological effects of flexible arrangements especially working from home arrangements, because it has the potential to improve the work-life balance by giving the employees the flexibility in how to organise and conduct their jobs (Hornung & Glaser, 2009; Haar, Sune, Russo, & Ollier-Malaterre, 2019). However, these beneficial consequences have recently become challenged.

With the Covid-19 pandemic, the world has changed dramatically, including the way organisations work, and thus the role of telecommuting could be challenged. Implementing social distancing to control spreading Covid-19 gave the concept of telecommuting a

significant boost to keep organisations operating safely (Kaushik & Guleria, 2020; Shen, Fu, Pan, Yu, & Chen, 2020). However, change is expected, as seen by this quote by Been, Dulk, and Lippe (2016).

> "We have a pilot project testing the new world of work. […]. Increasingly, the generations who come after us will want to work differently than we are used to. […] A 40- hour workweek at the office will become less common. It will also be less common to have your own desk at the office. This is down to technological advances, but employees want to design their lives differently […]. Well, you see these trends, and at a certain point, you want to put them to the test in your own organisation."

In early 2020 the World Health Organisation declared that a new infectious virus called a coronavirus, specifically Covid-19, emerged (Bandyopadhyay et al., 2020; Puca, Qyra, Pipero, Qato, Puca, Kamberi, Rezhdo, Como, 2020). In late 2019, the first cases of infected people were reported in Wuhan, China; then, the virus spread from Wuhan to all the cities in China then cases started to record worldwide. In March 2020, 118,000 cases were reported in 114 countries worldwide (Steffens, 2020). Therefore, The World Health Organisation announced that Covid-19 is a worldwide health issue, and it was recognised as a pandemic (Puca et al., 2020).

In response to the pandemic, governments and organisations had provided changes in health policies and, in some stages, a complete lockdown to control the spread of the virus (Steffens, 2020). New Zealand government introduced a four-level system to eliminate the virus; level one to prepare, level two to reduce, level three to restrict, and level four to lockdown cities or the whole country (Baker, Kvalsvig, Verrall, Telfar-Barnard, & Wilson, 2020; G. Bandyopadhyay & Meltzer, 2020). On the 21st of March 2020, the whole country moved to level two to reduce the spreading of the Covid-19 by restricting mass gathering and introducing

physical distancing policies (Baker et al., 2020). A few days after moving to level two, the government announced to move to level three on the 23rd of March 2020, which include working from home, if possible, closure of schools and childcare, the business can operate if they can have contactless pick-up or delivery.

Essential businesses such as supermarkets, pharmacies, petrol stations were able to remain open (Alert level 3, 2021). New Zealand announced a four-week complete lockdown on the 25th of March 2020, which led to closing all workplaces except essential services such as hospitals, pharmacies, healthcare, gas stations, supermarkets and food supply (Baker et al., 2020; Fletcher, Prickett, & Chapple, 2021). Therefore, organisations started to operate remotely to keep the business running during the lockdown (Kaushik & Guleria, 2020). This was important because it also kept many workers employed and thus paid. However, in the New Zealand context, at least a million workers who had never had a telecommuting experience suddenly got one.

When Covid-19 has spread globally in late 2019, working from home has significantly increased as it was the only way for employees to carry out their jobs (Agostoni, 2020; Songsangyos & Iamamporn, 2020). Working from home (also known as telework or telecommuting) is a concept that allows employees to operate their duties by using communication technology from home (Allen, Golden, & Shockley, 2015; Blount, 2015; Songsangyos & Iamamporn, 2020). However, telecommuting is not a new working approach; it was started in mid-1970 by Jack Nilles, who defined telecommuting as a decentralised workplace in different local centres rather than working from home (Blount, 2015; Noonan & Glass, 2012). Nilles' primary motivation for telecommuting was to give employees better work-life balance, giving the employees flexibility at working, lessen pollution, and minimise traffic congestion (Narayanan, Menon, Plaisent, & Bernard, 2017).

In recent decades, the increase in employees' working load and hours has been noticed (Hilbrecht, Shaw, Johnson, & Andrey, 2008). Employed parents have to manage between work and family, which leads to increased feelings of time pressure and decreased life satisfaction and work-life balance (Allen et al., 2015; Hilbrecht et al., 2008). Therefore, it became crucial for organisations to improve the employees' work-life balance and quality of life (Hilbrecht et al., 2008). Researchers suggested that telecommuting is an effective way to balance family and work requirements because of the flexibility associated with telecommuting (Hilbrecht et al., 2008; Kłopotek, 2017).

In research by Hilbrecht et al. (2008), some of the participants describe the situation of working from home as the following:

> "I have flexibility in what I do. I am not set to any certain hours that I work. I have to bill so much time, so if I work extra hard on Monday and bill all my time for the week, then I could really goof off for the rest of the week. I would not do that, but in theory, that is what you could do as long as you are meeting your deadlines and your timeframes. (Ruth)" (p. 463).

> "I got up at 6, worked 6 to 7, got the kids up 7 to 8 and was back at work at 8. I worked through the day and kept working after the kids got home from school. I would eat at my desk and sometimes go back for another hour after. (Cathy)" (p. 464).

> "I generally eat my breakfast at my desk. I usually work those hours straight through during the busier times, and when I have work that I know I am not going to get done during my workday, I wake up early. Sometimes in the summer, I have been at work at 5 o'clock in the morning. (Eileen)" (p. 464).

After analysing the research results, Hilbrecht et al. (2008). suggested that time flexibility was the most advantage for telecommuters because it provides them with control over time. Also, setting their schedules to manage the balance between family, work needs and personal appointments. Furthermore, it was common that telecommuters were eating on their disks or were missing a meal and starting work early in the morning. The participants suggested that following a routine was essential to manage the workload and keep within the work schedule. On the other hand, some participants were experiencing difficulty managing their working hours, switching off working, and sometimes working at the weekend.

Despite the increase of telecommuting research and the literature around working from home practices, it remains somewhat unclear whether telecommuting is a good approach for employees or not (Allen et al., 2015; Gajendran & Harrison, 2007). Also, there is small literature about telecommuting and examining the process of how to make telecommuting successful (Narayanan et al., 2017). Even after decades of research on working from home, many results are mixed, inconclusive (Narayanan et al., 2017), indeterminate, and contradictory (Gajendran & Harrison, 2007).

The literature suggested that there are problems with telecommuting research, including that the research methodology of telecommuting is weak in many studies without any solid foundation in theory and small study samples and not inconclusive (Gajendran & Harrison, 2007; Narayanan et al., 2017). Another critical challenge for telecommuting literature findings is that telecommuting frequency by employees in the research; only a few studies reported the frequency or intensity of telecommuting, which affects work outcomes (Allen et al., 2015). For example, an employee is telecommutes four days a week will have a different experience and work outcomes from another employee who telecommute one day a month (Allen et al., 2015).

Therefore, telecommuting is considered a field with crucial needs for more research from theoretical and practitioner points of view (Narayanan et al., 2017).

When it comes to the relationship between telecommuting and work outcomes, work flexible arrangements are promoted as an approach to improve the employees' work outcomes. Despite that, in the literature, researchers are arguing whether telecommuting is effective or not (Allen et al., 2015). For example, in the literature, there is an argument about how effective is telecommuting towards work-family conflict; in some studies, the researcher reported small but reliable effect size (Gajendran & Harrison, 2007), while other studies reported non-significant effect size (Allen, Johnson, Kiburz, & Shockley, 2013). Similarly, in their meta-analysis, Gajendran and Harrison (2007) reported that telecommuting was positively related to job satisfaction, while Golden and Veiga (2005) reported that not all telecommuting tensity related similarly to job satisfaction.

In practice, in 2013, *Yahoo* banned telecommuting for all its employees, justifying that ban as it was essential to boost innovative environment and collaboration (Allen et al., 2015). In contrast, not long after *Yahoo* band telecommuting, the company *Best Buy* decided to allow employees to telecommute after it was banned and work from any location at any time as long as they do their duties (Allen et al., 2015). Whether to adopt telecommuting or not between *Yahoo* and *Big Buy* created a debate about the telecommuting approach (Allen et al., 2015). This highlights the contentious issue with telecommuting: some organisations offer it, and some do not. Some organisations see the benefits, and others do not.

1.2 **Aim of the Thesis**

This thesis aims to study the effects of telecommuting support provided for employees working from home on work engagement and well-being outcomes, including life satisfaction, anxiety, and depression during the Covid-19 lockdown period in New Zealand. To capture the

potential issues around work and family, my study also includes work-life balance. It focuses specifically on employees working in both private and public sectors to determine differences between employees across these core sectors.

1.3 **Background of the Studies**

Remote working is a flexible work arrangement that allows the employees to conduct their work from home or any remote location other than the employee's location using telecommunication technology (Prasada, Vaidyab, & Mangipudic, 2020). Remote working has become a vital work arrangement in the current time because of the revolution of telecommunication technology and the changes in the workplace (Lippe & Lippényi, 2018). In New Zealand, Statistics New Zealand ran *The Survey of Working Life* and reported that around one-third of employees spent time working from home in 2012, which could be as little as 1 hour per week (Statistics New Zealand, 2012). In 1996, 20% of businesses in the USA had telecommuting agreements which increased to 60% in 2016 (Van der Lippe & Lippényi, 2018). The increasing number of telecommuting is because of its social, organisational, and individual benefits.

The social benefits are among the potential advantages of telecommuting. When employees telecommute, that reduces road connections and air pollution because employees do not need to travel to work or use their transport vehicle (Blount, 2015; Siha Samia & Monroe Richard, 2006). Also, organisations are beneficial of telecommuting because the studies show that telecommuting improves work outcomes (Martin & MacDonnell, 2012), including productivity (Agostoni, 2020), job satisfaction, recruitment, retention (Blount, 2015), and cost reduction (Been et al., 2016). At the individual level, telecommuting provides various benefits for employees, including improving job satisfaction, work-life balance, reducing travel coast and saving time (Allen et al., 2015).

Consequently, organisations need to support employees telecommuting to make working from home successful (Crandall & Gao, 2005). Organisational support is one of the crucial tools to improve telecommuting work outcomes (Swanberg, McKechnie, Ojha, & James, 2011). Organisational support is the employees' perspective on how the organisation care about their well-being and value their contributions (Gordon, 2020). Organisational support is considered social support in the workplace and includes general expression of concern such as emotional support and tangible assistance such as technical support (Swanberg et al., 2011). Based on the Social Exchange Theory, when the organisation treats the employees well, the employees may return the excellent treatment with positive work outcomes (Gordon, 2020). Also, the organisational support theory suggested that when the organisation values their employees and provides them with the required resources, it will improve their productivity, especially during work changes and difficult times (Cullen, Edwards, Casper, & Gue, 2014).

Therefore, the literature shows that perceived organisational support could provide excellent value for better work outcomes such as job satisfaction, work engagement, turnover intentions, work-life balance, and well-being (U. Ahmed, Majid, & Zin, 2016; Bakker & Bal, 2010; Rich, Lepine, & Crawford, 2010). Studies show that organisational support could enhance employees' job satisfaction (U. Ahmed et al., 2016) and happiness (Bajaj & Krishnan, 2016). Miao (2011) describe job satisfaction as "the overall sense of well-being at work, and it is internal state based on assessing the job and job-related experiences with some degree of favour or disfavour" (p. 249). Happiness is defined as the superiority of positive effects over negative ones, highlighting the influential evaluation of the individual's life situation (Bajaj & Krishnan, 2016). The literature suggested that when organisations provide a high level of support, that may result in a high level of the employees' job satisfaction (Ahmad & Yekta, 2010; Burke, 2003) and happiness (Bajaj & Krishnan, 2016). Therefore, when organisations provide a supportive work environment that increases the employees' ability to act and

encourage their competence, it leads to a sense of satisfaction with their jobs and increases happiness (Bajaj & Krishnan, 2016; Bogler & Nir, 2012).

Organisational support is one of the workplace characteristics that may improve work engagement (Gordon, 2020). Haar (2017) defined work engagement "as a positive, fulfilling, work-related state of mind; noting that it is a more persistent and pervasive affect-cognitive state that is not focused on any particular object, event, individual, or behaviour" (p.59). providing employees with organisational support boosts the employees' vigour, dedication, and energy, reflecting positively on the employees' work engagement (Rich et al., 2010). Therefore, a study by Caesens, Stinglhamber, & Luypaert (2014) shows that perceived organisational support is positively related to work engagement.

When the employees believe that the organisation value them, that will determine the employees' behaviours and attitudes in an exchange relationship between the organisation and the employees which benefits the organisation (Wickramasinghe & Wickramasinghe, 2011). Turnover intention is the probability that the employee will work at a particular time (Albalawi, Naugton, Elayan, & Sleimi, 2019). Therefore, when organisations provide support for employees, it may increase their positive mood at work, which leads to a positive emotional attachment with the organisation and decreases turnover intentions (Maertz Jr, Griffeth, Campbell, & Allen, 2007). As a result, a study shows that perceiving organisational support is significantly related to turnover intentions (Maertz Jr et al., 2007).

The literature stressed the vital role of the organisational culture in solving work-life balance issues (McCarthy, Darcy, & Grady, 2010; Tremblay, Genin, & di Loreto, 2011). Work-life balance is good functioning and satisfaction at work and home with the minimum role of conflict (McCarthy, Cleveland, Hunter, Darcy, & Grady, 2013). A high level of organisational support may benefit the employees and improve their work-life balance (McCarthy et al., 2010;

Thompson & Prottas, 2006). Therefore, when employees perceive organisational support, including providing family-friendly policies, formal and informal organisational support (Tremblay et al., 2011), work-life balance programs (McCarthy et al., 2013), and family-supportive supervisor (Idrovo & Bosch, 2019) that will reflect positively on the employees' work-life balance and well-being.

Organisations face challenging situations by having employees ill-being; the adverse effects of anxiety and depression reflect on the employees' functionality and job outcomes (Roche, Haar, & Luthans, 2014). Kurtessis et al. (2017) state that organisational supports perceptions influence well-being through psychological mechanisms, such that support "should fulfil socioemotional needs, increase the anticipation of help when needed" (p. 1871). Anxiety, and depression, which Axtell et al. (2002) defined as follows: "Anxiety can be considered as low pleasure and high mental arousal, whereas depression and sadness can be thought of as low pleasure and low arousal" (p. 222). Perceived organisational support is an assurance that the employees will receive aid from the organisation when they need it (Rhoades & Eisenberger, 2002). Therefore, a study suggested that better organisational support may lower the level of depression and anxiety (Labrague & De los Santos, 2020).

1.4 **The focus of the study**

The literature has noted that organisational support is crucial to improving work outcomes. However, given the unique circumstances of the impact of Covid-19 and the changes in the workplace, this study will focus on studying the relationship between support perceptions towards telecommuting and job and well-being outcomes. These include employees' job satisfaction, happiness, work engagement, turnover intentions, work-life balance, depression, and anxiety in New Zealand during the lockdown.

1.5 **Research questions**

The present thesis poses several research questions:

1. Does telecommuting support for working from home influence employees work outcomes?
2. Does telecommuting support for working from home influence employees' well-being outcomes?
3. Do job changes (due to Covid-19) moderate or change the influence of support for working from home on work engagement and well-being outcomes? Specifically, do greater changes occur when job changes from Covid-19 are significant?
4. Are these relationships stable across the private sector and public sector organisations? Are there more significant pressures in the private sector that make these effects more distinct from the public sector?

1.6 **Structure of The Thesis**

Chapter one is a general introduction of the study, including the aim, background, focus, research questions and structure. The second chapter reviews the literature of Covid-19, telecommuting, job outcomes and their relations with telecommuting and telecommuting support. Also, outlines the organisational support theory as a theoretical framework to examine the relationship between telecommuting support and job outcomes and develop the hypothesis. The third chapter details the research design, including the methodology, data collections, measures, and analysis. Chapters four and five show the research findings for samples one and two accordingly. The last chapter presents a discussion of key findings, contributions, limitations, and conclusion.

The next chapter explores the literature in more depth.

Chapter 2 LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature about remote working, telecommuting support, job outcomes, well-being outcomes, and the social exchange theory that pins all these aspects together. The present study referred to workplace reactions in New Zealand immediately after the Covid-19 pandemic lockdown in May 2020. As such, this section provides background and detail to Covid-19.

2.2 Covid-19 Background

In the last two decades, different diseases have continued to arise and create potentially severe public health issues, including the world experiencing widespread infections and epidemics (Puca, Qyra, Pipero, Qato, Puca, Kamberi, Rezhdo, Como, 2020). Furthermore, between 2002-2003 several viral epidemics like Zika, Ebola, and SARS-CoV have emerged in some countries in the world (Bandyopadhyay et al., 2020; Puca et al., 2020; Steffens, 2020). In 2009 H1N1 influenza and then in 2012, MERS-CoV was recorded (Puca et al., 2020), highlighting potential pandemics' dangerous nature. In late 2019 in Wuhan, China, a pneumonia patient cluster with an unknown cause emerged (Puca et al., 2020), linked to the wet animal and seafood wholesale market (Bandyopadhyay et al., 2020).

The new disease was marked as a cause of a novel coronavirus (CoV) called 2019-nCoV (Puca et al., 2020). In early 2020, the World Health Organisation (WHO) declared that the new disease was Coronavirus Disease 2019 – widely known as Covid-19 (Bandyopadhyay et al., 2020; Puca et al., 2020; (Shen et al., 2020). Therefore, at the beginning of 2020, there was a massive change in people's lives globally. Professionally – work changed for many, and the world changed concerning our knowledge about the disease and the viruses, and with

changes in the epidemic, there became a change in the public health policies and measures to counteract Covid-19 (Steffens, 2020).

2.2.1 *Covid-19 Spread and Symptoms*

In the first two months of 2020, China was the world's central attention because the cases and fatalities were increasing day by day (Steffens, 2020). On the 29th of January 2020, 6,065 Covid-19 cases were confirmed worldwide, most of them in China. The cases included 1,239 critical cases and 132 deaths, and another 68 cases were identified in 15 countries linked to China (Steffens, 2020). The virus has spread from Wuhan and then crossed the Chinese borders and began infecting people worldwide (Puca et al., 2020). On the 28th of February 2020, 83,652 Covid-19 cases were recorded in 51 countries worldwide, including Germany, Italy, and France (Steffens, 2020). Since late February, there was a rapid decline in China's new cases after implementing social distancing measures, while the new cases started to increase in Europe and became the epicentre of the pandemic (Steffens, 2020). New Zealand recorded its first Covid-19 case on the 28th of February 2020 from a person travelling from Iran (Bandyopadhyay & Meltzer, 2020). Between the 28th of February and the 4th of May 2020, New Zealand recorded a total of 1,487 confirmed and probable cases (Bandyopadhyay & Meltzer, 2020).

The WHO announced that Covid-19 is a global health issue that causes acute respiratory tract infection (Puca et al., 2020). Therefore, on the 11th of March 2020, after recording more than 118,000 Covid-19 cases and over 4,000 deaths in 114 countries, the WHO characterised Covid-19 as a pandemic (Puca et al.; Spinelli & Pellino, 2020). It is fair to say that at this point, the world began to change considerably, not least the way societies worked.

There was an increase in the knowledge about Covid-19 for understanding the spread of the virus (Steffens, 2020). Studies show that the incubation time was between 1 to 14 days,

with 5-6 days on average, and the primary method of transmission was through droplets (D. Bandyopadhyay et al., 2020; Steffens, 2020). Covid-19 patients reported different common symptoms, including a sore throat, fever, cough, critical pneumonia cases (Steffens, 2020), fatigue, anorexia, anosmia, dysgeusia, and myalgia (D. Bandyopadhyay et al., 2020). Some patients also reported rhinorrhea, nausea, and diarrhoea, which were less common symptoms (D. Bandyopadhyay et al., 2020). The transmission form began to have a significant impact on the way societies lived and worked.

2.2.2 *Characteristics and Effects of Covid-19*

Covid-19 belongs to the Coronaviridae family and consider to be very contagious (Puca et al.; Steffens, 2020). In terms of impact and magnitude, Covid-19 has far exceeded the SARS epidemic in 2003 (D. Bandyopadhyay et al., 2020; Fauci, Lane, & Redfield, 2020; Steffens, 2020). The patients infected by Covid-19 are the primary source of infection (Puca et al.). The transmission moods are throughout droplet transmission, conjunctiva and fomites, faecal-oral route, urine, faeces, and saliva (Puca et al.; Steffens, 2020). Patients with severe infection are considered more contagious than mild patients; asymptomatically infected people in the incubation period can also be a source of infection (Puca et al.).

There are five outcomes for infected patients: (1) asymptomatically infected, (2) mild patients, (3) medium patients, (4) severe patients, and (5) patient death (Puca et al.; Steffens, 2020). In Hubei, China, studies show the laboratory-confirmed patients with severe disease were up to 13.8%, and 6.1% were critically ill, while the fatality rate overall was 2.3% (Steffens, 2020). Furthermore, in New Zealand, 6.3% of the patients required hospital and the fatality rate was 1.5% (Jefferies et al., 2020).

2.2.3 *Global Response*

After the WHO announced Covid-19 as a pandemic on the 11th of March 2020, countries worldwide started to adopt various policies and measures to contain the spread and mitigate the virus's impact (Steffens, 2020). There is evidence that non-pharmaceutical intervention effectively controls the spread of Covid-19 (Jefferies et al., 2020). For example, evidence from Asia, including China, South Korea, and Singapore, showed controlling Covid-19 by using a combination of non-pharmaceutical practices, including physical distancing, movement restrictions, contact detection, and hygiene management (Jefferies et al., 2020). In Europe, several measures were adopted, including closing borders, theatres and museums, educational institutes, restaurants, and shops (Steffens, 2020). Also, there were restrictions on public gatherings, even for small groups, people's movements, and whole countries went in lockdown (Steffens, 2020).

Implementing new measures was used to limit the spread of Covid-19 by practising physical distancing measures to gain time to improve and prepare the health care system for a high demand (Steffens, 2020). Also, limiting the exposure to protect the most vulnerable people and front-line workers such as healthcare and essential workers (Steffens, 2020). After the Covid-19 outbreak started in China, New Zealand activated the national influenza pandemic plan to respond to the outbreak (Baker et al., 2020). The national plan focuses on delaying the virus's arrival based on a mitigation model and adopting a range of measures to control the pandemic (Baker et al., 2020). However, Covid-19 is not like influenza, and the potential to control Covid-19 by using the national influenza plan has not been adequate (Baker et al., 2020). The difference between the two viruses is primarily a function of the infection's epidemiology and biology (Baker et al., 2020). Influenza infection has a shorter incubation period (median 1-3 days) than Covid-19 (5-6 days) (Baker et al., 2020). This difference allows

identifying cases and tracing, isolation, and quarantining contacts to succeed (Baker et al., 2020).

Overall, Covid-19 has become a massive worry globally regarding health, social, and economic impacts (Kaushik & Guleria, 2020; Sher, 2020). The economic impact of the Covid-19 pandemic will reach and affect everyone, and the globe will be impacted by the destruction caused by the Covid-19 pandemic (Kaushik & Guleria, 2020). In response to the pandemic and to stop the virus's spread, many countries performed a complete lockdown (Kaushik & Guleria, 2020; Sher, 2020). During the lockdown, all non-essential businesses across all industries had to stop operating (Kaushik & Guleria, 2020). Furthermore, the lockdown hit hard in various sectors such as hospitality, airline, manufacturing industries, and hotel, and it will take time to recover from this situation (Kaushik & Guleria, 2020). As a result, millions of workers lost their jobs worldwide, and many businesses were permanently shut down because of the financial losses and the disruption caused by the pandemic (Kaushik & Guleria, 2020; Shen et al., 2020).

2.2.4 *New Zealand Response*

In response to these issues, the New Zealand government announced the movement from using the national influenza pandemic planning to elimination strategy to stop any community spread and slow down the virus transmission (Baker et al., 2020; Jefferies et al., 2020). The elimination strategy is a significant change from influenza mitigation (Baker et al., 2020). With the mitigation approach, the response increased as the pandemic increased, and new measurements to control the pandemic were introduced later, such as school closures (Baker et al., 2020). Nevertheless, in the elimination approach, decisive measures to control the pandemic is introduced at the beginning before any community transmission (Baker et al., 2020). The elimination approach focuses on border control and emphasises the patients' isolations and quarantine of contacts to break the chain of transmission (Baker et al., 2020). If

the new implementations fail to stop the virus from spreading, it then requires new measures to stop the spreading such as travel restriction, physical distancing, and a lockdown to stamp out chains of transmission (Baker et al., 2020).

To reach very low or zero cases and eliminate Covid-19, New Zealand implemented a four-level response system to move New Zealand through stages to prepare, reduce, restrict, and lockdown (Baker et al., 2020; G. Bandyopadhyay & Meltzer, 2020). On the 3rd of January 2020, the government announced entry restrictions for people travelling from China with 14 days of self-isolation when entering New Zealand (G. Bandyopadhyay & Meltzer, 2020). On the 28th of February 2020, New Zealand recorded the first case of Covid-19 for a passenger travelling from Iran (G. Bandyopadhyay & Meltzer, 2020). Therefore, from the 14th of March, the 14-days of self-isolation became required for anyone entering New Zealand except travellers from the Pacific Islands (G. Bandyopadhyay & Meltzer, 2020). On the 19th of March 2020, all the borders closed, and no one could enter New Zealand without New Zealand residents (G. Bandyopadhyay & Meltzer, 2020).

On the 21st of March 2020, New Zealand moved to level two (reduce), which involved increasing the physical distancing and limitations on mass gatherings; but the country subsequently moved to level three (restrict) on the 23rd of March (Baker et al., 2020; G. Bandyopadhyay & Meltzer, 2020). Then, on the 25th of March 2020, New Zealand moved to level four (lockdown), which involved closing all non-essential workplaces, schools, social gatherings, and travel restrictions (Baker et al., 2020). The government also announced a national emergency that gives the authorities more power to enforce control policies and measures (Baker et al., 2020).

New Zealand moved into four weeks of lockdown (level 4) in response to the pandemic, and it was one of the strictest lockdowns in the world (Fletcher et al., 2021; Prickett, Fletcher,

Chapple, Doan, & Smith, 2020). The lockdown meant all businesses had to shut down except the essential services such as hospitals, pharmacies, health clinics, supermarkets, petrol stations, farms, and businesses essential for grocery and food supply (Fletcher et al., 2021). The New Zealand government supported businesses by providing a temporary wage subsidy scheme to shore up companies to maintain workers' attachment to their employment (Fletcher et al., 2021). Approximately 400,000 wage subsidy applications were received by the end of March, and that number increased by April (Fletcher et al., 2021; Prickett et al., 2020). Despite the wage subsidy, an increasingly large number of workers lost their jobs permanently (Fletcher et al., 2021). In addition, organisations were forced to adopt new virtual approaches to allow employees to telecommute anywhere and anytime to continue operating (Songsangyos & Iamamporn, 2020).

2.3 **Telecommuting**

There is an urgent need for social distancing because Covid-19 raised the working from home (WFH) concept to keep businesses operating and employees' working spirit (Kaushik & Guleria, 2020; Shen et al., 2020). In the literature, there are many titles for WFH, including telecommuting, telework, working at home, remote work, homework, telecottage, electronic cottage and telecentre (Blount, 2015). However, in this research, the terms working from home, telecommuting and remote working are used interchangeably. Jack Nilles was the first scholar to use the terms telework and telecommuting in the mid-1970s and defined telecommuting as local work centres or decentralised workplaces rather than working from home (Blount, 2015).

There is an ongoing problem with defining the phenomena of remote working (Blount, 2015). The early definition of remote working did not mention technology, focused on the work's location, and defined as any work performed outside the organisational, physical space

and time (Olson, 1983). After that, the definition focused on using technology facilitating working from home (DeSanctis, 1984). DeSacctis (1984) defined remote working as working from home by using telecommunication systems. In the 1990s, the definitions included three components, (1) the location of work which is not the employer's location, (2) the use of technology and (3) the percentage of hours spent in remote working, which had to be at least 20% (Weijers, Meijer, & Spoelman, 1992). In the late 1990s, telecommuting's definition included several locations either at home, client's location or a telework centre for one or more days per week to move the work to employees instead of moving employees to work (Nilles, 1998). In the past few years, telecommuting defined as a type of flexible work that allows employees to perform their work from a remote location or home (Gajendran & Harrison, 2007; Masuda, Holtschlag, & Nicklin, 2017a; Prasada, Vaidyab, & Mangipudic, 2020; Siha Samia & Monroe Richard, 2006).

The telecommuting definition is not limited to researchers. Governments and unions worldwide have also developed telecommuting definitions (Welz & Wolf, 2010). For example, the European Union defined telework as regularly performing and organising work using technology in contract employment away from the employer's premises (Welz & Wolf, 2010). Furthermore, in the United States of America, the Telework Enhancement Act 2010 defined telework as a work flexibility agreement under which the employee conducts the responsibilities and duties from an approved location rather than the worksite which the employee would otherwise work (Blount, 2015). Nevertheless, remote working definitions have been criticised as too broad, ambiguous, ill-defined and nebulous (Blount, 2015).

2.3.1 *Size of Telecommuters*

It has been argued that as a result of increasing competitiveness worldwide, the increase of dual careers and the changes in the workplaces, such as the revolution of the telecommunication technology that helps employees to do their work remotely; remote working became a vital work arrangement in modern working life (Gajendran & Harrison, 2007; Masuda et al., 2017a; Narayanan et al., 2017; Van der Lippe & Lippényi, 2018). A study conducted in 2015 showed that 34% of the organisation's leaders expect more than half of their full-time workers to be doing telecommuting work in 2020 (Masuda et al., 2017a). In the US, 20% of businesses had telecommuting arrangements in 1996, but in 2016 the number had grown to 60% (Van der Lippe & Lippényi, 2018). Also, in the US, the estimated number of employees working from home was seven million in the mid-1990s and grew to 19 million in 2001 (Siha Samia & Monroe Richard, 2006). According to the 2017 employee workforce report by the state of telecommuting in America, the number of employees telecommuting has increased by 115% in the past ten years (Narayanan et al., 2017). Furthermore, in Europe, 28 countries estimated that approximately one out of eight workers work remotely for at least several days a month (Van der Lippe & Lippényi, 2018).

Moreover, according to the Office for National Statistics in the UK, 4.2 million employees spent at least half of their working hours working from home away from the central office (Felstead & Henseke, 2017). Also, the Trade Union Congress's research shows that the number of workers who work from home in the last decade has increased by a fifth (Felstead & Henseke, 2017), which would suggest that UK workers are recently engaging in WFH much more petite than American workers (Narayanan et al., 2017).

In 2020, a survey of 229 human resources departments suggested that approximately one-half of businesses had over 80% of employees working remotely from home during the Covid-19 pandemic, potentially increasing after the pandemic (Kniffin et al., 2021).

In New Zealand, the Survey of Working Life in 2012 suggested that approximately one-third of all workers spent some time working from home over the four weeks before the survey (Statistics New Zealand, 2012). However, this number includes self-employed working from home and employees working from home for unpaid overtime, not indicating that working from home arrangements are common (Statistics New Zealand, 2012). The Survey of Working Life (2012) shows that 26% of employees spent fewer hours working from home compering with 64% of self-employed working from home in which 36% of them spent at least 20 hours, and 73% of employers working from home, 7% of them spent at least 20 hours (Statistics New Zealand, 2012).

2.3.2 *Advantages and Disadvantages of Teleworking*

Telecommuting provides many advantages to workers and companies, yet there is a possibility that these advantages can turn into disadvantages and thus can expose employees to "occupational risks". Lack of proper management and various specificities of the telecommuting situation can create risks for the well-being of workers (Arora, Khatri, & Khatri, 2020). This section presents various advantages associated with remote working practices and highlights the potential disadvantages of teleworking.

Societal Benefits. In 1973, telecommuting was a potential solution to the oil shock because of the increased transportation cost resulting from declining oil reserves (Blount, 2015). This event gave the idea to move work to employees instead of moving employees to the central office, which helped decrease pollution and road congestion (Blount, 2015; Narayanan et al., 2017; Siha Samia & Monroe Richard, 2006). Texas Transportation Institute 2001 study shows that employees spend between 53-56 hours per year stuck in traffic, and they commute of more than 48 km each way; the total of hours spent in traffic jam and commuting is around 400 hours per year in major cities in the US per year (Siha Samia & Monroe Richard, 2006).

Therefore, telecommuting is often seen as a work option that can reduce the hours wasted in commuting and enable employees to be more productive (Crandall & Gao, 2005; Siha Samia & Monroe Richard, 2006). As a result, organisations with more than 100 employees in eleven states with the worst air pollution were motivated by the Clean Air Act 1990 to reduce commuting employees by 20% every day (Siha Samia & Monroe Richard, 2006). Furthermore, Telecommuting reduces noise pollution, reduces the demand for public transportations, reduces accidents, and gives organisations the ability to hire people with special needs (Crandall & Gao, 2005).

Organisational Benefits. There is empirical evidence that telecommuting is positively related to organisational outcomes (Martin & MacDonnell, 2012). Organisations believe that increasing productivity is one of telecommuting's main benefits (Agostoni, 2020; Bloom, 2014; Crandall & Gao, 2005; Kłopotek, 2017). A study by the travel website *Ctrip* shows that employees productivity increased by 13.5% after they started working from home, which means an extra working day a week, and the employees reported higher job satisfaction (Bloom, 2014). In another study by *AT&T*, the study shows that salespersons who worked from home increased the sales by 20% to 40%, and managers who telecommute increased their productivity by 8% to 29% (Crandall & Gao, 2005). Another study by the global information consultant *Garter Group* shows that productivity increased from 10% to 40% for the employees who telecommuted (Crandall & Gao, 2005). Research in the USA reported that working from home could add $1.3 billion each year for companies, and the increase in productivity could add $1.3 billion in value to the American economy each year based on the patent average (Prasada et al., 2020).

In a study on telecommuting in New Zealand and Australia, there was evidence of work improvements in satisfaction and productivity, especially for employees who worked from

home for several days and some days in the office (Blount, 2015). In the study, managers recorded that employees working from home show less absenteeism and more engagement than employees working from the office (Blount, 2015). Therefore, high intensity working from home has positive effects on work productivity (Blount, 2015). Also, telecommuting took the credit for the organisation's ability to recruit and retain highly talented employees(Blount, 2015) (Blount, 2015).

There are several reasons for the increase in productivity for telecommuters, including the reductions of traditional commuting, which allow telecommuters to work for longer hours (Bloom, 2014; Crandall & Gao, 2005). Working from home provides a distraction-free environment by having fewer meetings, interruptions, workplace 'chitchats', and employees not experiencing what is called the cake in the room break effect means fewer disruptions and interruptions throughout the workday(Agostoni, 2020; Bloom, 2014; Crandall & Gao, 2005). Furthermore, working from home provide the ability to choose flexible working hours, which suits telecommuters (Crandall & Gao, 2005). Telecommuters strongly focus on reaching the required results in their jobs rather than being physically present in the central location (Crandall & Gao, 2005).

The other advantage of telecommuting is the operating cost reduction (Been et al., 2016; Crandall & Gao, 2005). Organisations rent or buy buildings as a workspace; the real estate and maintenance cost can be costly in industrial areas and cities (Crandall & Gao, 2005). Adopting telecommuting arrangements allows organisations to reduce office space because employees work remotely and make less use of office spaces, which is a cost-saving option for organisations (Been et al., 2016). The Ctrip travel website's research shows that the company saved $1,900 per employee for nine months on furniture and space (Bloom, 2014). A report by

IBM shows that the company saved US$75 million by reducing the leased office space and selling buildings after adopting telework (Narayanan et al., 2017).

Also, in cost-saving, working from home reduces turnover and absenteeism because employees can do their work when they must attend to urgent matters such as a sick child (Crandall & Gao, 2005; Potter, 2003). In commuting work arrangements, the employee's urgent matters will take time from their jobs and increase absenteeism (Crandall & Gao, 2005). Hence, some employees will start looking for new jobs with better work flexibility arrangements, potentially increasing employee turnover (Crandall & Gao, 2005). The International Telework Association & Council study (cited in Madsen, 2003) shows that telecommuting employees can save employers $10,006 each in reduced absenteeism and job retention. In contrast, another study shows that telecommuting cost saving is limited and suggested that the expected perceived cost-saving and the valid savings differ (S. Madsen, 2003). Otherwise, most literature in this area supports that telecommuting can reduce costs for employees and employers (S. Madsen, 2003).

Another advantage of remote working arrangements is the increased ability to recruit enhanced human resources and ultimately improve talent availability (Brewer & Snodgrass, 2007; S. Madsen, 2003). In the competitive job market, organisations are looking for new ways to improve employees recruitment and retention (S. Madsen, 2003). Remote working can give organisations access to pools of talented candidates who live far from the central office, those with children, older or disabled people (Crandall & Gao, 2005; S. Madsen, 2003). Also, remote working will attract candidates unwilling to relocate and look for flexible work arrangements (Crandall & Gao, 2005). Moreover, recruitment agencies reported that 85% of people seeking employment indicated they are more likely to stay with the employer if they offer to work flexibly (Kłopotek, 2017).

Individual Benefits. At the individual level, telecommuting provides various benefits for employees (Crandall & Gao, 2005; Gajendran & Harrison, 2007; Masuda et al., 2017a). Increasing employee job satisfaction is one of the most consistent benefits in the literature for employees working remotely (Allen et al., 2015; Bloom, 2014; Crandall & Gao, 2005). A meta-analysis shows a positive relationship between telecommuting and job satisfaction (p =.10) based on 28 studies of over 7,700 employees (Gajendran & Harrison, 2007). Studies show that job satisfaction is higher among employees who work remotely than with traditional arrangements (Allen et al., 2015; Henke et al., 2016; S. R. Madsen, 2011). Remote working is attributed to telecommuters feeling they are more productive with less pressure when working from home.

Working from home can improve work quality and personal life quality by providing more freedom to employees in managing and carrying out their job requirements (Gajendran & Harrison, 2007; Hornung & Glaser, 2009). Also, telecommuters are less likely to experience work-family conflict and role-stress and more likely to have job satisfaction and work commitment (Masuda et al., 2017a).

Despite all these findings, there has never been a working-from-home experience like Covid-19 created in New Zealand (or globally). While Statistics New Zealand data shows that working from home occurs relatively low, this changed with level 4 lockdown in New Zealand in 2020. Statistics New Zealand (2020) reported that 42 per cent of employees worked from home, and 30 per cent continued working outside the home. Thus, telecommuting has become much more widely utilised. Then, almost everyone who could work could work from home and continue their job from home. The present study focuses on understanding the relationship between telecommuting support and job outcomes - engagement and well-being.

Disadvantages of Remote Working. Although teleworking provides enormous benefits to workers and companies, there can be negative implications due to inadequacy in management. For example, communication and information sharing, whether formal or informal, can be affected and not efficient as much as it is in the centralised working environment (Widar et al., 2019). Furthermore, lack of information access can directly impact employee performance and confidence. In remote work, separating private life from professional or work life also becomes difficult and impacts job performance and family relations. A flexible work schedule can also result in long working hours in cases where workers cannot impose time limits (Escudero-Castillo, Mato-Díaz, & Rodriguez-Alvarez, 2021).

Lack of proper management of the "ergonomic aspects" related to ICT work can result in musculoskeletal disorders (Theron, 2021). It is essential to establish excellent work from home to operate remotely; otherwise, health problems like eye irritation, headache, and posture damage can result (Elst et al., 2017). Establishing a comfortable home environment can be challenging; therefore, telecommuting can be seen as a drawback (O'Brien & Aliabadi, 2020). It is natural to consider potential changes like social working relationships due to a lack of proper connection with colleagues and employers (Oakman et al., 2020). The remote working situation also impacts future employment as there are many challenges organisations and employees could face, including managerial and technical challenges (Oakman et al., 2020).

Remote working creates management issues since providing essential support to every teleworker may not be possible, and communication is also altered (Arora, Khatri, & Khatri, 2020). Supervision becomes very difficult in telecommuting, and team building can be challenging. Managers will need innovative procedures to supervise telecommuters and provide support (Arslan, Gölgeci, & Larimo, 2020). Occupational risk management can also

be challenging due to a lack of risk identification and measurement. Lack of opportunities for informal communication often results in conflicts due to a lack of understanding and transparency. Communicating through office portals is not an equivalent replacement for informal communication in offices (Wang et al., 2021).

Apart from the advantages, there are also disadvantages, including technical problems the employees face that cannot be solved through telecommuting (Dunham et al., 2021). Limitations of interaction with co-workers are also noticed that creates the gap for knowledge sharing. In addition, it also generates a hostile environment within the organisation. The organisations also find it difficult to organise activities and to have task completions. Deductions in salaries have been noticed to be taking place by organisations as employees mostly are not motivated by remote working, leading to not meeting the deadlines of the tasks (Holmbeck, 2021).

Therefore, there should be policies for ensuring timely deliveries of the tasks while allowing work from home so that the organisations should not have more negative outcomes apart from the pandemic impacts (Holmbeck, 2021). There is also a hindrance in career advancements noticed by remote working (Hebert, 2021). Also, timely promotions are being impacted as the performance is not being appropriately noticed. Since most organisations have come into remote working after the Covid-19 lockdown and impact, remote working is new for some organisations.

The last drawback of remote working is the lack of informal communication opportunities that often result in conflicts due to a lack of understanding and transparency while communicating from office portals (Wang et al., 2021). The previous reports notice that when the employees do not interact with their fellow employees, they feel alienated from company values, goals, and colleagues (Wang et al., 2021).

2.4 **Telecommuting and the home 'work environment'**

Since telecommuters make most of the work for various companies during Covid-19, it is necessary to make required arrangements for the remote workers so that their productivity is not influenced by the new working environment (Buomprisco et al., 2021). Maintenance and installing the necessary facilities and equipment for regular teleworkers is the responsibility of employers unless the remote workers use their types of equipment (Buomprisco et al., 2021). Organisations also must manage their schedule and workload so that telecommuters and usual office-based workers should not be discriminated against in any way (Arslan, Gölgeci, & Larimo, 2020). These are essential procedures to adjust to the new working practices and continue business operation without financial and workforce loss (Junkin, 2020).

Companies have identical health and safety responsibilities for remote workers as they have the responsibilities for other workers. The primary responsibilities include managing the occupational risks of remote workers (Helander, Cushman, & Monnat, 2020). Employers must be able to identify potential risks and manage them to ensure the well-being of telecommuters. There are issues of risk assessment, including:

- The home environment of employees when working at home
- the equipment required for work especially workstation and equipment such as display screen/s
- Mental well-being and health status of workers
- Illness and accidents related to WFH
- general health and safety, including maintenance of housekeeping standards to avoid any incidents

Overall, the above aspects of home-based working should be considered to run businesses during Covid-19 successfully and after such lockdowns (Helander, Cushman, & Monnat, 2020).

2.4.1 *The work environment at home*

Following features are included in an appropriate work environment that should be established at home for telecommuters. Typically, a separate room and in case of unavailability of individual room at least a space where the remote worker can perform his/her task without disturbance (Escudero-Castillo, Mato-Díaz, & Rodriguez-Alvarez, 2021). The worker will concentrate, and productivity will not be impacted (Arslan, Gölgeci, & Larimo, 2020). A peaceful environment will contribute towards the maintenance of a boundary between work and private life (Time, 2020). The working area at home should have adequate ventilation and a lighting system so that health and work efficiency is not influenced. Internet connection and power supply must be uninterrupted during working hours. Regular checking and maintenance must be ensured to identify equipment defects and rectify them (Time, 2020).

Equipment. Home-based work is also connected with ergonomic hazards. An inappropriate workstation, display screen equipment, and deskbound work are related to musculoskeletal pain, eye fatigue, and stress (Junkin, 2020). Cognitive workload and health-related sedentary work style can also become frequent in-home based teleworking (Gangopadhyay, 2020). Diseases such as diabetes II, obesity, and cardiovascular disorders may result from a sedentary lifestyle created by too much working from home (Junkin, 2020).

Therefore, it is mandatory to have specific materials, equipment, and accessories and adopt measures to prevent such disease (Arora, Khatri, & Khatri, 2020). Home workstation assessment should determine all the aspects to ensure a healthy work environment for home-based workers (Ayyildiz, & Gumus, 2021). Space and time restrictions, along with user-

specific needs, should be essential considerations (Elst et al., 2017). However, workers should be provided with sufficient facilities to work in a safe and healthy environment (Widianawati et al., 2020). Companies can inspect their home-based workers to analyse the adequacy of the environment from which the workers are working with the employee's consent. An organisation should also help workers adopt preventive measures to mitigate musculoskeletal disorder risks (Elst et al., 2017).

Eye fatigue and headaches are frequent among people who spend more time on computers or other related display screens (Adams-Prassl et al., 2020). Therefore, workers and companies must consider these realities while assigning work and planning a schedule (O'Brien, & Aliabadi, 2020). Focusing on the short-term benefit of long working hours can disturb workers' health and well-being and adversely affect businesses in the long run (Arora, Khatri, & Khatri, 2020). The increase in telecommuting amidst Covid-19 has also increased workers' time on-screen (Adams-Prassl et al., 2020). Those tasks that could have been done manually in office-based work are now performed using “display screen equipment” (Helander, Cushman, & Monnat, 2020). For instance, meetings and other information sharing are now done through technologies, and thus screen time have drastically increased in telecommuting practices. It is necessary to work from home efficiently, and attention should be given to establishing a safe and healthy environment (Time, 2020).

Overall, organisations must consider the work environment for telecommuters to improve their productivity and performance when working from home (Buomprisco et al., 2021). Providing the right work resources, equipment, and health and safety training is crucial to successfully telecommuting (Helander, Cushman, & Monnat, 2020). Also, other procedures such as separate, quiet, and ventilated workplaces should be arranged to improve the telecommuting experience (Time, 2020).

2.5 **Theoretical Approach**

Research indicates an inconsistent relationship between job outcomes and telecommuting (Hornung & Glaser, 2010; Kuruzovich, Paczkowski, Golden, Goodarzi, & Venkatesh, 2021). Some scholars suggested that there is little clear evidence that telecommuting influences job outcomes like job productivity (Westfall, 2004), job satisfaction, and employee engagement (Bailey & Kurland, 2002; Hornung & Glaser, 2010; Kuruzovich et al., 2021). In contrast, other scholars indicate that telecommuting is positively related to productivity (Butler, Aasheim, & Williams, 2007), job performance, job satisfaction, and employee engagement (Gajendran & Harrison, 2007; Kuruzovich et al., 2021; Masuda et al., 2012). Furthermore, a recent study argued that the contradictory results of the prior work are because of the lack of a rational theoretical perspective in understanding the relationship between organisation and telecommuting (Kuruzovich et al., 2021). Therefore, understanding the relationship between telecommuting support and job outcomes is needed.

An exchange where one party is providing support to another party for better job outcomes in reward. This research aims to understand if telecommuting support is affecting the employees' work and well-being outcomes. Therefore, this research uses Social Exchange Theory (Blau, 196) (SET) as a theoretical lens to understand the relationship between telecommuting support and job outcomes. SET provides a trusted framework for the psychological and social processes behind employees' behaviours toward their employers (Kuruzovich et al., 2021).

2.5.1 ***Social Exchange Theory***

SET is defined as a process governed by reciprocity to exchange resources that can be social or economic (Gould-Williams & Davies, 2005; Haar & Spell, 2004; Kuruzovich et al.,

2021). Therefore, the primary social exchange model states that the resources are subject to exchange between parties (Cook, Cheshire, Rice, & Nakagawa, 2013). SET is not a single theory or conceptual model but a group of related theoretical frameworks (Mitchell, Cropanzano, & Quisenberry, 2012). SET is one of the most influential conceptual models for understanding employees' behaviour at the workplace (Cook et al., 2013; Cropanzano & Mitchell, 2005; Gould-Williams & Davies, 2005).

SET is seen as originating in three sources: (1) by John Thibaut and Harold Kelley in *The Social Psychology of Groups*, (2) by George Homans in *Social Behaviour as Exchange*, and (3) by Peter Blau in *Exchange and Power* (Cook & Emerson, 1987; Emerson, 1976). The differences and similarities in the three major works were vital in launching SET. Homans focused on the psychology of instrumental behaviour, Blau on the technical-economic analysis, and Thibaut and Kelley on the psychological concepts (Emerson, 1976). Theorists agree that SET engages chains of interactions that generate obligations; the interactions are interdependent and depend on the other person's action, creating a positive relationship under specific rules (Blau, 1964; Cropanzano & Mitchell, 2005).

The main principle in the SET that is any relationship develop to become loyal, trusting, and mutual obligations which require both parties to follow the rules of exchange (Cropanzano, Anthony, Daniels, & Hall, 2017). Emerson (1976) defined the rules of exchange forms as a "normative definition of the situation that forms among or is adopted by the participants in an exchange relation" (p.351). Therefore, the norms and rules of any exchange relationship are the guidelines of the exchange procedures. The rule of reciprocity is one of the well-known types of the SET, a voluntary exchange engagement without any terms or rules to guide the parties, and it is usually a result of successful interactions between parties (Molm, 2003). Blau (1964) emphasised that the starting mechanism of group structure and social interaction is to

reciprocate for benefits gained to keep the exchange relationship going. The second important type is the negotiated, which allows the exchange parties to negotiate the terms and rules to reach a beneficial agreement (Cropanzano & Mitchell, 2005; Mitchell et al., 2012). The two types are different in terms and conditions, but they also differ in the dynamics; the reciprocal exchange generates a lower level of inequality and use of power (Molm, Peterson, & Takahashi, 1999).

In addition, reciprocity generates more substantial affective commitment, trust, perceptions of fairness between the parties and involves one party to trust the willingness of the other party to be obligated to exchange the benefits in the future (Molm, 2003). Blau (1964) suggested that establishing exchange relationships requires an investment that forms a commitment to the other parties. In contrast, negotiated exchange, including assurance based on a contract between the parties, makes trust between parties unnecessary (Lawler & Yoon, 1995).

When two parties provide each other with resources and benefits, they become obligated to return the benefits. High quality and constant social exchange improve the quality of the relationship between the parties and lead to productive behaviours (Blau, 1964), reduce destructive work behaviours and conflicts (Liao, Joshi, & Chuang, 2004), improve performance, knowledge sharing, and citizenship behaviours (Cropanzano, Prehar, & Chen, 2002; Masterson, Lewis, Goldman, & Taylor, 2000). In contrast, an abusive and exploitative social exchange may result in negative relations including, negative work attitudes, performance, well-being, and destructive work behaviour (Harris, Kacmar, & Zivnuska, 2007; Mitchell & Ambrose, 2007; Tepper, Duffy, Hoobler, & Ensley, 2004).

According to Haar (2004), “social exchange theory recognises conditions under which individuals feel obligated to reciprocate when they personally benefit from another’s actions”

(p. 1041). The social exchange started when an organisation, employer, or manager provided rewards or benefits to employees, which obligated employees to exchange the rewards by providing some benefits in return (Blau & Blau, 1986; Gould-Williams & Davies, 2005; Haar & Spell, 2004). Also, SET suggested that employees' valuation of the received benefits such as working conditions, pay, or fringe benefits will be exchanged with more positive work attitudes (Blau, 1964; J. M. Haar, 2006). Therefore, when employees perceive a positive and challenging workplace should reciprocate with better work attitudes and outcomes, while those perceiving distressing and adverse workplace conditions should reflect that with negative work attitudes and outcomes (Emerson, 1976; J. M. Haar, 2006).

2.5.2 ***Social Exchange Theory and Organisational Support***

Perceived organisational support is a crucial asset to improve the organisational culture that integrates the employees' work and the family role and motivates the employees to exceed (Swanberg et al., 2011). Perceived organisational support is defined as employees' perspectives on how their organisation care about their well-being and value their contributions (Caesens, Stinglhamber, & Luypaert, 2014; Gordon, 2020). Organisational support considers as a form of social support in the workplace originating from the General Social Support Theory (Swanberg et al., 2011). Furthermore, organisational support includes general expressions of concern (e.g., emotional support) and tangible assistance (e.g., instrumental support) in intention to enhance the well-being of the employees (U. Ahmed et al., 2016; Swanberg et al., 2011).

Blau (1964) stated that the workforce engages in social exchange relationships expecting their engagement will be reciprocated by the other party. Organisational researchers have been using the concept of SET and the norm of reciprocity to understand the motivational

ground behind the employees' formation of positive attitudes and behaviours (J. M. Haar, 2006; Settoon, Bennett, & Liden, 1996). The norm of reciprocity is a cultural value based on the exchange relationship, give and take, where the exchange between parties is resulting rewards and benefits that reinforce the relationship (Gouldner, 1960). Organisations establishing a high-quality exchange relationship affect the employees' job outcomes (Settoon et al., 1996).

Based on the SET, reciprocity is one of the most crucial rules to elicit a relationship between employers and employees (Gordon, 2020; Rhoades & Eisenberger, 2002). It has been suggested that the commodity of the social exchange act should create an obligation for the other party to return the benefit in the future (Mitchell et al., 2012; Rhoades & Eisenberger, 2002). The literature suggests that when a social exchange is established, employees reciprocate throughout work performance and are involved in beneficial activities to return the benefit to their organisations (Masterson et al., 2000; Sluss, Klimchak, & Holmes, 2008). Therefore, when the organisation treats employees well, employees may return the excellent treatment with positive work outcomes, leading the employees to feel obligated and help achieve the organisation's goal (Birtch, Chiang, & Van Esch, 2016; Gordon, 2020). a study shows that employees with high perceived organisational support reflect that by high commitment HR practices and external equitable reward system (Gordon, 2020).

Moreover, SET suggests that employees who appreciate the rewards and benefits provided by their employers, including fringe benefits, resources, working conditions, or pay, will exchange these benefits with more positive work attitudes and behaviours (J. M. Haar, 2006; Pohl, Bertrand, & Ergen, 2016). Therefore, when employees perceive distressing and negative workplace practices, they will exchange them with adverse work outcomes and attitudes (Albalawi et al., 2019; J. M. Haar, 2006; Wayne, Shore, & Liden, 1997). In contrast,

employees who perceive positive workplace support will reciprocate with positive work outcomes and attitudes (Albalawi et al., 2019; J. M. Haar, 2006).

The basis of organisational support theory is the exchange relationship between employees and organisations (I. Ahmed, Ismail, Amin, & Ramzan, 2011). The different between social exchange theory and organisational support theory is the judgment made based on the value offered by organisations, which later on called perceived organisational support (I. Ahmed et al., 2011). The theory of perceived organisational support is a brainchild of Eisenberger and his fellows (I. Ahmed et al., 2011). In contrast, the relationship between the social exchange theory and organisational support theory that is the root of the organisational support theory belong to the Blau's social exchange theory (I. Ahmed et al., 2011). Therefore, when the employees feel they are supported by their employers they may reciprocate it with some valuable return, and this will be opposite when they feel their organisation is not supporting them (I. Ahmed et al., 2011). Social exchange theory highlights the need of identifying employees needs and then fulfill it, so they feel they are supported by the employer. Eisenberger et al., (1986) are further of view that this notion of commitment makes the basis of social exchange and its application. Therefore, the core concept of the organisational support theory is concept of perceived organisational support which is based on the relationship of employee and organisation (I. Ahmed et al., 2011).

Armeli et al., (1998), comment that meeting social emotional needs of employees can bring positive changes in employees and they feel that they are supported by organization. Along with meeting social emotional needs, organizational support works for affiliation, emotional, self-esteem and social needs. Rhoades et al., (2001) also comment that organizational support shows commitment of organization towards employees in fulfilling their needs and this commitment from organization creates an obligation on employees which is

depicted by their commitment. The commitment shown by organization towards employees is termed as "organizational support". Eisenberger et al. (1986) says that "perceived organizational support" is a significant determinant of commitment with organization (I. Ahmed et al., 2011).

The expectations in this research are that social exchange mediates the relationship between telecommuting support and job outcomes. Therefore, Higher telecommuting support will result in better job outcomes and lower telecommuting support, resulting in fewer job outcomes. The research model for this study is based on Blau's (1964) perspective on SET, as shown in Figures 1 and 2.

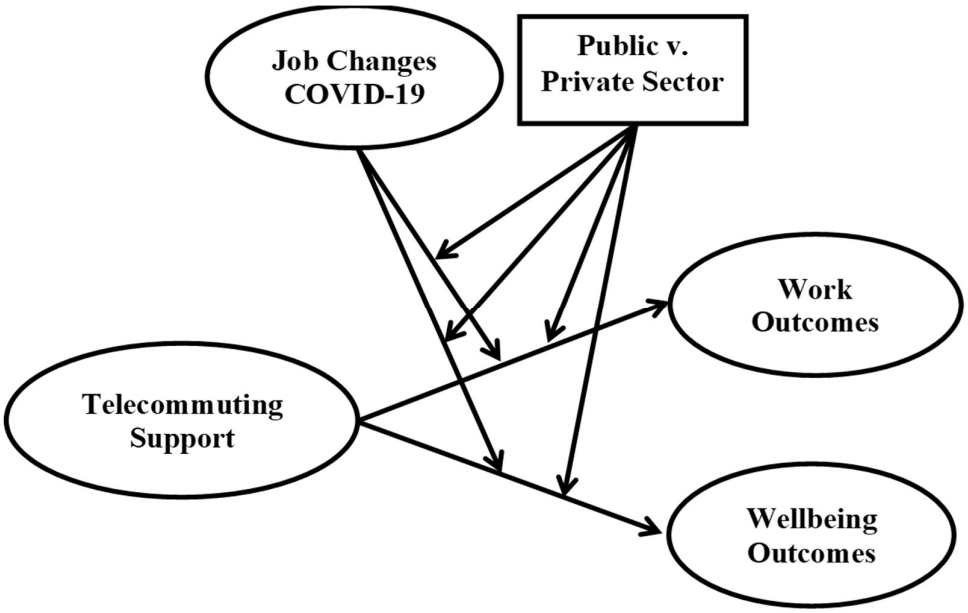


Figure 1. Study Model for Telecommuting Support (Study One).

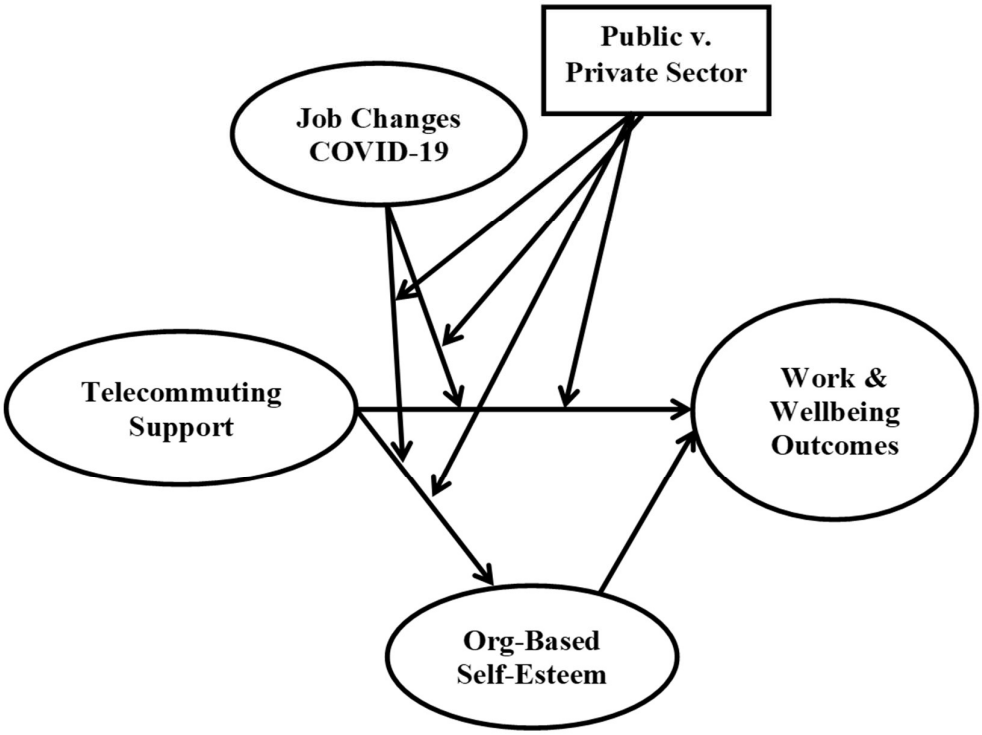


Figure 2. Study Model for Telecommuting Support (Study Two).

The following section details the study outcomes and develops hypotheses aligned with the study models above.

2.6 **Hypotheses**

This section reviews the literature on job and well-being outcomes and predicts hypotheses.

2.6.1 ***Job satisfaction***

Job satisfaction is one of the many benefits associated with telecommuting, and increased job satisfaction is the most cited work outcome in the literature; however, the evidence to support this claim is unclear (Arrington, 2007; Golden & Veiga, 2005). Spector (1997) defined job satisfaction as the magnitude of satisfaction or dissatisfaction of the employees in their jobs. Miao (2011) defined job satisfaction as "the overall sense of well-being at work, and it is internal state based on assessing the job and job-related experiences

with some degree of favour or disfavour" (p. 249). The literature about the relationship between telecommuting and job satisfaction reveals two significant points of view from the research. The first point of view claimed that telecommuting is positively related to job satisfaction because telecommuting provides employees with flexibility that boost their job satisfaction (Gimenez-Nadal, Molina, & Velilla, 2018; Golden & Veiga, 2005; Virick, DaSilva, & Arrington, 2010). The positive connection between telecommuting and job satisfaction is that telecommuting increases the employees' autonomy in doing work and provides flexibility that improves the employees' work-life balance (Gajendran & Harrison, 2007; Virick et al., 2010). Also, telecommuters experience increased social life, less distraction, improve time management, and avoid employees from being involved in office politics (Virick et al., 2010). This view aligns with SET, whereby it is expected that employees will respond positively with higher job satisfaction in return for greater trust from their organisation around telecommuting.

This second point of view suggests that job satisfaction might be negatively related to telecommuting (Golden & Veiga, 2005; Schall, 2019; Song & Gao, 2020). However, there is an alternative view. The negative impact of telecommuting is because when employees telecommute, they work in an isolated environment away from the office and colleagues (Golden & Veiga, 2005). Therefore, the decrease in socialisation with co-workers and supervisors and the increase in feeling isolated lead to low job satisfaction (Golden & Veiga, 2005). Furthermore, telecommuters feel the disturbing career development, lack of supervisor support, the need of balancing work-home duties, and the idea of being out of sight out of mind, which negatively impact their life satisfaction (Virick et al., 2010).

In general, if telecommuting aims to improve work-family conflict and enhance employees' autonomy, this will improve performance, job-related attitude, lower job stress, and overall higher job satisfaction. In contrast, if telecommuting negatively affects career

advancement, work relationships and increases the feeling of isolation, that will result in lower job satisfaction (Bellmann & Hübler, 2020; Gajendran & Harrison, 2007). However, despite the attempt to understand the relationship between telecommuting and job satisfaction, the relationship is still unclear, but there are strong indications of a complex relationship (Arrington, 2007). In research by Golden and Veiga (2005), studying the relationship between telecommuting and job satisfaction, they concluded that telecommuting and job satisfaction is interacting in the curvilinear relationship in a shape of an inverted U-shape. For example, the relationship will be positive when the employees experience a low level of telecommuting, and with a higher density of telecommuting, the relationship will be negative.

Their results show that with less intensity of telecommuting and more time working from the office, employees will feel less isolated and interact with their co-workers, which improves job satisfaction. In contrast, when the telecommuting intensity is high, the employees will feel isolated and lack physical interaction with co-workers, which negatively reflects job satisfaction. However, Golden and Veiga (2005) found that job interdependence moderated the relationship between telecommuting and job satisfaction; for example, telecommuters with a high level of job interdependence experience less job satisfaction than telecommuters with a lower level of interdependence. Therefore, in this thesis, the researcher will examine the relationship between employee perceptions of organisational support for telecommuting and job satisfaction.

Based on the organisational support theory, when organisations value the employees and provide sufficient resources, it will lead to positive outcomes for both the organisations and the employees (Biswas & Bhatnagar, 2013; Cullen et al., 2014). Perceiving a high level of organisational support improve the employees' socio-emotional state and lead to better job attitudes, including job satisfaction (Cullen et al., 2014). Based on Blau (1964) and the norm

of reciprocity, Blau (1964) suggested that employees react to the organisational support by improving their work performance and caring about their organisation. In contrast, if employees feel they do not receive the proper support, that will negatively affect their job attitudes, including job satisfaction (Blau, 1964). Therefore, the literature revealed a significant relationship between organisational support and job satisfaction (Kurtessis et al., 2017; R.-T. Miao, 2011; R. Miao & Kim, 2010; Virick et al., 2010). Therefore, it is hypothesised that:

Hypothesis 1a: Telecommuting support is positively related to job satisfaction.

2.6.2 ***Work Engagement***

Work engagement concept encountered strong focus within the literature in the past decade (Haar, Brougham, Roche, & Barney, 2017; Maden, 2015), and 80% of HR leaders believe that employee engagement is an important issue (Masuda, Holtschlag, & Nicklin, 2017b). Haar, Brougham, Roche, and Barney (2017) define work engagement "as a positive, fulfilling, work-related state of mind; noting that it is a more persistent and pervasive affect-cognitive state that is not focused on any particular object, event, individual, or behaviour" (p.59. The primary approach to work engagement is characterised by the individual's work-related dedication, absorption, and vigour (Gordon, 2020; J. Haar, Brougham, Roche, & Barney, 2017; Masuda, Holtschlag, & Nicklin, 2017b), although I acknowledge there are other ways to explore engagement (e.g., Shuck, Adelson, & Reio, 2017). Employees' engagement in their work could make them feel energised, have a sense of personal fulfilment, work time pass quickly, and feel pride in what they do (Biggs, Brough, & Barbour, 2014; Swanberg et al., 2011; Timms et al., 2015). Employees' work engagement is crucial because it reflects their well-being and relates to many motivational job outcomes (Gordon, 2020).

There are vital benefits associated with work engagement (J. Haar et al., 2017; Rich et al., 2010). These benefits include lower turnover intentions, higher organisational commitment, positive and supportive organisational climate, and increased customer satisfaction (Gerards, de Grip, & Baudewijns, 2018; J. Haar et al., 2017; Timms et al., 2015). The three dimensions of work engagement, vigour, absorption, and dedication are significantly correlated with individual innovation, learning goal orientation, job satisfaction, and feedback inquiry (Gordon, 2020; J. Haar et al., 2017). Furthermore, engaged employees are most likely to be committed, involved, satisfied, adaptive and proactive (Gordon, 2020). Study shows that engaged employees perform with resilience, zeal, zest, and giving their best to their work (U. Ahmed et al., 2016). Therefore, scholars have proposed different methods to increase work engagement (Gerards et al., 2018).

Remote working can improve employees' work engagement by fostering efficient communication and increasing employee process control (Gerards et al., 2018). Furthermore, telecommuting can enhance work engagement by increasing employees' autonomy, reducing role conflict, and reducing time pressure (Gerards et al., 2018). Remote working reduces work-family conflict by providing employees with the autonomy to choose flexible working hours when family needs arise, leading to better work engagement(Swanberg et al., 2011). Overall, the positive outcomes of work engagement make it an important topic for human resource managers to consider (J. Haar et al., 2017; Swanberg et al., 2011), such as understanding the relationship between telecommuting support and work engagement.

Empirical studies focused on work engagement predictors indicated specific workplace environment characteristics to cultivate work engagement (U. Ahmed et al., 2016; Swanberg et al., 2011). The characteristics reported to be related to work engagement include supervisor and organisational support (Gordon, 2020; Swanberg et al., 2011). Furthermore, empirical

studies focused on the influence of social support on work engagement have precisely investigated co-worker support and supervisor support (Caesens et al., 2014). In contrast, perceived organisational support has been less investigated (Caesens et al., 2014). Indeed, the latest meta-analysis (Kurtessis et al., 2017) did not include engagement. Therefore, the present study will focus on the relationship between perceived telecommuting support and work engagement.

Studies show that perceived organisational support could be a great value in work engagement by improving employees' dedication, vigour and fostering energy (U. Ahmed et al., 2016; Bakker & Bal, 2010; Rich et al., 2010). Similarly, other studies show a significant impact of perceived organisational support on work engagement (U. Ahmed et al., 2016). A study by Caesens, Stinglhamber, &Luypaert (2014) shows that perceived organisational support is positively related to work engagement ($\beta = 0.13$, $p < 0.05$). As such, it is expected that when organisational support targets specifically telecommuting, this will encourage felt obligations under SET (Haar & Spell, 2004) and lead to greater engagement. Therefore, it is hypothesised that:

Hypothesis 1b: Telecommuting support is positively related to work engagement.

2.6.3 ***Turnover Intention***

Turnover intention is defined as the employees' intentions to voluntarily leave their jobs (Wickramasinghe & Wickramasinghe, 2011). It is important to mention that turnover intention is distinct from the actual turnover, as the first refers to thoughts about leaving and the probability of leaving the job (Cohen, Blake, & Goodman, 2016). Turnover intention is one of the work outcomes studied most in organisational research because it can be costly for organisations (Jano, Satardien, & Mahembe, 2019; Maertz Jr et al., 2007). The costs associated

with turnover intention include recruitment, training, relocation, leave capitalisation, and induction costs (Jano et al., 2019).

Furthermore, when organisations lose their talented employees, that will advantage the competitors because their business strategies will be exposed to the new employer (Jano et al., 2019). Also, turnover intentions affect the employee-customer relationship and internal employees (Aliyu & Nyadzayo, 2018). Human capital is becoming the primary source of competitive advantage. Therefore, it is becoming crucial for organisations to retain their talented employees (Maertz Jr et al., 2007). Based on the negative impact of the turnover intentions, organisations must improve policies and behaviours that reduce employees retentions (Jano et al., 2019).

The ability to help employees' retention is one of the most cited advantages of telecommuting (Gajendran & Harrison, 2007; Pinsonneault & Boisvert, 2001). Therefore, organisations have recommended adapting telecommuting arrangements as a form of employment to attract and retain their talented individuals (Vega, 2003). Telecommuting arrangements reduce turnover intentions because it improves employees work flexibility (De Menezes & Kelliher, 2011), lower work exhaustion, employees autonomy (Gajendran & Harrison, 2007), quality of life, and work-family conflict (Pinsonneault & Boisvert, 2001). Besides telecommuting, perceiving organisational support significantly influences turnover intentions (Jano et al., 2019).

Based on the theory of organisational equilibrium by March and Simon (1958), employees' decisions to keep working for an organisation are related to the balance between the resources provided by the organisation and the performance expected by the employees. It has been proven that perceiving organisational support is enhancing organisational citizenship behaviour (Isfahani & Rezaei, 2017), job satisfaction (Kurtessis et al., 2017), corporate

entrepreneurship (Rutherford & Holt, 2007), job performance (Eisenberger, Cummings, Armeli, & Lynch, 1997), employee innovativeness (Mummedy, 2008), and increasing the employees' level of trust which leads to reduce turnover intentions (Rhoades & Eisenberger, 2002). Furthermore, providing attitudinal or tangible support encourages employees to stay with their employer (Maertz Jr et al., 2007.

Overall, there is a significant relationship between perceived organisational support and turnover intentions (Gajendran & Harrison, 2007; Maertz Jr et al., 2007; Tumwesigye, 2010). Concerning organisational support towards telecommuting, it is expected that employees who rate their organisation strongly on support will respond with lower turnover intentions. This result is because the mechanism under SET means employees feel obligated to stay in return for the superior support around telecommuting, they perceive. Therefore, it is hypothesised that:

Hypothesis 1c: Telecommuting support is negatively related to turnover intentions.

2.6.4 ***Well-being Implications of Telecommuting***

The productivity of every individual is directly associated with their well-being and health status (Elst et al., 2017). Good physical health and mental well-being assist people in working more efficiently and increasing productivity (Hager, 2018). The outbreak of Covid-19 introduced the world to a new health crisis along with economic challenges. The containment measures during Covid-19 to control the spread of the disease increased the need for remote working practices across countries (Mahmoudi & Zhang, 2020). Telecommuting seemed to be the temporary and reliable option to continue business operation and save jobs amidst the Covid-19 crisis (O'Brien, & Aliabadi, 2020). With the increase in the shift from office-based operations to teleworking practices, the concerns about the well-being of workers

also increased. Various researchers have studied domains associated with the implication of telecommuting on human health and well-being (Escudero-Castillo, Mato-Díaz, & Rodriguez-Alvarez, 2021).

2.6.5 *Telecommuting support and well-being*

According to the organisational health research model, employee well-being impacts organisational performance, including discretionary performance, compensation claims, medical expenses, customer satisfaction, turnover, absenteeism, job and life satisfaction (Gordon, 2020; Kubayi, 2018). Hence, higher telecommuting support is expected to influence well-being because employees believe their organisation will support and aid when needed. Therefore, Kurtessis et al. (2017) state that supports perceptions influences well-being through psychological mechanisms, such that support "should fulfil socioemotional needs, increase the anticipation of help when need" (p. 1871).

Telecommuters usually work from home, including working in a co-working centre, on the road, a digital work hub, or other remote contexts (Bentley et al., 2016). However, in most scenarios, telecommuters are physically isolated from their colleagues and organisation, which raised the concern about how telecommuters connect to their colleagues and the organisation and how the organisation can support the employees to improve telecommuters' satisfaction, safety, well-being, and performance (Bentley et al., 2016). Therefore, organisations need to react to the opportunities and challenges of new ways of working and technologies, including how the new work environment affects well-being outcomes (Axtell et al., 2002). The present study explores several well-being outcomes including, happiness, job anxiety, job depression, and work-life balance.

2.6.6 ***Happiness***

Happiness reflects "the propensity to experience frequent positive emotions, e.g., joy, interest, pride, pleasure, and infrequent negative emotions" (Haar, Schmitz, Fabio, & Daellenbach, 2019). Hence, happy employees are those with more positive and less negative emotions. Happiness research shows it positively influences several critical organisational outcomes, including firm productivity, job performance, and lowering the turnover amongst an organisation's workforce (Cooper, 2010; Waal, 2018; Wright, Cropanzano, & Bonett, 2007).

Bakker and Oerlemans (2011) explored happiness amongst employees and found it was positively related to higher interest in work and more remarkable persistence with work difficulties. Further, Lyubomirsky, King, and Diener (2005) suggest that a happy workforce leads to more positive well-being outcomes, including personal health and work. Hence, happy workers try more challenges and are more interested in their work. Despite the benefits associated with happiness, there is little research about how organisations can increase employees' happiness (J. Haar, Schmitz, Di Fabio, & Daellenbach, 2019). However, considering that employees are spending on average between 35 and 50 hours per week working, it can be assumed that perceiving organisational support may positively impact employees' happiness (Bajaj & Krishnan, 2016).

Researchers agreed that perceived organisational support is an exchange relationship between employee and employer (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Wayne et al., 1997). Therefore, employees feel obligated to return the organisational support in the shape of attitudes, behaviours, engagements, and overall better work and well-being outcomes that support their organisation (Eisenberger et al., 1986). Perceived organisational support affects the employees' overall reactions toward their jobs, including positive mood, job satisfaction (Rhoades & Eisenberger, 2002), and happiness (Fard, Seyedyousefi, & Tohidi, 2015). The findings in research by Bajaj and Krishna (2016) shows that perceived

organisational support is significantly related to happiness. Theoretically, under SET, employees perceiving higher support (specifically towards telecommuting) feel like their organisation 'has their back' and will provide support when needed. This naturally leads to higher happiness. Therefore, it is hypothesised that:

Hypothesis 2a: Telecommuting support is positively related to happiness.

2.6.7 ***Work-life Balance***

Scholars and organisations have become noticeably concerned with the connection between work and family, suggesting that organisational factors play a vital role in improving work-family tension (Dixon & Sagas, 2007). Carson and Kacmar (2000) suggested that when an organisation helps employees achieve a balance between family and work will result in a better job, family, and life satisfaction. Haar (2013) defines work-life balance as "the extent to which an individual can adequately manage the multiple roles in their life, including work, family and other major responsibilities" (p. 3308). Empirical tests have shown work-life balance to be distinct from work-family conflict (Haar, 2013; Haar et al., 2014) and work-family enrichment (Haar, 2013). Social exchange theory has been used to understand the relationship between job attitudes and work-family practices (e.g. when an organisation supports work-family practices), positively reflecting on the employees' job attitudes (Haar & Spell, 2004; J. M. Haar & Roche, 2010). Hence, at least theoretically, there are links between work-life balance and social exchange theory.

Furthermore, work-family conflict increases job stress, leading to adverse outcomes, including lower job satisfaction and well-being, including lower job anxiety (Haar, 2013). There is well-established literature about the negative relationship between work-family conflict, job satisfaction, and life satisfaction (Dixon & Sagas, 2007; Kubayi, 2018). Research

by Kossek and Ozeki (1998) shows that the correlation between work-family conflict and life satisfaction is -.23, and the relationship between them is negative and reported to be -.31. Furthermore, Allen et al. (2000) reported the correlation as -.24 and the relationship as -.28.

Allen (2001) suggested that organisational support (e.g., technical support, programs, flexible scheduling, training) reduces work-family conflict because the organisational support would help employees navigate the difficulty of multiple life roles and show a commitment to the employees' welfare. Furthermore, Martinez and Paraguay (2003) found that working conditions and environment might interfere in the perception of employees' well-being. In their cross-cultural study of four countries, Haar et al. (2019) found supervisor support was positively related to work-life balance, reinforcing these potential links. The expected positive influence is because work occupies a large portion of the employees' lifespan and affects how they relate to others and impact their financial situation (Pauli, Chambel, Capellari, & Rissi, 2018). Therefore, it is hypothesised that:

Hypothesis 2b: Telecommuting support is positively related to work-life balance.

2.6.8 ***Job Anxiety and Job Depression***

Axtell et al. (2002) defined job anxiety and job depression as "Anxiety can be considered as low pleasure and high mental arousal, whereas depression and sadness can be thought of as low pleasure and low arousal" (p. 222). Employee studies place job anxiety and job depression as critical factors for understanding employee well-being. Some studies focus on one dimension, like anxiety (e.g., Haar, 2013) or depression (e.g., Brougham & Haar, 2017). However, studies often address both dimensions because this provides a fuller picture of well-being. For example, Brougham and Haar (2013) explored both job anxiety and depression in a

study of Maori employees and collectivism. Similarly, Haar and Brougham (2020) used anxiety and depression as outcomes of team-based support perceptions.

Depression and anxiety are increasing in the workplace, and a lack of treatment for employees with depression or/and anxiety may lead to poor concentration and fatigue, affecting employees' job performance and well-being (Haslam, Atkinson, Brown, & Haslam, 2005; Virtanen, 2008). Therefore, organisations have been considering a comprehensive range of plans and initiatives in response to the work change (Axtell et al., 2002). In addition, it has been argued that organisational support is crucial to enhance telecommuters' well-being, satisfaction and reduce the loss of well-being and satisfaction due to the social isolation associated with telecommuting (Bentley et al., 2016).

Organisational support, including reinforcement, providing resources, communication, and encouragement to employees to perform their duties effectively, is essential in organisational success and positive work outcomes (Labrague & De los Santos, 2020). In addition, Labrague and Santos (2020) stated that higher organisational support is helpful to reduce the impact of stressors in the workplace and might be a protective factor from anxiety and stress caused by the changes in the workplace. The increased level of organisational support is associated with lower anxiety ($\beta = -.127$, $p = .023$) (Labrague & De los Santos, 2020). In contrast, The lack of organisational support is associated with an increased risk of depression and anxiety (Virtanen, 2008). As with happiness above, higher support perceptions around telecommuting assure employees that if anything goes wrong – specifically around telecommuting – their organisation will be there to help. This relationship aligns with SET and support perceptions. Hence, telecommuting support is expected to be linked to lower job anxiety and lower job depression. Therefore, it is hypothesised that:

Hypothesis 2: Telecommuting support is negatively related to (c) job anxiety and (d) job depression.

2.7 **Moderators**

As per the study models 1 and 2, two moderators are included to explore whether two context variables influence the influence of telecommuting support: (1) Covid-19 job changes and (2) sector. These are discussed presently. For both, arguments for both direct and moderation effects are offered.

2.7.1 ***Covid-19 Job Changes***

The outbreak of the Covid-19 posed an actual threat to the world health system and created an economic and financial crisis (O'Brien, & Aliabadi, 2020). The containment measures amidst the Covid-19 helped slow down the spread of the disease. However, these measurements impacted many societies, including work and life roles, resulting in critical economic issues across various nations (Borio, 2020). Different organisations and small businesses lost their revenues due to the closure of offices to mitigate the chances of the Covid-19 widespread. For example, tourism companies and hospitality businesses. Since businesses were closed during lockdowns and in some periods, the partial operation was allowed; therefore, revenues were impacted (Mahmoudi & Zhang, 2020).

In New Zealand, organisations could not operate on full strength, and thus some of the employees lost their jobs while others got only a fraction of their typical salary (Stamp et al., 2021). The rise in unemployment and overall economic crises become prominent in the early months of the Covid-19 (Adams-Prassl et al., 2020). Various companies around the globe introduced telecommuting as a response to the economic and financial crisis and to keep their

business operation to a level that can create some revenue to finance the workforce salary and retain their employees during the difficult time (Arslan, Gölgeci, & Larimo, 2020). Telecommuting thus becomes a survival option for businesses and overall economies.

Telecommuting is not a new phenomenon; it existed before the Covid-19 due to the various benefits to the stakeholders. Strong work-life balance and flexibility can be facilitated by telecommuting, which can result in employee job satisfaction and productivity (Gajendran & Harrison, 2007; Chang, Chien, & Shen, 2021). It also enables the reduction in environmental hazards caused by mobility. Telecommuting also reduces transport expenditure since workers do their job from home and do not require daily transport service. Despite the benefits, the adoption of telecommuting practices across various countries is moving more slowly than expected (Arora, Khatri, & Khatri, 2020). Therefore, at the start of 2020, various countries recommended that organisations should facilitate and adopt teleworking to avoid staff gathering (Loia, & Adinolfi, 2021).

Initially, it was found difficult since; the level of experience working remotely among workers varies, and therefore, the transition from office-based working practices to remote working was not smooth (Belzunegui-Eraso & Erro-Garcés, 2020). Moreover, communication within an organisation also becomes difficult due to variable experiences among workers. Online meetings become part of the routine, which creates difficulty for those employees who are technically challenged.

As mentioned earlier, telecommuting is not new working practice for various organisations and therefore, they were able to operate with minimal losses during the Covid-19 as most of their workers were familiar with home-based working practices (O'Brien & Aliabadi, 2020). However, it is only applicable to occupations that can smoothly be done remotely using various technologies, such as technical, managerial, sales, and clerical jobs.

Moreover, the intensity of remote work varies depending on the countries' economic and technological development (O'Brien & Aliabadi, 2020). Employees who must be physically present in the workplace are less likely to benefit from the opportunity of working from home amidst the Covid-19.

Occupations such as construction, agriculture, healthcare, and supermarket are among those occupations that could not be done remotely (Bouziri et al., 2020). Telecommuting before Covid-19 was generally used as a "voluntary work arrangement" and was also occasional or part-time for most workers (Mahmoudi & Zhang, 2020). Contrarily, remote working practices can be seen to be typically full-time and mandatory amidst the Covid-19 pandemic. Initially introduced as a short-term and temporary solution to contain the Covid-19 spread. Telecommuting has allowed organisations to continue business operations and retain employees in many countries for more than a year (Sischka & Steffgen, 2021). Although various countries have been able to vaccinate and workers have returned to offices in some regions, thus telecommuting practices will continue until they succeed in containing the disease (Sischka, & Steffgen, 2021).

As noted earlier, the use of remote working increased dramatically with the onset of the Covid-19 pandemic at the start of 2020 to continue business operations following the Covid-19 lockdown in 2020 (Chang, Chien, & Shen, 2021). Some occupations, such as technical and high professional sectors, completely shifted their working practices to telecommuting, while organisations with various jobs adopt a "hybrid" system of operation for their businesses (Sischka, & Steffgen, 2021). A hybrid system refers to working conditions based on working practices and remote work (Lizana & Vega-Fernadez, 2021).

In New Zealand, before reporting the first Covid-19 on the 28th of February 2020, it was reported the most significant movement in telecommuting in the global organisation

history (Filed, 2020). Research shows that in various countries, the workforce has shifted quickly to full-time working from home from a centralised office, such as in New Zealand, where the shift is estimated to be 29% of the workforce in response to control the virus (Green, Tappin, & Bentley, 2020). Organisations in New Zealand continued telecommuting throughout all restriction levels of the pandemic (Carroll, 2020). It has been estimated that between 27-31 per cent of the total workforce in New Zealand were telecommuting full-time during alert levels three and four between the 23rd of March and the 11th of May 2020 (Green et al., 2020). Most telecommuters have jobs in urban offices, especially in the financial, communications and technology, professional, public services sectors, and administrative (Green et al., 2020). As discussed above, various occupations could not utilise the telecommuting opportunity due to the nature of their work.

The health crisis turned the economic crisis of the coronavirus impacted humankind's social and work life and increased the use of telecommuting in almost every part of the world; however, the shift is more common in technologically advanced nations (Waizenegger et al., 2020). Countries with an informal economy have a more significant share in GDP and face extended impacts on their economies (Waizenegger et al., 2020). Highly developed regions with advanced technology were able to utilise information and communication technology to adopt telecommuting while maintaining the safety of their workforce.

Shutting down businesses and industries because of Covid-19 created a wide array of new challenges for employers and employees, including changing the way of work, telecommuting, and changing policies (Kniffin et al., 2021; Shen et al., 2020). Before the Covid-19 outbreak, employees were voluntarily able to telecommute or work from an office, but after the outbreak, employees were forced to stay at home and work remotely (Kniffin et al., 2021). The new work environment created work and out of work-related stressors that

affected the employees' job-related well-being. The work changes forced employees to adopt new ways of telecommunications, interacting with colleagues, and work-life balance (Mihalache & Mihalache, 2021). Therefore, employees can experience different work outcomes because of the additional social, psychological, and work demands associated with Covid-19 (Mihalache & Mihalache, 2021).

Two potential effects are expected from Covid-19 job changes. With regards to the direct effects, drawing on the job insecurity literature (e.g., Shoss, 2017), this represents a potential threat to the job and thus is expected to have detrimental effects. Meta-analyses support those job insecurity perceptions are negatively related to work and well-being outcomes (Sverke, Hellgren, & Näswall, 2002; Jiang & Lavaysse, 2018). Hence, it is expected that Covid-19 job changes will directly affect work and well-being outcomes. Further, the interaction effect of Covid-19 job changes is explored. In this context, where the job may be under threat, it is expected that New Zealand employees perceiving greater changes to their job from Covid-19 are more likely to respond positively to telecommuting support. Hence, they are expected to report higher job satisfaction, work engagement, happiness and work-life balance, lower turnover intentions, job anxiety and job depression. This is because the context of higher Covid-19 job changes means the employee is more likely to react with more substantial felt obligations under SET. Indeed, SET studies have called for contextual elements to be included (e.g., Nakonezny & Denton, 2008; Lawler & Thye, 1999), and there is empirical support for moderating effects under SET (e.g., Yin, 2018). In their meta-analysis of perceived organisational support, which is predicated on SET, Kurtessis et al. (2017) noted that moderating effects are expected in the context of support under SET, although that analysis only considered demographic variables. Here, it is expected that Covid-19 job changes will interact with telecommuting support leading to more beneficial effects when support is high. This leads to the following hypotheses:

Hypothesis 3: Covid-19 job changes are negatively related to (a) job satisfaction and (b) work engagement.

Hypothesis 3c: Covid-19 job changes are positively related to turnover intentions.

Hypothesis 4: Covid-19 job changes are negatively related to (a) happiness and (b) work-life balance.

Hypothesis 4: Covid-19 job changes is positively related to (c) job anxiety and (d) job depression.

Hypothesis 5: Covid-19 job changes will interact with telecommuting support towards (a) job satisfaction and (b) work engagement. The highest job satisfaction/work engagement will be when both are high.

Hypothesis 5c: Covid-19 job changes will interact with telecommuting support towards turnover intentions. The lowest turnover intentions will be when both are high.

Hypothesis 6: Covid-19 job changes will interact with telecommuting support towards (a) happiness and (b) work-life balance. The highest happiness/work-life balance will be when both are high.

Hypothesis 6: Covid-19 job changes will interact with telecommuting support towards (c) job anxiety and (d) job depression. The lowest job anxiety/job depression will be when both are high.

2.7.2 ***Sector Differences***

Beyond the external context of Covid-19 job changes, a second moderator is included around the sector that New Zealand employees work in. Organisations in the public sector tend to provide their employees with supportive programs and culture due to the hive exposure to the public area and being subjective to higher normative pressure (Dolcos & Daley, 2009; Ingram & Simons, 1995). Governmental institutes can use their power to create, legitimate, or approve policies for organisations in the public sector to adapt (Dolcos & Daley, 2009). Also, there has been increasing interest in studying public sector organisations in research because most previous studies focused on the private sector (Hansen & Kjeldsen, 2018). Overall, there is a lack of research exploring potential differences between sectors on job and well-being outcomes (Dolcos & Daley, 2009). As per the Covid-19 job changes context, both direct and

moderation effects are explored. It is expected that public sector workers might enjoy more positive work and well-being experiences and interact with telecommuting support also to be beneficial. For that purpose, it is hypothesised:

Hypothesis 7: Public sector is positively related to (a) job satisfaction and (b) work engagement.

Hypothesis 7c: Public sector is negatively related to turnover intentions.

Hypothesis 8: Public sector is positively related to (a) happiness and (b) work-life balance.

Hypothesis 8: Public sector is negatively related to (c) job anxiety and (d) job depression.

Hypothesis 9: Public sector will interact with telecommuting support towards (a) job satisfaction and (b) work engagement. The highest job satisfaction/work engagement will be when both are high.

Hypothesis 9c: Public sector will interact with telecommuting support towards turnover intentions. The lowest turnover intentions will be when both are high.

Hypothesis 10: Public sector will interact with telecommuting support towards (a) happiness and (b) work-life balance. The highest happiness/work-life balance will be when both are high.

Hypothesis 10: Public sector will interact with telecommuting support towards (c) job anxiety and (d) job depression. The lowest job anxiety/job depression will be when both are high.

Finally, these two moderators are combined to explore dual moderators (Hayes, 2018). Because that allows the two moderators to be tested together, and such approaches are common in the employee literature (e.g., Haar, Schmitz, Di Fabio, & Daellenbach, 2019). In this combination, experiencing high Covid-19 job changes and working in the public sector are expected to be most advantageous. This leads to the following three-way moderation effects.

Hypothesis 11: Covid-19 job changes and public sector will interact with telecommuting support towards (a) job satisfaction and (b) work engagement. The highest job

satisfaction/work engagement will be when telecommuting support and Covid-19 job changes are high for employees in the public sector.

Hypothesis 11c: Covid-19 job changes and public sector will interact with telecommuting support towards turnover intentions. The lowest turnover intentions will be when telecommuting support and Covid-19 job changes are high for employees in the public sector.

Hypothesis 12: Covid-19 job changes and public sector will interact with telecommuting support towards (a) happiness and (b) work-life balance. The highest happiness/work-life balance will be when telecommuting support and Covid-19 job changes are high for employees in the public sector.

Hypothesis 12: Covid-19 job changes and public sector will interact with telecommuting support towards (c) job anxiety and (d) job depression. The lowest job anxiety/job depression will be when both are high.

2.7.3 ***Organisational-Based Self-Esteem (OBSE)***

OBSE reflects the degree to an employee believes that they can satisfy their needs by engaging in roles in their organisations and workplace (J. M. Haar & Brougham, 2016; Tran Huy & Dinh, 2021). Employees develop their OBSE through work experiences such as relationships with work, self-evaluations, organisation alignment, and roles' comfort (Ghafoor & Haar, 2020). Employees with a high level of OBSE believe they are significant, capable, and worthy for their organisations and feel confident about their performance and optimistic about themselves (J. M. Haar & Brougham, 2016; Yang, Zhang, Kwan, & Chen, 2018). Also, strong OBSE in the workplace leads to better confidence and competence in creating supportive family relationships and improving overall family health and well-being (Yang et al., 2018).

OBSE is positively liked to the work outcomes, improve employees' attitudes, behaviours, motivation, engagement, and work performance (J. M. Haar & Brougham, 2016). The positive link between OBSE and work outcomes occurs because employees recognise the organisation's contributions to their work, leading the employees to reciprocate by creating

positive and proactive contributions to their organisations (J. M. Haar & Brougham, 2016). Aligned with the SET (Blau, 1964) suggests that employees who appreciate the rewards and benefits provided by their employers, including fringe benefits, resources, working conditions, or pay, will exchange these benefits with more positive work attitudes and behaviour (Pohl et al., 2016). Overall, strong meta-analysis evidence that OBSE is beneficial to work and well-being outcomes (Bowling, Eschleman, Wang, Kirkendall, & Alarcon, 2010).

Beyond OBSE being beneficially related to outcomes, it is also included in study two as a mediator. Thus, the theoretical model tests whether the influence of telecommuting support is best understood as occurring through OBSE. Studies have found that OBSE plays a mediating role, including organisational climate on creativity (Ghafoor & Haar, 2020) and between perceived organisational support and counterproductive work behaviours Abas, Omar, Halim, & Hafidz, 2015). Similarly, Sholikhah, Wang, and Li (2019) found that OBSE mediated leadership style effectiveness on worker behaviours. Under SET, it is expected that high telecommuting support will be reflected with high OBSE. Further, while OBSE is expected the influence work and well-being outcomes as per the meta-analysis (Bowling et al., 2010), it is also expected to mediate the effect of telecommuting support.

Therefore, it is hypothesised:

Hypothesis 13: Telecommuting Support is positively related to organisational-based self-esteem.

Hypothesis 14: Organisational-based self-esteem will be positively related to (a) job satisfaction and (b) negatively related to turnover intentions.

Hypothesis 15: Organisational-based self-esteem will positively relate to (a) happiness and (b) work-life balance.

Hypothesis 15: Organisational-based self-esteem will be negatively related to (c) job anxiety and (d) job depression.

Hypothesis 16: Organisational-based self-esteem will mediate the influence of telecommuting support to (a) job satisfaction and (b) turnover intentions.

Hypothesis 17: Organisational-based self-esteem will mediate the influence of telecommuting support to (a) happiness and (b) work-life balance.

Hypothesis 17: Organisational-based self-esteem will mediate the influence of telecommuting support to (c) job anxiety and (d) job depression.

2.8 **Moderated Mediation**

The final set of hypotheses is related to study 2 only. In study 2, OBSE is included as a mediator. Plus, Covid-19 job changes and sector are both included as moderators. As such, a moderated-moderated-mediation model is ultimately tested. Such models are pretty rare (Hayes, 2018), although empirical evidence exists of their effect (Haar, Schmitz, Fabio, & Daellenbach, 2019). Ultimately, in such a model, the indirect effect of telecommuting support is tested on outcomes, through OBSE as the mediator, and dependent on both Covid-19 job changes and sector. Thus, the effect of telecommuting support is expected to become stronger in the context of Covid-19 job changes and especially so for employees within the public sector. This leads to the final set of hypotheses.

Hypothesis 18: The indirect effect of telecommuting support towards (a) job satisfaction and (b) turnover intentions via OBSE will be moderated by Covid-19 job changes and public sector (moderated-moderated-mediation), being most beneficial for high Covid-19 job changes and public sector employees.

Hypothesis 19: The indirect effect of telecommuting support towards (a) happiness and (b) work-life balance via OBSE will be moderated by Covid-19 job changes and public sector (moderated-moderated-mediation), being most beneficial for high Covid-19 job changes and public sector employees.

Hypothesis 19: The indirect effect of telecommuting support towards (c) job anxiety and (d) job depression via OBSE will be moderated by Covid-19 job changes and public sector (moderated-moderated-mediation), being most beneficial for high Covid-19 job changes and public sector employees.

Chapter 3 METHODS

This chapter shows details of the research design, including data collection, measures, and analysis. Data was obtained by Professor Jarrod Haar (PhD) through two survey panels with respondents asked to join if they met the qualifications in CINT's database. The data of manuscript one was collected in April 2020 (N=446) and data from manuscript two was collected in May 2020 (N=377). The research for this thesis has been granted the Ethics Approval number 18/326 on the 16th of April 2020 by Auckland University of Technology Ethics Committee (AUTEC) (see appendix 4).

3.1 **Participants and Samples**

Nuzzo (2014) argued that empirical studies need to replicate studies for researchers to have confidence in study findings. This relates to the statistical tests and how data and effects can vary widely. Hence, this thesis conducted two samples of employees. Further, given the focus on sectors, where evidence exists that employees can perceive employer actions differently (Bedi et al., 2016), data was collected from employees in the (1) public sector and (2) private sector.

In study one, a total of 446 employees were recruited in 2020 via a Qualtrics panel survey. Focused on New Zealand employees, and respondents had to meet three criteria: (1) they were in paid work, with a minimum of 20 hours per week. This ensured they had sufficient work experience to reflect on; (2) they were 18 years of age or over. This was to ensure respondents understood the work expectations and experiences; (3) they worked in the public or private sectors only. Data from study one was collected in April 2020. This occurred during the first nationwide lockdown in New Zealand. Data from study two was collected at the end of May 2020 at the end of lockdown and represented when New Zealand employees might have returned to their workplaces (or started to return).

The Qualtrics panel approach has an extensive representative database of New Zealand employees who are potential participants in any study. Those that meet the criteria detailed

above are sent an invitation on a representative basis (primarily by geographical location and gender). Respondents are confidential and thus anonymous, and researchers never know how many invitations are sent. Qualtrics is quality assured and removes respondents who complete the survey too fast or too slow. Respondents are paid. See Haar (2021) and Haar, O'Kane and Daellenbach (2021) for more details on such panels. These panels have provided adequate employee samples that have generated valuable insights (e.g., Haar, 2021; Haar et al., 2021). Walter, Seibert, Goering conducted a recent meta-analysis, and O'Boyle (2019) compared conventionally sourced data and data from such panels and found no significant differences. Overall, respondent demographic details are shown in Table 1.

Table 1. Demographic Breakdown of Study Participants

Demographic Factor	Study One	Study Two
Sample Size	N=446	N=377
Sector:		
Private	57.0%	66.3%
Public	43.0%	33.7%
Gender:		
Male	43.7%	49.9%
Female	56.1%	50.1%
Age (years)	37.9 (SD= 12.9)	40.3 (SD=14.8)
Tenure (years)	5.8 (SD=6.2)	5.9 (SD=6.0)
Firm Size:		
Micro (under 10 employees)	14.1%	20.4%
Small (10-50 employees)	26.5%	20.4%
Medium (51-250 employees)	22.6%	23.3%
Large (250-1000 employees)	20.0%	15.1%

Very large (1001+ employees)	16.8%	20.7%

3.2 **Measures**

Most measures were collected in both studies, although a few constructs were explored only in study one or two. This has been noted below.

3.2.1 ***Predictor:***

Telecommuting Support was measured using a unique construct developed for both studies. This consisted of three items, coded 1=strongly disagree, 5=strongly agree. Most studies exploring telecommuting or working from home operationalise the construct as a dichotomous value: 1=yes, 0=no. However, in the context of a nationwide lockdown (sample one) and post-lockdown (sample two), most New Zealand employees either had to work from home or were furloughed. Consequently, the focus became on how well organisations supported telecommuting. Factor analysis (principal components, direct oblimin rotation) was conducted to establish the psychometric properties of the construct. Items and their psychometric properties are shown in Table 2.

Table 2. Results of Exploratory Factor Analysis for Telecommuting Support (both Samples

Questions follow the stem "My organisation…" and were coded 1=strongly disagree, 5=strongly agree	Factor Loadings	
	Sample One	Sample Two
1. Allows workers to work from home	**.936**	**.900**
2. Provides help setting up employees to be able to work from home (e.g., Internet, laptop etc.)	**.934**	**.881**
3. Understands working from home might be needed in special situations (e.g., health emergencies)	**.929**	**.880**
Eigenvalues	2.611	2.362

Percentage variance	87.1%	78.7%
Number of items in measures	3-items	3-items
Cronbach's Alpha	.93	.87

The analysis from both samples showed the data loaded onto a single factor. These met all minimum psychometric properties: all three items in each sample had a factor loading of over 0.80, eigenvalues were greater than one, a robust amount of variance was accounted for, and being a new construct, high reliability was also found (α >.80, Cortina, 1993). Indeed, Nunnally (1978) recommends an alpha value at 0.80 (see Lance, Butts, & Michels, 2006).

3.2.2 ***Job Outcomes:***

Job Satisfaction was measured in both samples using three items from Judge, Bono, Erez, and Locke (2005), coded 1=strongly disagree, 5= strongly agree. Sample items are "Most days I am enthusiastic about my work" and "I feel fairly satisfied with my present job". This measure has been well validated in New Zealand (e.g., Haar, 2013) and across cultures (e.g., Haar et al., 2014). The measure had excellent reliability across both studies (α= .88 sample one and α= .91 sample two).

Work Engagement was measured in sample one only using Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002a) and Schaufeli, Martínez, Pinto, Salanova, and Bakker (2002b) nine-item measure, coded 1=never, 5=always. The Utrecht engagement construct is the most popular engagement construct and is well-validated (see Bailey, Madden, Alfes, & Fletcher, 2017). This includes strong validation in New Zealand (see Haar, Roche, & ten Brummelhuis, 2018a, Haar et al., 2018b; Haar, Brougham, Roche, & Barney, 2017; Carr et al., 2019). Empirical testing of the construct has demonstrated discriminant validity relative to similar theoretically related concepts. For example, workaholism (Schaufeli, Taris, & Van Rhenen, 2008). The three dimensions, a sample item and the individual reliabilities are Vigor (3-items), "When I get up in the morning, I feel like going to work" (α= .88), dedication (3-

items), “I am proud of the work that I do” (α= .86), and absorption (3-items), “I feel happy when I am working intensely” (α= .76). Schaufeli and Bakker (2010) argued that highly engaged employees are expected to be high on all three engagement dimensions. Hence, an overall work engagement construct was calculated (Bakker & Xanthopoulou, 2009), which had excellent reliability (α= .92 sample one only).

The three-factor nature of the work engagement construct was confirmed via confirmatory factor analysis using AMOS (version 26). Model fit was assessed using guidelines set out in the literature (e.g., Williams, Vandenberg, & Edwards, 2009), and they offer three goodness-of-fit indices: (1) the comparative fit index (CFI ≥.90), (2) the root-mean-square error of approximation (RMSEA ≤.08), and (3) the standardised root mean residual (SRMR ≤.10). The three-factor measurement higher-order model was a good fit for the data in sample one (only): $\chi 2(df)= 104.9(26)$, CFI=.969, RMSEA=.080, and SRMR=.051. A single factor CFA was tested as a comparison, and the Chi-squared difference test was conducted (Hair, Black, Babin, & Anderson, 2010): $\chi 2(df)= 179.8(27)$, CFI=.939, RMSEA=.113, and SRMR=.043. The $\chi 2$ difference test showed this was a significantly worse fit: ($\Delta\chi 2(\Delta df) = 74.9(1)$, $p< .001$): Overall, this analysis confirms work engagement as a higher-order construct.

Turnover Intentions was measured in both samples using the four-item scale by Kelloway et al. (1999), coded 1=strongly disagree, 5=strongly agree. Sample items are "I am thinking about leaving my organisation" and "I am planning to look for a new job". This scale is well validated in New Zealand (e.g., Nguyen, Haar, & Smollan, 2020; Haar, Roche, & Brougham, 2019a; Haar, Roche, & Taylor, 2012) and cross-culturally (e.g., Brougham & Haar, 2020). The construct has robust reliability (α= .93 sample one and α= .92 sample two).

3.2.3 ***Well-being Outcomes:***

A single-item scale measured happiness in both samples, where participants were asked to rate their happiness using a 10-point scale (0= extremely unhappy, 5= neutral, 10= extremely happy), following Bakker, Demerouti, Oerlemans, and Sonnentag (2013). This approach is well used in the happiness literature, including employee-based research on happiness (e.g., Lyubomirsky, King, & Diener, 2005; Bakker et al., 2013; Demerouti, Shimazu, Bakker, Shimada, & Kawakami, 2013; Haar, Schmitz, Di Fabio, & Daellenbach, 2019b).

Work-Life Balance was measured in sample two only, using the three-item scale by Haar (2013), coded 1=strongly disagree, 5= strongly agree. Sample items are "I manage to balance the demands of my work and personal/family life well" and "Nowadays, I seem to enjoy every part of my life equally well" and (α=.85 sample two). This construct enjoys strong validation support (e.g., Haar et al., 2014, 2018a, 2019a).

Anxiety and *Depression* were measured in both samples using 3-items each by Axtell et al. (2002), coded 1= all the time, 5= never. Respondents were presented with three adjectives for each outcome: "anxious" for anxiety and "miserable" for depression. Respondents were asked to rate how often these adjectives apply to them at work. The construct has been well-validated (e.g., Spell & Arnold, 2007a, 2007b), including in New Zealand (Haar, 2013) and cross-culturally (Haar, Russo, Sune, & Ollier-Malaterre, 2014). Overall, high anxiety and high depression represent greater mental health issues from the job (α= .90 anxiety sample one, α= .91 anxiety sample two, α= .92 depression sample one, and α= .91 depression sample two).

The distinct mental health outcomes were confirmed via confirmatory factor analysis (CFA) using AMOS (version 26). Model fit was assessed using guidelines set out in the literature (e.g., Williams et al., 2009), and they offer three goodness-of-fit indices: (1) the comparative fit index (CFI ≥.90), (2) the root-mean-square error of approximation (RMSEA

≤.08), and (3) the standardised root mean residual (SRMR ≤.10). The two-factor measurement model was the best fit for the data in sample one: $\chi 2(df)= 9.8(8)$, CFI=.999, RMSEA=.023, and SRMR=.012 and sample two: $\chi 2(df)= 12.0(8)$, CFI=.998, RMSEA=.037, and SRMR=.010. A single factor CFA was tested and compared using a Chi-squared difference test (Hair et al., 2010), which showed this was a significantly worse fit for sample one ($\chi 2$ difference $p< .001$): $\chi 2(df)= 251.6(9)$, CFI=.888, RMSEA=.246, and SRMR=.065 and sample two: ($\chi 2$ difference $p< .001$): $\chi 2(df)= 109.1(9)$, CFI=.949, RMSEA=.172, and SRMR=.036. Overall, this analysis confirms that the two-factor model is the best fit for the data.

3.2.4 ***Mediator:***

OBSE was measured in sample two only using the construct by Pierce, Gardner, Cummings, and Dunham (1989), coded 1=strongly disagree, 5=strongly agree. While the original scale has ten items, a short measure of five items by Scott, Shaw, and (2008) is popular in the literature. Questions follow the stem "At work…" and sample items are "I am trusted" and "I am valuable". This scale has been validated in New Zealand (e.g., Ghafoor & Haar, 2020; Haar & Brougham, 2016). The scale had excellent reliability ($\alpha= .90$).

3.2.5 ***Moderators:***

Covid-19 Job Changes was explicitly measured in the two studies with a single item "Has your job been directly affected by the coronavirus/Covid-19 (e.g., hours of work cut etc.)?", coded 1=not at all, 2=in a minor way, 3=in a moderate way, 4=in a major way. The focus was specifically on the employee's job because, theoretically, this aligns with potential job insecurities (see Sverke, Hellgren, & Näswall, 2002; Cheng & Chan, 2008). Hence the individual versus organisation focus.

The sector was calculated by asking respondents the sector their organisation worked in, coded 1=private or 2=public.

3.2.6 ***Control Variables:***

Several demographic variables typical of the work and well-being outcomes explored here were controlled for (for what?). These were *Gender* (1=male, 2=female), *Job Tenure* (years), and *Hours Worked* (in number of hours per week on average). Regarding gender, the meta-analysis by Purvanova and Muros (2010) found significant differences for both men and women towards well-being. However, while the meta-analysis by Batz-Barbarich, Tay, Kuykendall, and Cheung (2018) found mixed effects, there was some evidence towards work outcomes. The meta-analytic evidence is clear, with employees with longer job tenure reporting better job and well-being outcomes (Ng & Feldman, 2010). Further, long work hours have meta-analytic support for influencing work and well-being outcomes (Ng & Feldman, 2008). However, this is typically positive to work outcomes and detrimental to well-being outcomes. Finally, sample one also included Education (1=high school, 2=technical college, 3=university, 4=graduate qualification). There is meta-analytic support for higher education positively influencing worker outcomes (Ng & Feldman, 2009). Sample two was limited in size, and the additional constructs added meant some control variables – specifically education – were omitted.

3.2.7 ***Measurement Models***

The quality and independence of our study constructs were confirmed by conducting a confirmatory factor analysis in SEM using AMOS (version 26). See Tables 3 and 4.

Table 3. Results of Confirmatory Factor Analysis (Sample One)

	Model Fit Indices					Model Differences			
Model	**χ^2**	**df**	**CFI**	**RMSEA**	**SRMR**	**$\Delta\chi^2$**	**Δdf**	**p**	**Details**
Model 1	495.0	259	.973	.045	.047				
Model 2	1544.1	265	.852	.104	.082	1049.1	6	.001	Model 1 to 2
Model 3	1516.7	264	.855	.103	.169	1021.7	5	.001	Model 1 to 3
Model 4	738.2	264	.945	.064	.050	243.2	5	.001	Model 1 to 4

Model 1=Hypothesized 6-factor model: telecommuting support, higher-order work engagement, job satisfaction, turnover intentions, anxiety, depression, and happiness.
Model 2=Alternative 5-factor model: as per model 1 with telecommuting support and work engagement combined.
Model 3=Alternative 5-factor model: as per model 1 with telecommuting support and job satisfaction combined.
Model 4=Alternative 5-factor model: as per model 1 with anxiety and depression combined.

Table 4. Results of Confirmatory Factor Analysis (Sample Two)

	Model Fit Indices					Model Differences			
Model	**χ^2**	**df**	**CFI**	**RMSEA**	**SRMR**	**$\Delta\chi^2$**	**Δdf**	**p**	**Details**
Model 1	453.8	248	.970	.047	.038				
Model 2	983.6	255	.895	.087	.075	529.8	7	.001	Model 1 to 2
Model 3	1073.9	255	.883	.092	.124	620.1	7	.001	Model 1 to 3
Model 4	562.1	255	.956	.057	.041	108.3	7	.001	Model 1 to 4

Model 1=Hypothesized 7-factor model: telecommuting support, job satisfaction, turnover intentions, anxiety, depression, work-life balance, Kuschel-based self-esteem, and happiness.
Model 2=Alternative 6-factor model: as per model 1 with telecommuting support and job satisfaction combined.
Model 3=Alternative 6-factor model: as per model 1 with telecommuting support and work-life balance combined.
Model 4=Alternative 4-factor model: as per model 1 with anxiety and depression combined.

Again, guidelines by Williams et al. (2009) were followed: (1) the comparative fit index (CFI ≥.95), (2) the root-mean-square error of approximation (RMSEA ≤.08), and (3) the standardised root mean residual (SRMR ≤.10). The hypothesised measurement model was a good fit for data from sample one: $\chi 2(df)$= 495.0(259), CFI=.973, RMSEA=.045, and SRMR=.047, and sample two: $\chi 2(df)$= 453.8 (248), CFI=.970, RMSEA=.047, and SRMR=.038. Overall, the hypothesised measurement model was the best fit for the data in each sample. Several alternative measurement models were tested for each sample, and these all resulted in a poorer fit ($p< .001$) to the data in each sample (Hair et al., 2010).

3.2.8 ***Analysis***

Analyses were conducted in SPSS version 26. Initially, regression analysis was conducted with control variables (gender, tenure, and hours worked in all samples, and with education for sample one analyses only) entered in Step 1, and telecommuting support entered in Step 2. This was done for all dependent variables in both samples. Next, moderation hypotheses were tested using the PROCESS 3.4 (Hayes, 2018a) macron in SPSS. This approach confirms effect sizes using the Monte Carlo method using bootstrapping (5,000 repetitions) (Hayes, 2018a). This approach is beneficial for sample two, where mediation is tested. The PROCESS macro provides indirect effect sizes, making it a powerful analytic tool (Hayes, 2018b; Hayes & Preacher, 2013).

Ultimately, model 3 was selected for testing the moderation effects (allows two moderators) in sample one. Sample two used model 4 to test the mediation effects specifically, and then model 8 to test for moderated mediation, with telecommuting support influencing organisational-based self-esteem, which then mediates the effects of telecommuting support on outcomes. All analyses report the confidence intervals for Lower Limits (LL) and Upper Limits

(UL). Following recommendations about relaxing the criteria for determining significance levels specifically for interaction effects (see Aguinis & Stone-Romero, 1997; Stone & Hollenbeck, 1989), a level of $p < .1$ was adopted for determining significant interaction effects. The standard $p < .05$ threshold was used for all other effects. To establish the confidence intervals at the $p < .1$ threshold, the PROCESS macron was set for 90% confidence intervals only for the significant interaction (at $p < .1$). This is why these confidence intervals do not cross zero.

Chapter 4 RESEARCH RESULTS

This chapter shows the results of the relationship between telecommuting support, job and well-being outcomes for both samples.

4.1 **Results of Sample One**

This section was performed to examine the relationship between telecommuting support and job satisfaction, work engagement, turnover intentions, anxiety, depression, happiness, and the moderation of Covid-19 job changes and sector in the public sector.

Descriptive statistics for the variables in sample one is shown in Table 5.

Table 5. Correlations and Descriptive Statistics of Study Variables (Sample One)

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Education	2.12	1.03	--										
2. Job Tenure	5.81	6.21	.04	--									
3. Hours Worked	35.5	10.30	.12**	.19**	--								
4. Telecommuting Support	3.12	1.21	.22**	.08	.08	--							
5. Covid-19 Job Changes	2.42	1.14	.05	-.11*	-.08†	.06	--						
6. Job Satisfaction	3.94	.85	-.04	-.02	.02	.24**	.07	--					
7. Work Engagement	3.78	.88	.07	.03	.03	.32**	.06	.79**	--				
8. Turnover Intentions	2.94	1.17	.10*	-.08	-.04	-.08†	.01	-.30**	-.30**	--			
9. Anxiety	2.26	1.01	.11*	-.04	-.01	-.10*	.08†	-.29**	-.32**	.38**	--		
10. Depression	1.84	1.04	.09*	-.02	-.02	-.13**	.05	-.35**	-.38**	.42**	.74**	--	
11. Happiness	7.17	2.17	.02	.15**	.03	.26**	-.03	.49**	.46**	-.29**	-.34**	-.42**	--

N= 446. †p< .1, *p< .05, **p< .01

Table 5 shows that telecommuting support is significantly correlated with education (r= .22, p<.001), job satisfaction (r= .24, p< .001), work engagement (r= .32, p< .001), turnover intentions (r= -.08, p= .087), anxiety (r= -.10, p= .033), depression (r= -.13, p= .007) and happiness (r= .26, p< .001). Covid-19 Job Changes was significantly correlated with anxiety only (r= .08, p= .075). Finally, all the dependent variables (job satisfaction, work engagement, turnover intentions, anxiety, depression, and happiness) were all significantly correlated with each other (all p< .001) in the expected directions.

The results of the moderated regression analysis for telecommuting support predicting work and well-being outcomes (with Covid-19 job changes and sector moderating) from sample one is shown in Tables 6-8.

Table 6. Results of Moderated Regression Analysis for Sample One

	Job Satisfaction			Work Engagement		
Variables	β(SE)	Confidence Intervals	p-value	β(SE)	Confidence Intervals	p-value
Controls:						
Gender	-.04(.08)	LL= -.20, LU= .13	.6527	-.08(.08)	LL= -.24, LU= .08	.3140
Job Tenure	.00(.01)	LL= -.01, LU= .01	.8375	-.00(.01)	LL= -.02, LU= .01	.5571
Hours Worked	.02(.01)	LL= -.03, UL= .05	.5476	.01(.02)	LL= -.02, UL= .05	.4601
Education	.01(.00)	LL= -.01, LU= .01	.6565	-.10(.04)	LL= -.18, LU= -.02	.0131
Predictor:						
Telecommuting Support (TS)	.24(.03)	LL= .17, LU= .30	.0000	.19(.03)	LL= .12, LU= .25	.0000
Moderators:						
Covid-19 Job Changes	.04(.04)	LL= -.03, LU= .11	.2713	.04(.04)	LL= -.02, LU= .11	.2127
Sector	.04(.08)	LL= -.12, LU= .21	.5875	.12(.08)	LL= -.04, LU= .28	.1505
Interactions:						
TS x Covid-19 Job Changes	-.04(.03)	LL= -.10, LU= .01	.1418	-.02(.03)	LL= -.08, LU= .04	.4684
TS x Sector	.09(.07)	LL= -.05, LU= .22	.1993	.15(.07)	LL= .02, LU= .28	.0284
Covid-19 Job Changes x Sector	.10(.07)	LL= -.04, LU= .23	.1764	.08(.07)	LL= -.06, LU= .22	.2384
TS x Covid-19 Job Changes x Sector	-.19(.06)	LL= -.31, LU= -.07	.0021	-.13(.06)	LL= -.25, LU= -.02	.0267
Total R^2	.14			.10		
F Statistic	6.0974 (p< .0001)			4.2786 (p< .0001)		

β = unstandardized regression coefficients, SE= standard error. All significance tests were two-tailed.

Table 7. Results of Moderated Regression Analysis for Sample One

	Turnover Intentions			Happiness		
Variables	β(SE)	Confidence Intervals	p-value	β(SE)	Confidence Intervals	p-value
Controls:						
Gender	-.11(.12)	LL= -.34, LU= .12	.3295	-.41(.21)	LL= -.82, LU= -.00	.0483
Job Tenure	-.02(.01)	LL= -.03, LU= .00	.0761	.04(.02)	LL= .01, LU= .07	.0116
Hours Worked	-.03(.02)	LL= -.08, UL= .03	.3169	-.02(.05)	LL= -.11, UL= .08	.7382
Education	.16(.06)	LL= .05, LU= .27	.0051	-.13(.10)	LL= -.33, LU= .06	.1754
Predictor:						
Telecommuting Support (TS)	-.10(.05)	LL= -.20, LU= -.01	.0274	.47(.09)	LL= .31, LU= .64	.0000
Moderators:						
Covid-19 Job Changes	-.01(.05)	LL= -.11, LU= .08	.7983	.06(.09)	LL= -.11, LU= .24	.4668
Sector	-.11(.12)	LL= -.33, LU= .12	.3459	.17(.20)	LL= -.23, LU= .57	.4023
Interactions:						
TS x Covid-19 Job Changes	.04(.04)	LL= -.03, LU= .10	.3909	-.07(.07)	LL= -.21, LU= .07	.3410
TS x Sector	-.14(.09)	LL= -.30, LU= .01	.1316	.08(.16)	LL= -.25, LU= .41	.6326
Covid-19 Job Changes x Sector	-.04(.10)	LL= -.20, LU= .12	.6938	.01(.18)	LL= -.34, LU= .36	.9661
TS x Covid-19 Job Changes x Sector	.15(.09)	LL= .01, LU= .29	.0846	-.51(.15)	LL= -.80, LU= -.21	.0483
Total R^2	.05			.12		
F Statistic	1.8849 (p= .0394)			5.0750 (p< .0001)		

β = unstandardized regression coefficients, SE= standard error. All significance tests were two-tailed.

Table 8. Results of Moderated Regression Analysis for Sample One

	Anxiety			Depression		
Variables	β(SE)	Confidence Intervals	p-value	β(SE)	Confidence Intervals	p-value
Controls:						
Gender	.13(.10)	LL= -.07, LU= .32	.2081	-.06(.10)	LL= -.27, LU= .14	.5417
Job Tenure	-.00(.01)	LL= -.02, LU= .01	.7544	-.00(.01)	LL= -.02, LU= .01	.7670
Hours Worked	-.00(.02)	LL= -.05, UL= .04	.9343	-.01(.02)	LL= -.06, UL= .04	.5984
Education	.14(.05)	LL= .05, LU= .24	.0035	.13(.05)	LL= .03, LU= .23	.0097
Predictor:						
Telecommuting Support (TS)	-.12(.04)	LL= -.20, LU= -.04	.0049	-.14(.04)	LL= -.22, LU= -.05	.0013
Moderators:						
Covid-19 Job Changes	.07(.04)	LL= -.01, LU= .16	.0916	.05(.04)	LL= -.03, LU= .14	.2375
Sector	.09(.09)	LL= -.11, LU= .28	.3858	-.03(.10)	LL= -.23, LU= .17	.7627
Interactions:						
TS x Covid-19 Job Changes	.03(.04)	LL= -.03, LU= .08	.4610	.05(.04)	LL= -.02, LU= .13	.1343
TS x Sector	-.00(.08)	LL= -.14, LU= .13	.9875	.02(.08)	LL= -.15, LU= .18	.8479
Covid-19 Job Changes x Sector	.08(.09)	LL= -.06, LU= .22	.3575	-.04(.09)	LL= -.21, LU= .13	.6493
TS x Covid-19 Job Changes x Sector	.13(.07)	LL= .01, LU= .26	.0699	.16(.08)	LL= .02, LU= .31	.0306
Total R^2	.05			.05		
F Statistic	2.0958 (p= .0195)			2.0641 (p= .0218)		

β = unstandardized regression coefficients, SE= standard error. All significance tests were two-tailed.

Tables 6-8 shows that telecommuting support is significantly related to job satisfaction (β= .24(.03), p< .0001 [LL= .17, UL= .30]), work engagement (β= .19(.03), p< .0001 [LL= .12, UL= .25]), and turnover intentions (β= -.10(.05), p= .0274 [LL= -.20, UL= -.01]). Hence, telecommuting support elicits employees' obligations towards shaping their work attitudes and behaviours, supporting Hypotheses 1a to 1c in sample one. Towards all job outcomes, Covid-19 job changes and sector are not directly significant (all p> .05). The results failed to support Hypotheses 3a to 3c and Hypotheses 7a to 7c in sample one. However, there is evidence of significant moderating effects. Interestingly, while telecommuting support does not interact significantly with either Covid-19 job changes or sector towards job satisfaction (failing to support Hypotheses 5a and 9a), there is a significant three-way interaction (telecommuting support x Covid-19 job changes x sector): (β= -.19(.06), p= .0021 [LL= -.31, UL= -.07]). The result supports Hypothesis 11a.

Towards work engagement, there is a significant interaction between telecommuting support and sector: (β= .15(.07), p= .0284 [LL= .02, UL= .28]), supporting Hypothesis 5b. There is also a significant three-way interaction (telecommuting support x Covid-19 job changes x sector) towards work engagement: (β= -.13(.06), p= .0267 [LL= -.25, UL= -.02]), supporting Hypothesis 11b. However, there is no support for Hypothesis 9b. Finally, towards turnover intentions, there is a significant three-way interaction similar to other job outcomes. Telecommuting support does not interact significantly with either Covid-19 job changes or sector (failing to support Hypotheses 5c and 9c), but there is a significant three-way interaction (telecommuting support x Covid-19 job changes x sector) towards turnover intentions: (β= .15(.09), p= .0846 [LL= .01, UL= .29]), supporting Hypothesis 11c.

Next, the direct and moderation effects towards well-being outcomes in sample one are explored. There is also strong support for the direct effects of telecommuting support on well-

being outcomes. Telecommuting support is significantly related to happiness (β= .47(.09), p< .0001 [LL= .31, UL= .64]), anxiety (β= -.12(.04), p= .0049 [LL= -.20, UL= -.04]), and depression (β= -.14(.04), p= .0013 [LL= -.22, UL= -.05]). Thus, telecommuting support does provide psychological support to workers shaping their well-being outcomes, supporting Hypotheses 2a to 2c in sample one. Further, towards all well-being outcomes, Covid-19 job changes and sector are not directly significant (all p> .05). Failing to support Hypotheses 4a to 4d and 8a to 8d in sample one. However, there is evidence of significant moderating effects.

Towards happiness, telecommuting support does not interact significantly with either Covid-19 job changes or sector, failing to support Hypotheses 6a and 10a. However, there is a significant three-way interaction (telecommuting support x Covid-19 job changes x sector): (β= -.51(.15), p= .0483 (LL= -.80, UL= -.21]). This supports Hypothesis 12a. Finally – in sample 1 – towards both job anxiety and job depression, telecommuting support does not interact significantly with either Covid-19 job changes or sector, failing to support Hypotheses 6c and 6d, and Hypotheses 10c and 10d. However, there is a significant three-way interaction (telecommuting support x Covid-19 job changes x sector) towards job anxiety: (β= .13(.07), p= .0699 [LL= .01, UL= .26]) and job depression: (β= .16(.08), p= .0306 [LL= .02, UL= .31]). These provide support for Hypotheses 12c and 12d.

Overall, the models for work outcomes are all significant (F Statistic are all p< .05) and account for modest amounts of variance for job satisfaction (14%), happiness (12%), and work engagement (10%), and small amounts of variance for turnover intentions, job anxiety, and job depression (all 5%). The interaction effects are graphed to illustrate and clarify the interaction effects in Figures 3 to 9.

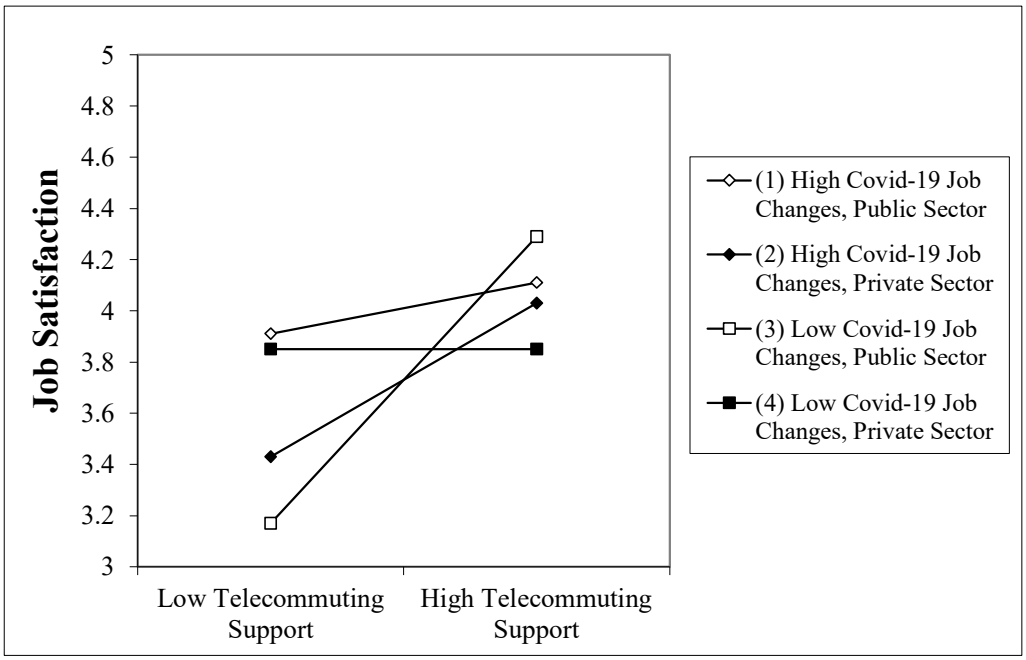


Figure 3. Three-Way Interaction between Telecommuting Support, Covid-19 Job Changes and Sector towards Job Satisfaction

Figure 3 shows a significant three-way interaction effect. The highest levels of job satisfaction are reported by employees with high telecommuting support, working in the public sector, and with low Covid-19 job changes. The following highest levels of job satisfaction are also employees in the public sector with high levels of Covid-19 job changes. These levels of job satisfaction are significantly higher than respondents working in the private sector. This suggests the sector is more important than job changes from Covid-19 and primarily supports the hypothesis, albeit with less focus on Covid-19 job changes.

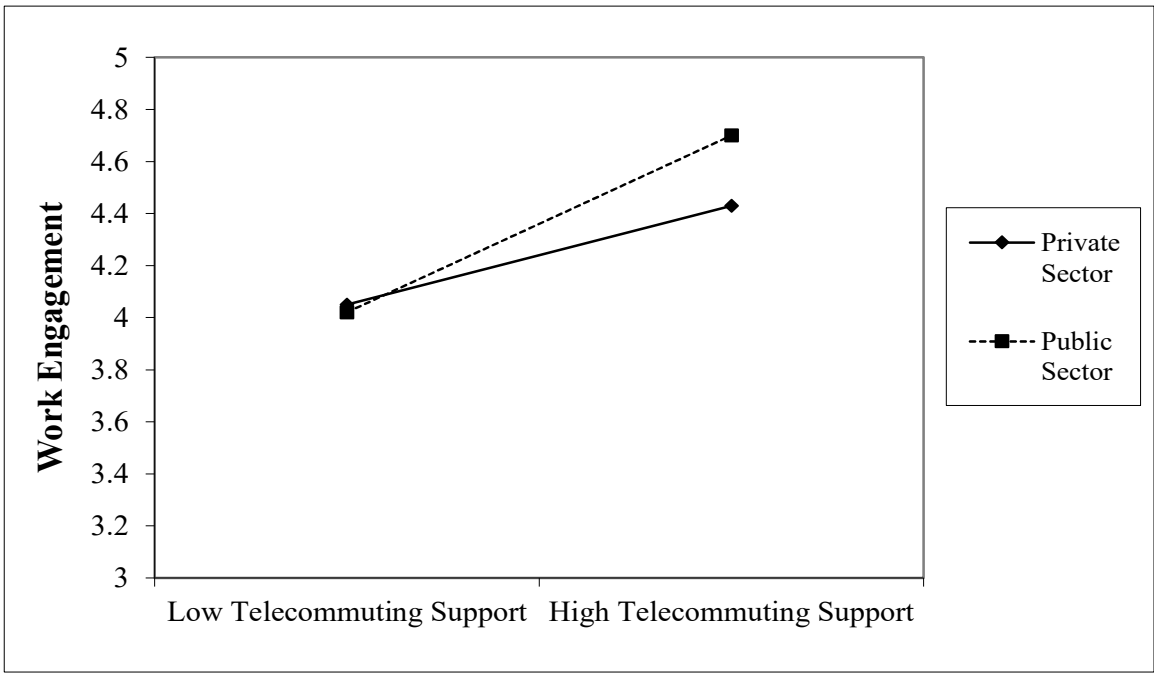


Figure 4. Two-Way Interaction between Telecommuting Support and Sector towards Work Engagement

Figure 4 shows a significant two-way interaction effect. At low levels of telecommuting support, there is no difference in work engagement by sector: private and public sector workers report similar work engagement levels. However, respondents who report high telecommuting support all report significantly higher work engagement, with those in the public sector reporting significantly higher work engagement. This supports the moderating effect of telecommuting support being better in the public sector.

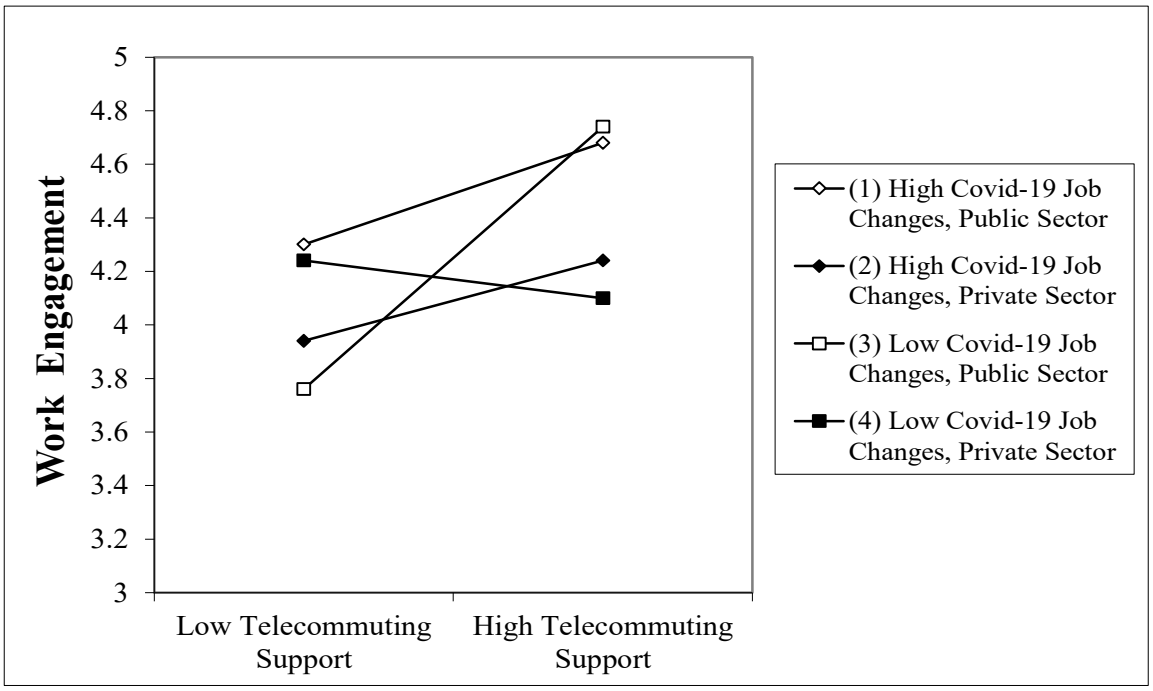


Figure 5. Three-Way Interaction between Telecommuting Support, Covid-19 Job Changes and Sector towards Work Engagement

Figure 5 shows a significant three-way interaction effect. The highest levels of work engagement are reported by employees with high telecommuting support, working in either the public or private sector, with low or high levels of Covid-19 job changes. These respondents work engagement levels are significantly higher than respondents working in the private sector. Again, this highlights that the public sector appears to be a vital factor in telecommuting support and work engagement, with Covid-19 job changes being less critical. This essentially supports the hypothesis, albeit with less focus on Covid-19 job changes.

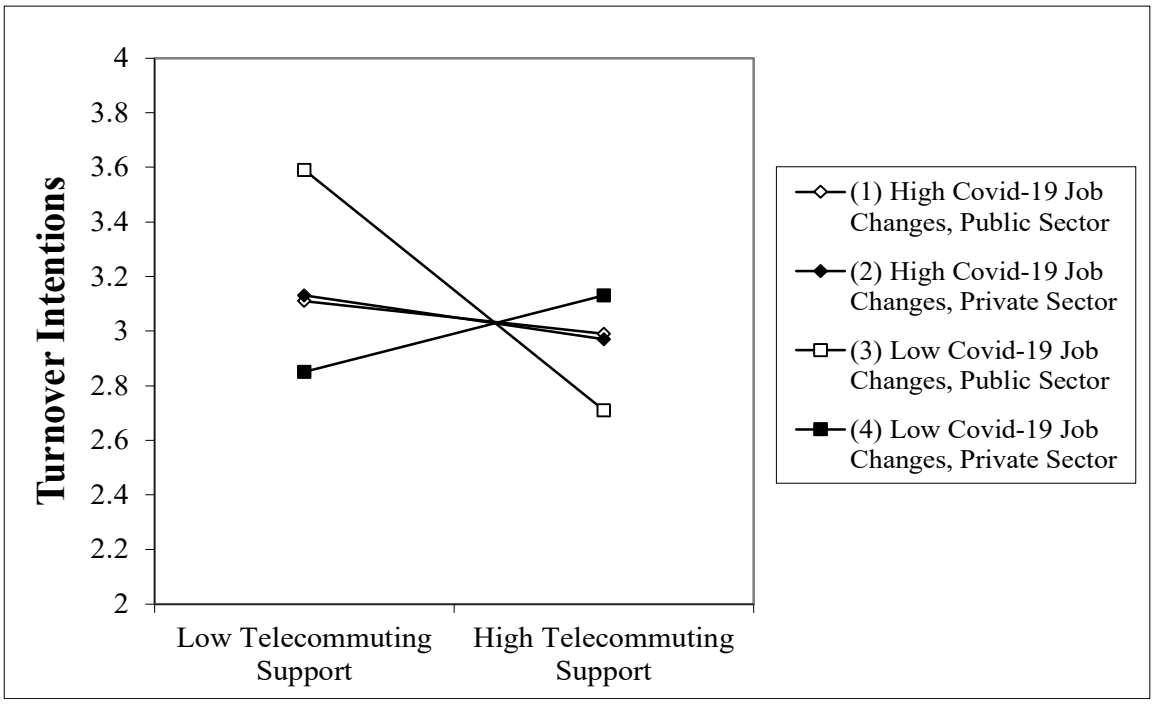


Figure 6. Three-Way Interaction between Telecommuting Support, Covid-19 Job Changes and Sector towards Turnover Intentions

Figure 6 shows a significant three-way interaction effect towards turnover intentions. Employees report the lowest turnover intentions with high telecommuting support, who work in the public sector, and who have experienced low Covid-19 job changes. These respondents have turnover intentions significantly lower than all other respondents. Towards turnover intentions, this highlights that the most vital benefits do occur both within the public sector and in the context that Covid-19 has made few job changes. This supports the hypothesis.

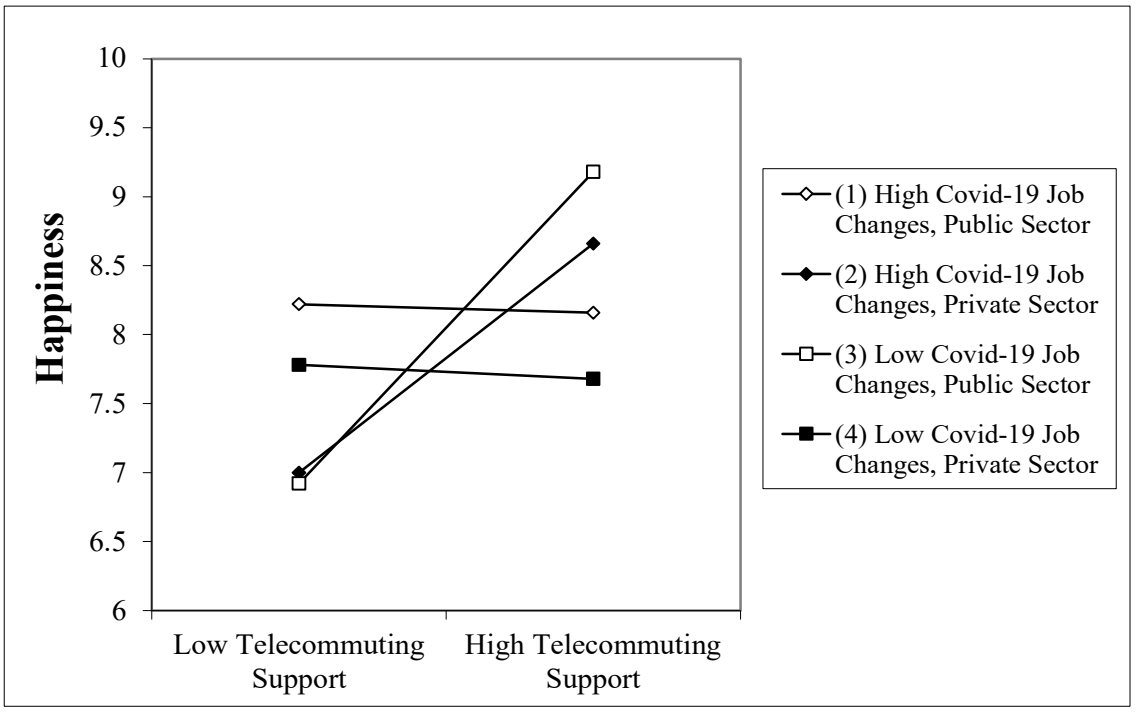


Figure 7. Three-Way Interaction between Telecommuting Support, Covid-19 Job Changes and Sector towards Happiness

Figure 7 aligns with Figure 6 (turnover intentions) in that employees report the highest levels of happiness with high telecommuting support, who work in the public sector, and who have experienced low levels of Covid-19 job changes. These respondents have happiness levels significantly higher than all other respondents. Towards happiness, this highlights that the strongest benefits do occur both within the public sector and in the context that Covid-19 has made few job changes. This supports the hypothesis.

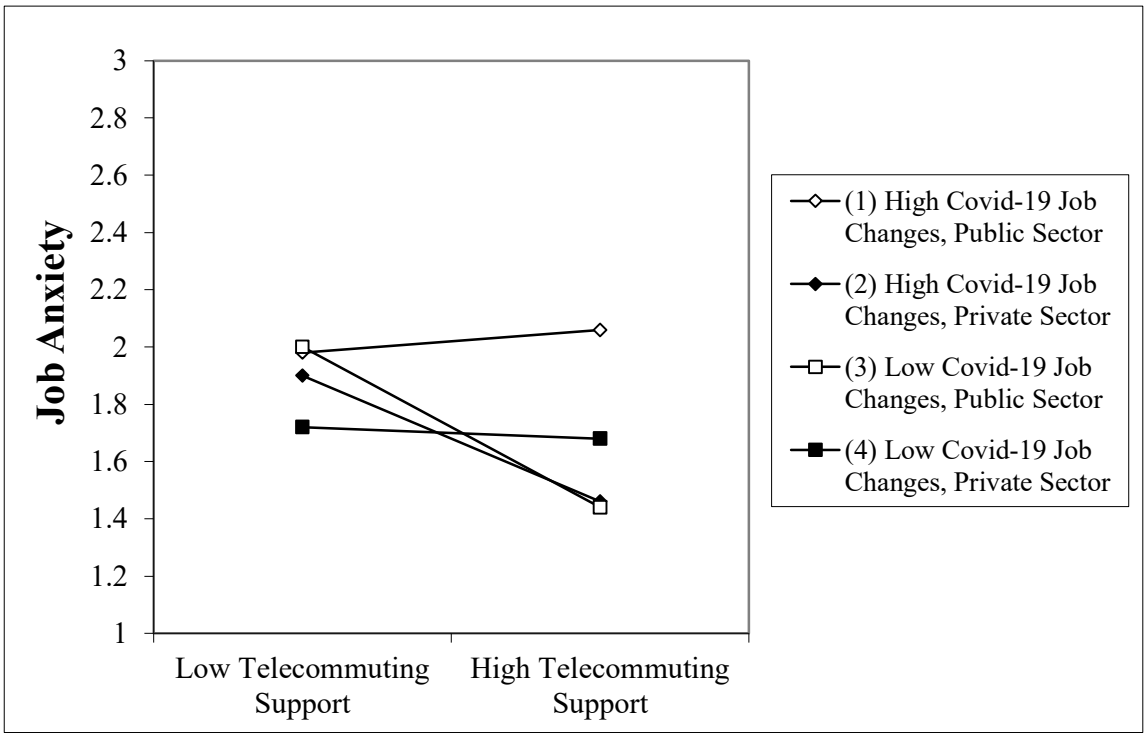


Figure 8. Three-Way Interaction between Telecommuting Support, Covid-19 Job Changes and Sector towards Job Anxiety

Figure 8 shows a significant three-way interaction effect towards job anxiety, although these effects differ from the other significant interactions in sample one. Here, we find employees who report the lowest levels of job anxiety with high telecommuting support, who work in the public sector, and who have experienced low levels of Covid-19 job changes. This aligns with much of the earlier significant interactions. However, the other group with the lowest job anxiety levels (both groups are similarly low) are those employees with high telecommuting support, who work in the private sector, and who have experienced high levels of Covid-19 job changes. These two groups of respondents have anxiety levels significantly lower than other respondent groups. The inclusion of both sectors and the fact that each group differs on the influence of Covid-19 job changes means there is only modest support for the hypothesis.

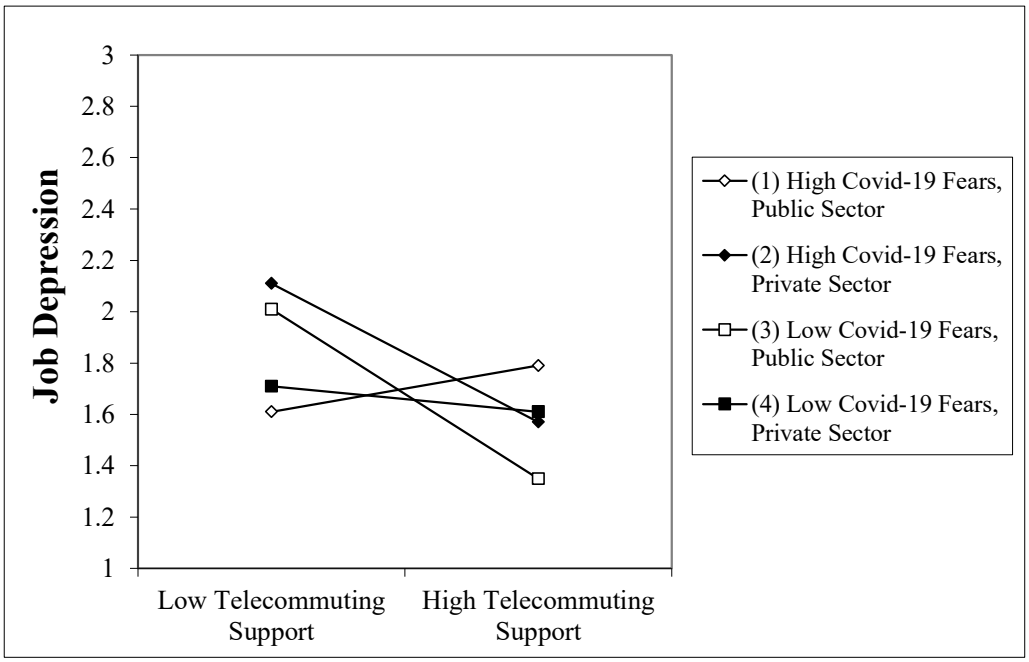


Figure 9. Three-Way Interaction between Telecommuting Support, Covid-19 Job Changes and Sector towards Job Depression

Finally, Figure 9 shows a significant three-way interaction effect towards job depression. Employees report the lowest levels of job depression with high telecommuting support, who work in the public sector, and who have experienced low levels of Covid-19 job changes. These respondents have job depression significantly lower than all other respondents. This highlights the strongest benefits for the public sector but with the context that Covid-19 has made few job changes. This supports the hypothesis. A summary of the overall findings from sample one towards Hypotheses is shown in Table 9.

Table 9. Summary of Hypotheses and Results (Sample One)

Hypothesis	Relationships	Results
	Direct Effects Only	
Hypotheses 1	Telecommuting Support will be positively related to (a) job satisfaction and (b) work engagement [sample one only].	H1a **supported** H1b **supported**
Hypothesis 1c	Telecommuting Support will be negatively related to turnover intentions.	H1c **supported**

Hypotheses 2	Telecommuting Support will be positively related to (a) happiness and (b) work-life balance [sample two only].	H2a **supported** H2b Not this study
Hypotheses 2	Telecommuting Support will be negatively related to (c) job anxiety and (d) job depression.	H2c **supported** H2d **supported**
Hypotheses 3	Covid-19 job changes will be negatively related to (a) job satisfaction and (b) work engagement [sample one only].	H3a not supported H3b not supported
Hypothesis 3c	Covid-19 job changes will be positively related to turnover intentions.	H3c not supported
Hypotheses 4	Covid-19 job changes will be negatively related to (a) happiness and (b) work-life balance [sample two only].	H4a not supported H4b Not this study
Hypotheses 4	Covid-19 job changes will be positively related to (c) job anxiety and (d) job depression.	H4c not supported H4d not supported
Hypotheses 7	The public sector will be positively related to (a) job satisfaction and (b) work engagement [sample one only].	H7a not supported H7b not supported
Hypothesis 7c	The public sector will be negatively related to turnover intentions.	H7c not supported
Hypotheses 8	The public sector will be positively related to (a) happiness, and (b) work-life balance [sample two only].	H8a not supported H8b Not this study
Hypotheses 8	The public sector will be negatively related to (c) job anxiety and (d) job depression.	H8c not supported H8d not supported
2-Way Moderation Effects Only		
Hypotheses 5	Covid-19 job changes will interact with telecommuting support towards (a) job satisfaction and (b) work engagement [sample one only].	H5a not supported **H5b supported**
Hypothesis 5c	Covid-19 job changes will interact with telecommuting support towards turnover intentions.	H5c not supported
Hypotheses 6	Covid-19 job changes will interact with telecommuting support towards (a) happiness and (b) work-life balance [sample two only].	H6a not supported H6b Not this study

Hypotheses 6	Covid-19 job changes will interact with telecommuting support towards (c) job anxiety and (d) job depression.	H6c not supported H6d not supported
Hypotheses 9	The public sector will interact with telecommuting support towards (a) job satisfaction and (b) work engagement [sample one only].	H9a not supported H9b not supported 9
Hypothesis 9c	The public sector will interact with telecommuting support towards turnover intentions.	H9c not supported
Hypotheses 10	The public sector will interact with telecommuting support towards (a) happiness and (b) work-life balance [sample two only].	H10a not supported H10b Not this study
Hypotheses 10	The public sector will interact with telecommuting support towards (c) job anxiety and (d) job depression.	H10c not supported H10d not supported
3-Way Moderation Effects Only		
Hypotheses 11	Covid-19 job changes and the public sector will interact with telecommuting support towards (a) job satisfaction and (b) work engagement [sample one only].	**H11a supported** **H11b supported**
Hypothesis 11c	Covid-19 job changes and the public sector will interact with telecommuting support towards turnover intentions.	**H11c supported**
Hypotheses 12	Covid-19 job changes and the public sector will interact with telecommuting support towards (a) happiness and (b) work-life balance [sample two only].	**H12a supported** H12b Not this study
Hypotheses 12	Covid-19 job changes and the public sector will interact with telecommuting support towards (c) job anxiety and (d) job depression.	**H12c supported** **H12d supported**

4.2 **Results of Sample Two**

This section shows the results of the relationship between telecommuting support and job satisfaction, turnover intentions, anxiety, depression, happiness, work-life balance and the moderation of Covid-19 job changes. Also, to examine the mediation of OBSE and sector in the private sector.

Descriptive statistics for the sample two variables are shown in Table 10.

Table 10. Correlations and Descriptive Statistics of Study Variables (Sample Two)

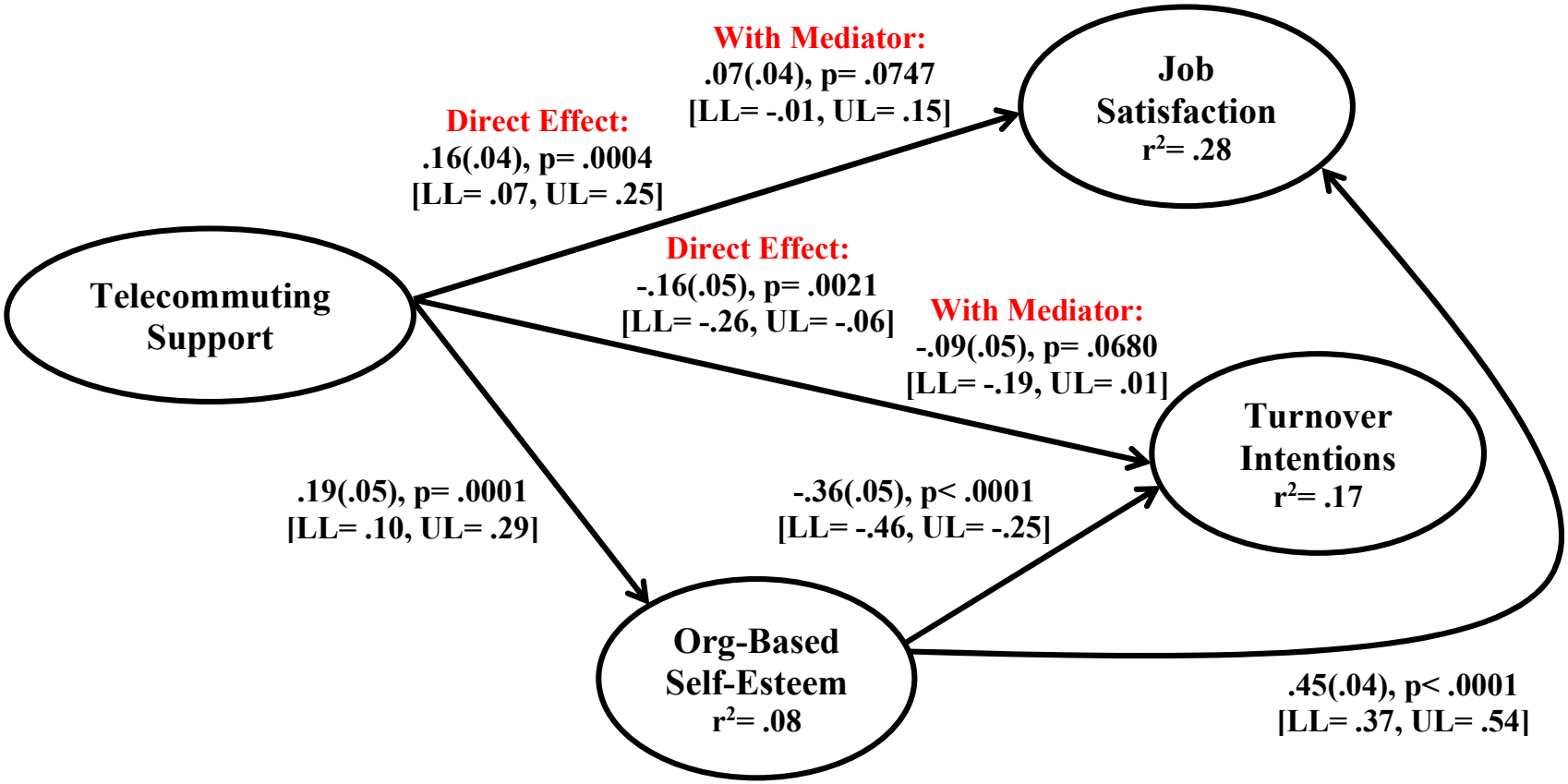
Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Job Tenure	4.39	3.16	--										
2. Hours Worked	32.9	11.2	.05	--									
3. Telecommuting Support	3.34	1.12	.07	.17**	--								
4. Covid-19 Job Changes	2.70	1.08	-.01	-.32**	-.17**	--							
5. Organisational-Based Self Esteem	4.39	1.05	.06	.17**	.24**	-.07	--						
6. Job Satisfaction	3.72	.98	.14**	.05	.19**	-.05	.50**	--					
7. Turnover Intentions	2.54	1.15	-.20**	-.00	-.16**	-.00	-.34**	-.52**	--				
8. Anxiety	1.99	.96	-.15**	.10*	-.11*	.09†	-.24**	-.26**	.39**	--			
9. Depression	1.70	.94	-.15**	.10*	-.10†	.06	-.27**	-.34**	.41**	.81**	--		
10. Work-Life Balance	3.68	.88	.20**	-.00	.27**	-.11*	.42**	.58**	-.32**	-.32**	-.40**	--	
11. Happiness	6.64	2.25	.13*	.02	.19**	-.04	.36**	.58**	-.40**	-.37**	-.43**	.55**	--

N= 377. †p< .1, *p< .05, **p< .01

Table 10 shows that telecommuting support is significantly correlated with hours worked (r= .17, p= .001), Covid-19 Job Changes (r= -.17, p= .001), organisational-based self-esteem (r= .24, p< .001), job satisfaction (r= .19, p< .001), turnover intentions (r= -.16, p= .002), anxiety (r= -.11, p= .036), depression (r= -.10, p= .061), work-life balance (r= .17, p< .001) and happiness (r= .19, p< .001). Covid-19 Job Changes was also significantly correlated with anxiety (r= .09, p= .070) and work-life balance (r= -.11, p= .031). Finally, all the dependent variables (job satisfaction, turnover intentions, anxiety, depression, work-life balance, and happiness) were all significantly correlated with each other (all p< .001) in the expected directions.

Direct and Mediation Effects

The results of the mediated regression analysis for telecommuting support predicting work and well-being outcomes with organisational-based self-esteem mediating from sample two is shown in Figures 10-12. This analysis shows the PROCESS model 4 (see Appendix 1) for mediation and includes telecommuting support as the independent variable and organisational-based self-esteem as the mediator. In PROCESS, only one independent variable can be included at a time.

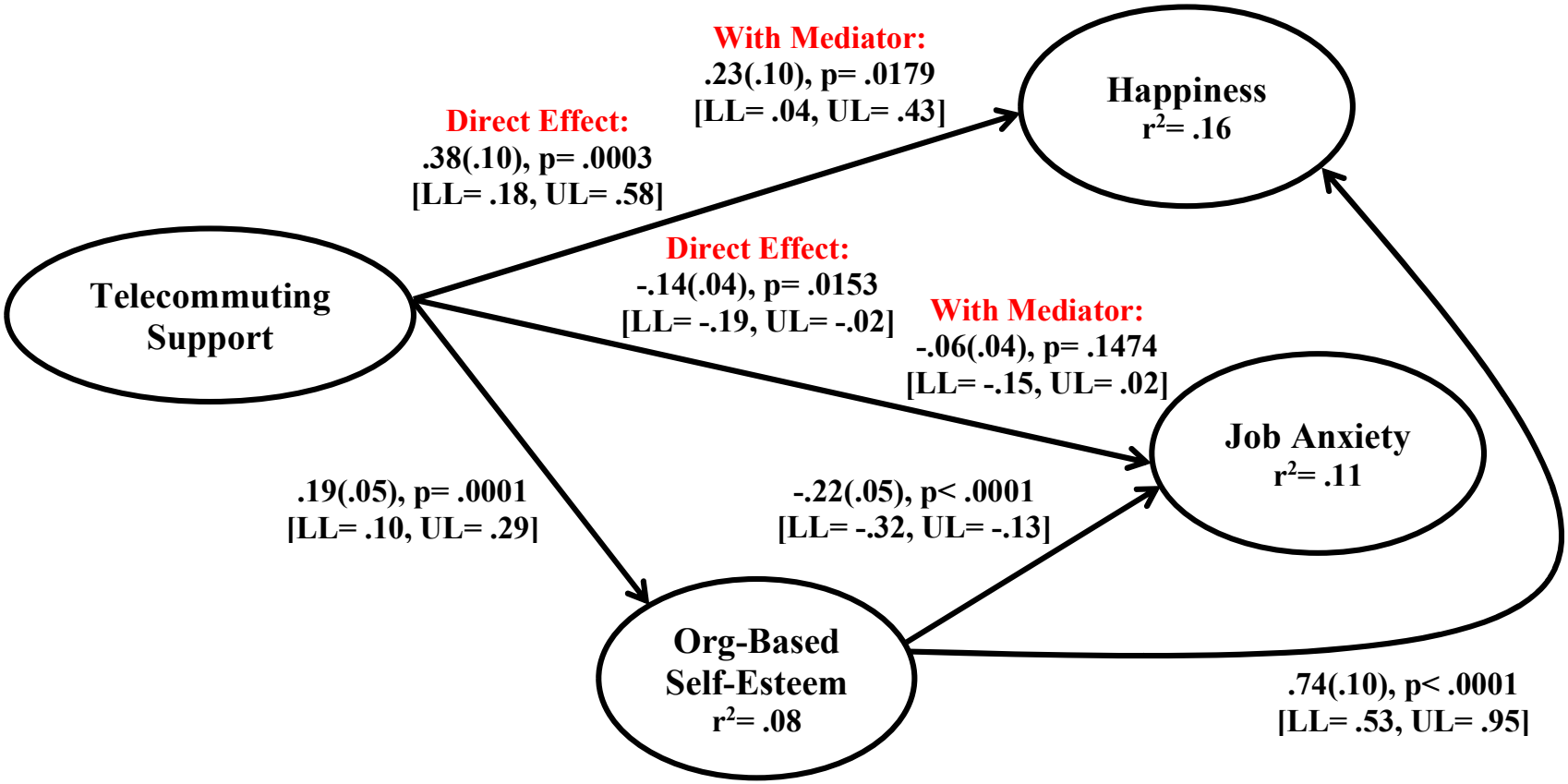


Note: no control variable effects shown.

Figure 10. Mediation Model Effects of Telecommuting Support to Job Satisfaction and Turnover Intentions (Sample two)

Figure 10 shows that telecommuting support is significantly related to job satisfaction (β= .16(.04), p= .0004 [LL= .07, LU= .25]) and turnover intentions (β= -.16(.05), p= .0021 [LL= -.26, LU= -.06]), supporting Hypotheses 1a and 1c in sample two. Figure 10 shows that telecommuting support is significantly related to organisational-based self-esteem (β= .19(.05), p= .0001 [LL= .10, LU= .29]) and in turn, organisational-based self-esteem is significantly related to job satisfaction (β= .45(.04), p< .0001 [LL= .37, LU= .54]) and turnover intentions (β= -.36(.05), p< .0001 [LL= -.46, LU= -.25]). This supports Hypotheses 13, and Hypotheses 14a and 14b.

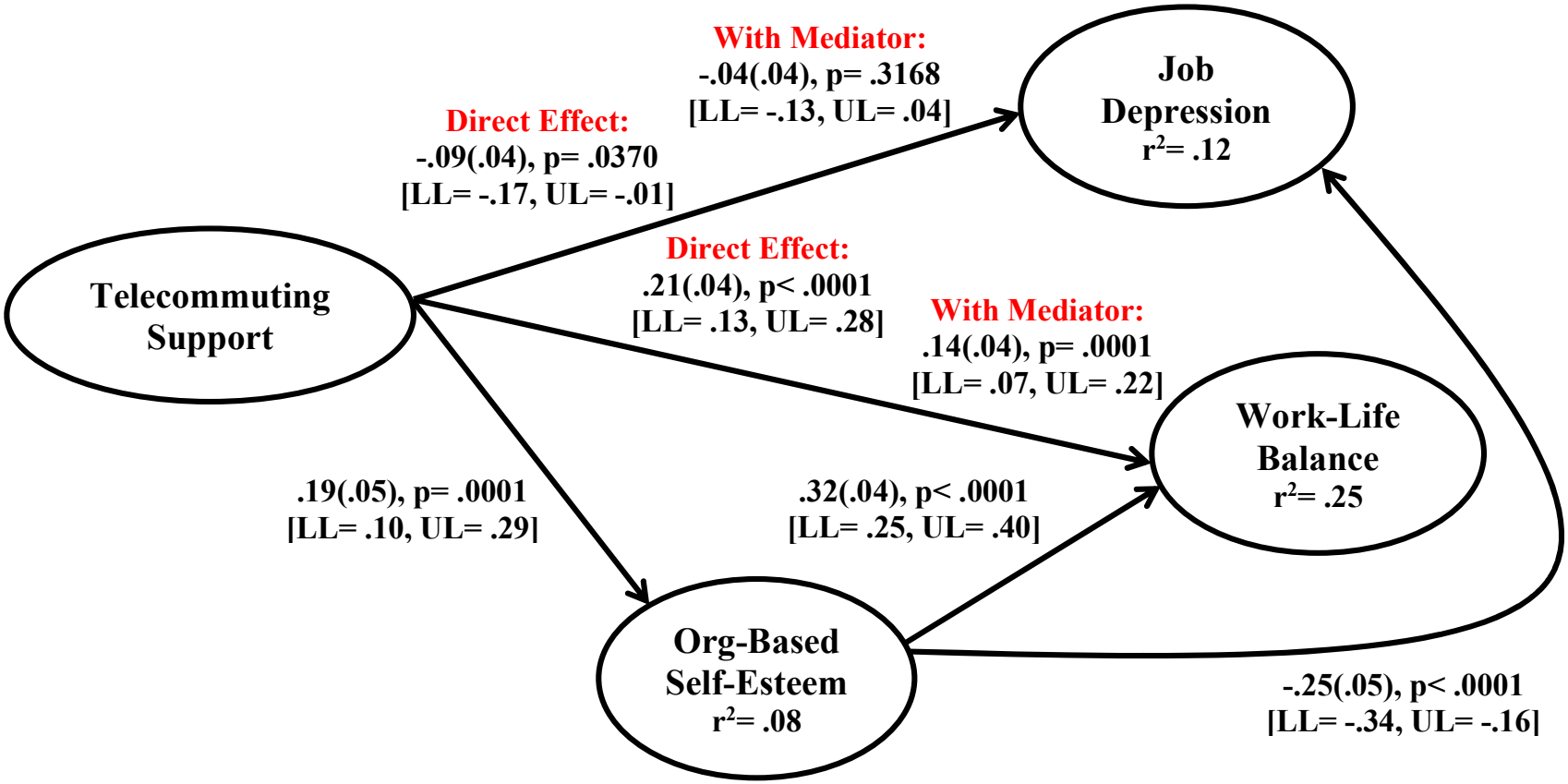
In addition, the inclusion of organisational-based self-esteem in the models mediates the direct effects of telecommuting support, dropping to non-significance towards job satisfaction (β= .07(.04), p= .0747 [LL= -.01, LU= .15]) and similarly so towards turnover intentions (β= -.09(.05), p= .0680 [LL= -.19, LU= .01]). Regarding mediation effects, experts argue for examining the indirect effects to confirm whether the mediating effects of organisational-based self-esteem were indeed full mediation (Hayes, 2018a, 2018b). The indirect effects showed that telecommuting support is still significant towards job satisfaction (β= .09(.03), p= .0007 [LL= .04, LU= .15]) and turnover intentions (β= -.07(.02), p= .0011 [LL= -.10, LU= -.03]). This provides support for Hypotheses 16a and 16b, but notes the effect is not full mediation.



Note: no control variable effects shown.

Figure 11. Mediation Model Effects of Telecommuting Support to Happiness and Job Anxiety (Sample two)

Figure 11 shows that telecommuting support is significantly related to happiness (β= .38(.10), p= .0003 [LL= .18, LU= .58]) and job anxiety (β= -.14(.04), p= .0153 [LL= -.19, LU= -.02]), supporting Hypotheses 2a and 2c in sample two. Figure 11 shows that organisational-based self-esteem is significantly related to happiness (β= .74(.10), p< .0001 [LL= .53, LU= .95]) and job anxiety (β= -.22(.05), p< .0001 [LL= -.32, LU= -.13]), supporting Hypotheses 15a and 15c. Further, the inclusion of organisational-based self-esteem in the models mediates the direct effects of telecommuting support, dropping slightly in significance towards happiness (β= .23(.10), p= .0179 [LL= .04, LU= .43]) but becoming fully non-significant towards job anxiety (β= -.06(.04), p= .1474 [LL= -.15, LU= .02]). Examining the indirect effects showed that telecommuting support is still significant towards job anxiety (β= -.04(.02), p= .0044 [LL= -.08, LU= -.02]). This provides support for Hypotheses 17a and 17c, but the effect is not full mediation.



Note: no control variable effects shown.

Figure 12. Mediation Model Effects of Telecommuting Support to Job Depression and Work-Life Balance (Sample two)

Finally, Figure 12 shows that telecommuting support is significantly related to job depression (β= -.09(.04), p= .0370 [LL= -.17, LU= -.01]) and work-life balance (β= .21(.04), p< .0001 [LL= .13, LU= .28]), supporting Hypotheses 2b and 2d in sample two. Figure 12 shows that organisational-based self-esteem is significantly related to work-life balance (β= .32(.04), p< .0001 [LL= .25, LU= .40]) and job depression (β= -.25(.05), p< .0001 [LL= -.34, LU= -.16]). This supports Hypotheses 15b and 15d. Further, the inclusion of organisational-based self-esteem in the models mediates the direct effects of telecommuting support, dropping slightly in significance towards work-life balance (β= .14(.04), p= .0001 [LL= .07, LU= .22]), and appearing to fully mediate effects towards job depression (β= -.04(.04), p= .3168 [LL= -.13, LU= .04]). Examining the indirect effects showed that telecommuting support is still significant towards job depression (β= -.05(.02), p= .0046 [LL= -.09, LU= -.02]). Overall, this provides support for Hypotheses 17b and 17d, again showing the mediation effect is not full mediation.

The three models shown in Figures 10-12 are all significant. The model towards organisational-based self-esteem is significant (F= 8.0042, p< .0001) and accounts for a small amount of variance (eight per cent). In Figure 10, towards job satisfaction, the direct effect of telecommuting support accounts for a six per cent variance (F= 6.3260, p= .0001). However, with the inclusion of organisational-based self-esteem as the mediator, it increases to 28 per cent variance (F= 29.2489, p< .0001). With the addition of the moderators and interaction effects, it rises to 29 per cent variance (F= 13.7648, p< .0001). Also, in Figure 10, towards turnover intentions, the direct effect of telecommuting support accounts for seven per cent variance (F= 6.98690, p< .0001), but with the inclusion of organisational-based self-esteem as the mediator, it increases to 17 per cent variance (F= 14.9619, p< .0001). With the addition of the moderators and interaction effects, it rises to 19 per cent variance (F= 7.6524 p< .0001),

In Figure 11 towards happiness, the direct effect of telecommuting support accounts for a five per cent variance (F= 5.2691, p= .0004), but with the inclusion of organisational-based self-esteem as the mediator, it increases to 16 per cent variance (F= 14.6308, p< .0001). With the addition of the moderators and interaction effects, it rises to 17 per cent variance (F= 6.8486, p< .0001). Also, in Figure 11, towards job anxiety, the direct effect of telecommuting support accounts for a five per cent variance (F= 5.3012, p= .0004), but with the addition of organisational-based self-esteem as the mediator, it increases to 11 per cent variance (F= 9.2042, p< .0001). With the addition of the moderators and interaction effects, it rises to 14 per cent variance (F= 5.3792).

In Figure 12 towards job depression, the direct effect of telecommuting support accounts for a five per cent variance (F= 4.6288, p= .0012), but with the inclusion of organisational-based self-esteem as the mediator, it increases to 12 per cent variance (F= 9.8764, p< .0001). With the addition of the moderators and interaction effects, it rises to 14 per cent variance (F= 5.4522, p< .0001). Also, in Figure 11, towards work-life balance, the direct effect of telecommuting support accounts for 11 per cent variance (F= 11.2494, p< .0001), and the addition of organisational-based self-esteem (the mediator) increase to 25 per cent variance (F= 24.2056, p< .0001). With the addition of the moderators and interaction effects, it rises to 27 per cent variance (F= 12.2850).

4.2.1 *Moderation and Moderated Mediation Effects*

The analysis results for the direct and moderating effects of covid-19 job changes and sector towards organisational-based self-esteem (only) is shown in Table 11. This analysis used the PROCESS model 3 (see Appendix 2). In the model, telecommuting support predicts organisational-based self-esteem with covid-19 job changes and sector, representing a direct effect with two moderators. The models become more complex towards the subsequent outcomes because then organisational-based self-esteem is included as a mediator.

Table 11. Results of Moderated and Moderated Mediation Analysis for Organisational-Based Self-Esteem (Sample 2)

Variables	β(SE)	Confidence Intervals	p-value
Moderator Direct Effects:			
Covid-19 job changes → OBSE	.02(.05)	LL= -.08, LU= .13	.6887
Sector → OBSE	.01(.11)	LL= -.22, LU= .23	.9370
2-way & 3-way Interactions:			
Telecommuting support x Covid-19 job changes → OBSE	-.02(.04)	LL= -.11, LU= .07	.6574
Telecommuting support x Sector → OBSE	-.01(.10)	LL= -.22, LU= .19	.8949
Covid-19 job changes x Sector → OBSE	.13(.11)	LL= -.08, LU= .35	.2152
Telecommuting support x Covid-19 job changes x Sector → OBSE	-.04(.10)	LL= -.23, LU= .16	.6967

β= unstandardised regression coefficients, SE= standard error.
All significance tests were two-tailed.
Note: OBSE= Organisational-Based Self-Esteem

Table 11 shows the direct effects of covid-19 job changes and sector are both non-significant ($p > .05$) towards organisational-based self-esteem (although these were not explicitly hypothesised). Table 11 also shows no significant interaction effects between telecommuting support and (a) covid-19 job changes or (b) sector towards organisational-based self-esteem. Although these effects were not hypothesised, they are a natural component of the moderated-moderated mediated analysis (see Hayes, 2018).

The analysis results for the direct and moderating effects of covid-19 job changes and sector towards outcomes are shown in Tables 12-17. This analysis used the PROCESS model 12 (see Appendix 3) and included moderation mediation effects with organisational-based self-esteem as the mediator.

Table 12. Results of Moderated and Moderated Mediation Analysis for Job Satisfaction (Sample 2)

Variables	β(SE)	Confidence Intervals	p-value
Moderator Direct Effects:			
Covid-19 job changes → Job Satisfaction	-.01(.04)	LL= -.10, LU= .07	.7706
Sector → Job Satisfaction	.10(.09)	LL= -.08, LU= .29	.2656
2-way & 3-way Interactions:			
Telecommuting support x Covid-19 job changes → Job Satisfaction	.02(.04)	LL= -.05, LU= .10	.4952
Telecommuting support x Sector → Job Satisfaction	-.01(.08)	LL= -.18, LU= .15	.8868
Covid-19 job changes x Sector → Job Satisfaction	.10(.09)	LL= -.07, LU= .28	.2485
Telecommuting support x Covid-19 job changes x Sector → Job Satisfaction	.12(.08)	LL= -.04, LU= .28	.1269
Index of Moderated Mediation:			
Telecommuting support → OBSE→ Job Satisfaction x Covid-19 job changes	-.02(.05)	LL= -.11, LU= .07	.3558

β= unstandardised regression coefficients, SE= standard error.
All significance tests were two-tailed.
Note: OBSE= Organisational-Based Self-Esteem

Table 12 focuses on job satisfaction. Table 12 shows that the direct effects of covid-19 job changes and sector are non-significant towards job satisfaction ($p > .05$). This fails to support 3a and 7a from study two. Further, Table 12 also shows no significant interaction effects between telecommuting support and (a) covid-19 job changes or (b) sector towards job satisfaction. This fails to support Hypothesis 5a and 9a. In addition, there is no evidence of a significant index of moderated mediation, failing to support Hypothesis 18a.

Table 13. Results of Moderated and Moderated Mediation Analysis for Turnover Intentions (Sample 2)

Variables	β(SE)	Confidence Intervals	p-value
Moderator Direct Effects:			
Covid-19 job changes → Turnover Intentions	-.02(.05)	LL= -.13, LU= .09	.6957
Sector → Turnover Intentions	-.17(.12)	LL= -.40, LU= .06	.1569
2-way & 3-way Interactions:			
Telecommuting support x Covid-19 job changes → Turnover Intentions	.06(.05)	LL= -.03, LU= .15	.2151
Telecommuting support x Sector → Turnover Intentions	.06(.11)	LL= -.15, LU= .27	.5776
Covid-19 job changes x Sector → Turnover Intentions	-.05(.11)	LL= -.27, LU= .16	.6248
Telecommuting support x Covid-19 job changes x Sector → Turnover Intentions	-.21(.10)	LL= -.41, LU= -.02	.0352
Index of Moderated Mediation:			
Telecommuting support → OBSE→ Turnover Intentions x Covid-19 job changes	.01(.04)	LL= -.06, LU= .09	.3584

β= unstandardised regression coefficients, SE= standard error.
All significance tests were two-tailed.
Note: OBSE= Organisational-Based Self-Esteem

Table 13 shows that the direct effects of covid-19 job changes and sector are non-significant (p >.05) towards turnover intentions. This fails to support Hypothesis 3c and 7c in study two. Table 13 also shows mostly non-significant interaction effects between telecommuting support and (a) covid-19 job changes or (b) sector towards turnover intentions. However, a significant three-way interaction effect is found between telecommuting support x covid-19 job changes x sector towards turnover intentions (β= -.21(.10), p= .0352 [LL= -.41, LU= -.02]). This provides support for Hypothesis 11c but not 5c and 9c. In addition, there is no evidence of a significant index of moderated mediation, failing to support Hypothesis 18b.

Table 14. Results of Moderated and Moderated Mediation Analysis for Happiness (Sample 2)

Variables	β(SE)	Confidence Intervals	p-value
Moderator Direct Effects:			
Covid-19 job changes → Happiness	-.03(.11)	LL= -.24, LU= .19	.8100
Sector → Happiness	-.02(.23)	LL= -.49, LU= .43	.9052
2-way & 3-way Interactions:			
Telecommuting support x Covid-19 job changes → Happiness	-.02(.09)	LL= -.19, LU= .16	.8401
Telecommuting support x Sector → Happiness	-.32(.21)	LL= -.73, LU= .09	.1268
Covid-19 job changes x Sector → Happiness	.06(.22)	LL= -.37, LU= .49	.7871
Telecommuting support x Covid-19 job changes x Sector → Happiness	-.08(.20)	LL= -.47, LU= .32	.6979
Index of Moderated Mediation:			
Telecommuting support → OBSE→ Happiness x Covid-19 job changes	-.03(.08)	LL= -.19, LU= .12	.3477

β= unstandardised regression coefficients, SE= standard error.
All significance tests were two-tailed.
Note: OBSE= Organisational-Based Self-Esteem

Table 14 shows the direct effects of covid-19 job changes and sector are both non-significant ($p > .05$) towards happiness. This fails to support Hypothesis 4a and 8a. Further, Table 14 also shows that there are no significant interaction effects between telecommuting support and (a) covid-19 job changes or (b) sector towards happiness (or significant 3-way interactions). This fails to support Hypothesis 6a, 10a, or 12a. Furthermore, there is no evidence of a significant index of moderated mediation, failing to support Hypothesis 19a.

Table 15. Results of Moderated and Moderated Mediation Analysis for Job Anxiety (Sample 2)

Variables	β(SE)	Confidence Intervals	p-value
Moderator Direct Effects:			
Covid-19 job changes → Job Anxiety	.12(.05)	LL= .02, LU= .21	.0138
Sector → Job Anxiety	-.02(.10)	LL= -.22, LU= .18	.8588
2-way & 3-way Interactions:			
Telecommuting support x Covid-19 job changes → Job Anxiety	.07(.04)	LL= .00, LU= .13	.0841
Telecommuting support x Sector → Job Anxiety	-.09(.09)	LL= -.27, LU= .09	.3348
Covid-19 job changes x Sector → Job Anxiety	-.09(.10)	LL= -.28, LU= .10	.3471
Telecommuting support x Covid-19 job changes x Sector → Job Anxiety	-.07(.09)	LL= -.24, LU= .10	.4351
Index of Moderated Mediation:			
Telecommuting support → OBSE→ Job Anxiety x Covid-19 job changes	.01(.02)	LL= -.04, LU= .06	.3556

β= unstandardised regression coefficients, SE= standard error.
All significance tests were two-tailed.
Note: OBSE= Organisational-Based Self-Esteem

Table 15 shows that the direct effects of covid-19 job changes and sector are non-significant (p >.05) towards job anxiety. This fails to support Hypothesis 4c and 8c. Table 15 also shows mostly non-significant interaction effects between telecommuting support and (a) covid-19 job changes or (b) sector towards job anxiety. However, a significant two-way interaction effect is found between telecommuting support x covid-19 job changes towards job anxiety (β= .07(.04), p= .0841 [LL= .00, LU= .13]). This does not support and specific hypothesis because this interaction is only part of the 3-way analysis. Hence, there is no attributed hypothesis. Overall, fails to support Hypothesis 6c, 10c, or 12c. In addition, there is no evidence of a significant index of moderated mediation, failing to support Hypothesis 19c.

Table 16. Results of Moderated and Moderated Mediation Analysis for Job Depression (Sample 2)

Variables	β(SE)	Confidence Intervals	p-value
Moderator Direct Effects:			
Covid-19 job changes → Job Depression	.08(.05)	LL= .01, LU= .14	.0837
Sector → Job Depression	-.02(.10)	LL= -.21, LU= .17	.8464
2-way & 3-way Interactions:			
Telecommuting support x Covid-19 job changes → Job Depression	.07(.04)	LL= .01, LU= .16	.0837
Telecommuting support x Sector → Job Depression	-.04(.09)	LL= -.22, LU= .13	.6354
Covid-19 job changes x Sector → Job Depression	-.17(.09)	LL= -.33, LU= -.02	.0685
Telecommuting support x Covid-19 job changes x Sector → Job Depression	-.03(.09)	LL= -.19, LU= .14	.7593
Index of Moderated Mediation:			
Telecommuting support → OBSE→ Job Depression x Covid-19 job changes	.01(.03)	LL= -.03, LU= .05	.3571

β= unstandardised regression coefficients, SE= standard error.
All significance tests were two-tailed.
Note: OBSE= Organisational-Based Self-Esteem

Table 16 shows the direct effects of covid-19 job changes is significant towards job depression (β= .08(.05), p= .0837 [LL= .00, LU= .13]) although sector is not (p> .05). From study two, this supports Hypothesis 4d but not 8d. Table 16 also shows that there are two significant interaction effects towards job depression between telecommuting support x covid-19 job changes (β= .07(.04), p= .0837 [LL= .01, LU= .16]) and between covid-19 job changes x sector, which is included in such three-way interaction tests (β= -.17(.09), p= .0685 [LL= -.33, LU= -.02]). The former supports Hypothesis 6d although the latter is not a Hypothesised relationship.

The two-way interaction of telecommuting support x sector and the three-way interaction are non-significant (both p> .05). This fails to provide support for Hypothesis 10d. The by-product of the three-way interaction between both moderators (covid-19 job changes x sector) was not Hypothesised. This provides no support for Hypothesis 12d. In addition, there

is no evidence of a significant index of moderated mediation, failing to support Hypothesis 19d.

Table 17. Results of Moderated and Moderated Mediation Analysis for Work-Life Balance (Sample 2)

Variables	β(SE)	Confidence Intervals	p-value
Moderator Direct Effects:			
Covid-19 job changes → Work-Life Balance	-.08(.04)	LL= -.14, LU= -.01	.0497
Sector → Work-Life Balance	-.02(.08)	LL= -.15, LU= .13	.8949
2-way & 3-way Interactions:			
Telecommuting support x Covid-19 job changes → Work-Life Balance	.05(.03)	LL= .00, LU= .11	.0976
Telecommuting support x Sector → Work-Life Balance	.00(.08)	LL= -.15, LU= .13	.9600
Covid-19 job changes x Sector → Work-Life Balance	.16(.08)	LL= .03, LU= .29	.0467
Telecommuting support x Covid-19 job changes x Sector → Work-Life Balance	-.02(.07)	LL= -.14, LU= .10	.7668
Index of Moderated Mediation:			
Telecommuting support → OBSE→ Work-Life Balance x Covid-19 job changes	.01(.03)	LL= -.07, LU= .04	.3572

β= unstandardised regression coefficients, SE= standard error.
All significance tests were two-tailed.
Note: OBSE= Organisational-Based Self-Esteem

Table 17 shows the direct effects of covid-19 job changes is significant towards work-life balance (β= -.08(.04), p= .0497 [LL= -.14, LU= -.01]) although sector is not (p> .05). From study two, this supports Hypothesis 4b but not 8b. Table 17 also shows two significant interaction effects towards work-life balance between telecommuting support x covid-19 job changes (β= .05(.03), p= .0976 [LL= .00, LU= .11]) and between covid-19 job changes x sector, which is included in such three-way interaction tests (β= .16(.08), p= .0467 [LL= .03, LU= .29]). The two-way interaction of telecommuting support x sector and the three-way interaction are non-significant (both p> .05). Hence, there is support for Hypothesis 6b but no support for Hypotheses 10b or 12b. The by-product of the three-way interaction between both moderators (covid-19 job changes x sector) was not hypothesised. In addition, there is no evidence of a significant index of moderated mediation, failing to support Hypothesis 19b.

Overall, the models for outcomes are all significant (F Statistic are all $p < .05$) and account for moderate amounts of variance in sample 2 for job satisfaction (29%), work-life balance (27%), turnover intentions (19%), happiness (17%), and job anxiety and job depression (both 14%).

The significant two-way and three-way interactions are graphed to aid interpretation (see Figures 13-16) to illustrate these effects. While two significant interactions were found between Covid-19 job changes x sector, these interactions are included because they are needed for any three-way interaction tests. Due to them not being Hypothesised, they are not graphed.

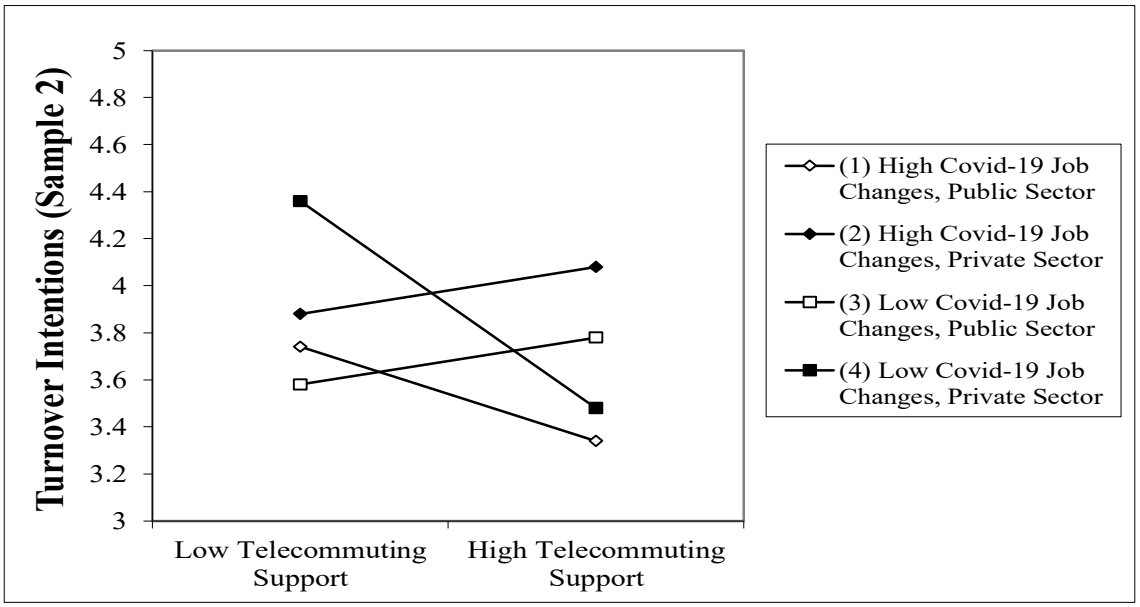


Figure 13. Three-Way Interaction between Telecommuting Support, Covid-19 Job Changes and Sector towards Happiness (Sample 2)

Figure 13 shows a significant three-way interaction effect towards turnover intentions in sample 2. Fundamentally, we are looking for the lowest turnover intentions. The interaction shows a wide range of turnover intentions amongst low telecommuting support respondents, with the highest turnover intentions (the worst performers) being those with low telecommuting support, low levels of Covid-19 job changes, and in the private sector. Employees report the

lowest turnover intentions with high telecommuting support, who work in the public sector, and who have experienced high levels of Covid-19 job changes. These respondents have turnover intentions significantly lower than all other respondents. However, those respondents with high telecommuting support, working in the private sector, and with low Covid-19 job changes also report low turnover intentions. This provides mixed support for the hypothesis.

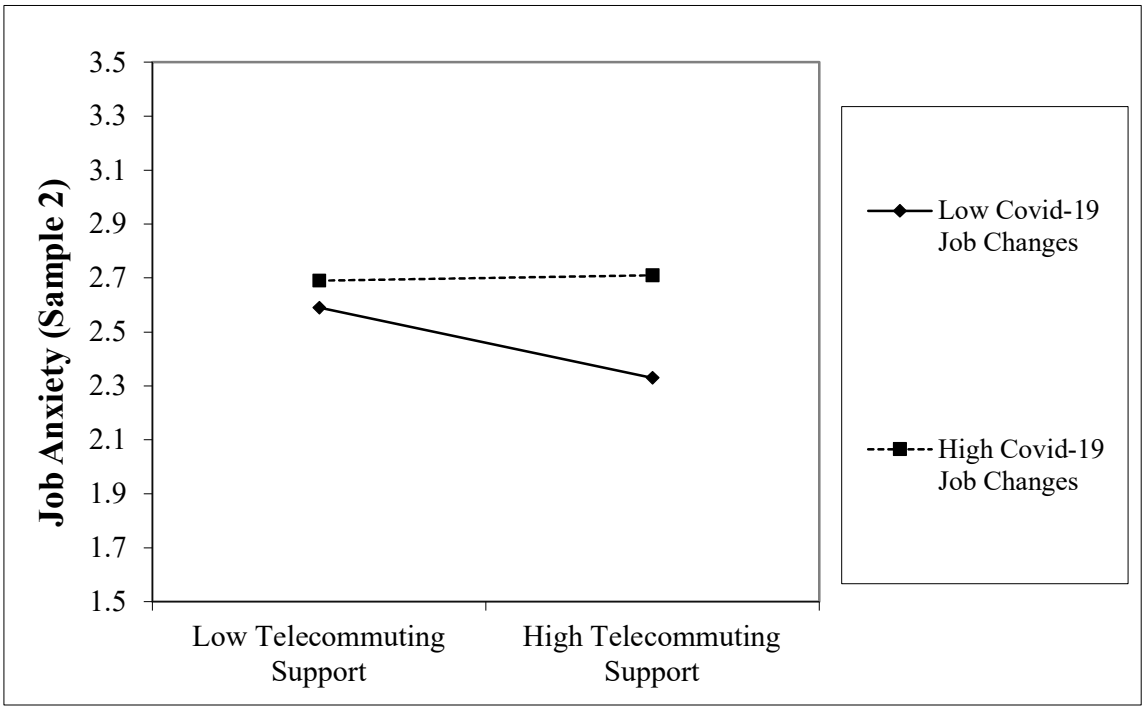


Figure 14. Two-Way Interaction between Telecommuting Support and Covid-19 Job Changes towards Job Anxiety (Sample 2)

Figure 14 shows that at low levels of telecommuting support, the influence on job anxiety in sample 2 does not differ significantly depending on whether respondents report high or low levels of Covid-19 job changes. However, at high levels of telecommuting support, those with high Covid-19 job changes report the same levels of job anxiety (high levels). Those respondents with high levels of telecommuting support and low Covid-19 job changes report a significant drop in job anxiety, ultimately reporting the lowest levels. This supports the hypothesised effect.

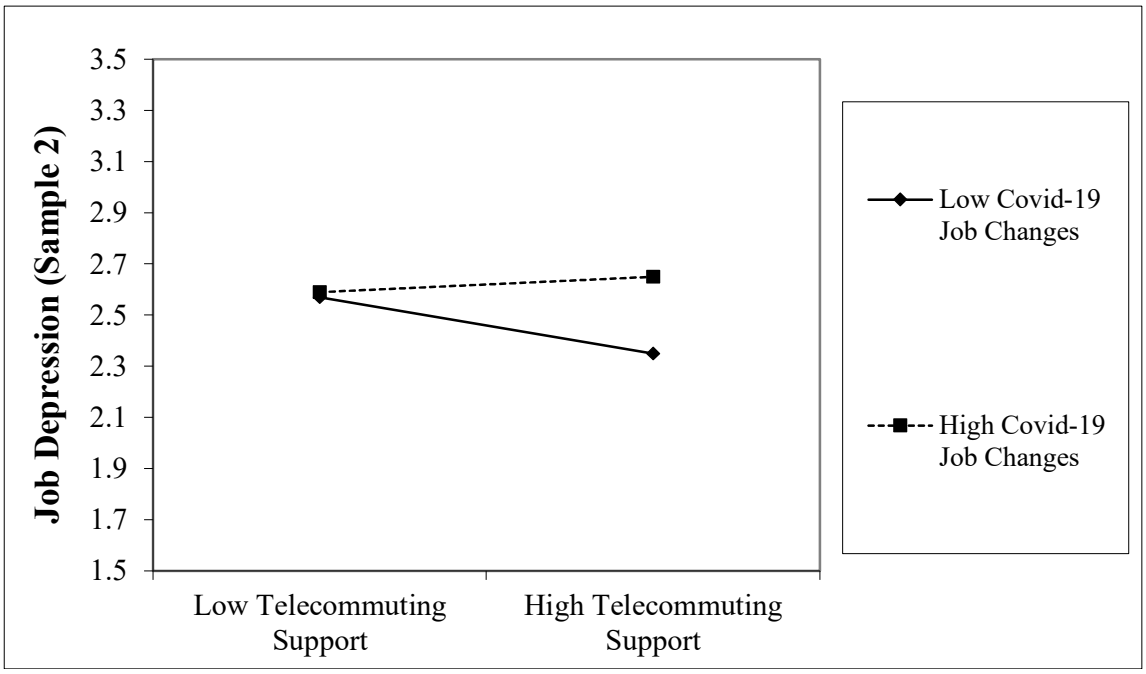


Figure 15. Two-Way Interaction between Telecommuting Support and Covid-19 Job Changes towards Job Depression (Sample 2)

Figure 15 shows that at low levels of telecommuting support, the influence on job depression (sample 2) is not significantly different on high or low levels of Covid-19 job changes. However, at high levels of telecommuting support, those with high Covid-19 job changes report the same levels of job depression (high levels). Those respondents with high levels of telecommuting support and low Covid-19 job changes report a significant drop in job depression, ultimately reporting the lowest levels. This supports the hypothesised effect.

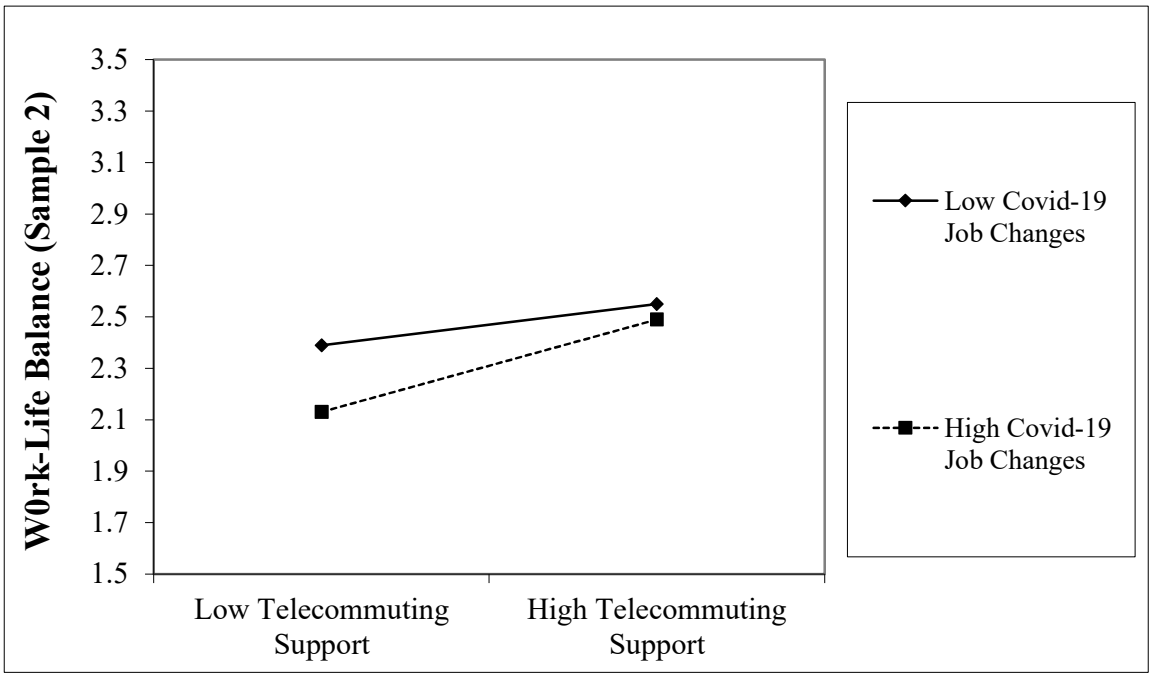


Figure 16. Two-Way Interaction between Telecommuting Support and Covid-19 Job Changes towards Work-Life Balance (Sample 2)

Figure 16 shows that at low levels of telecommuting support, the influence on work-life balance in sample 2 differs significantly. Those are reporting high levels of Covid-19 job changes reporting the lowest work-life balance, and those with low Covid-19 job changes reporting the highest work-life balance. When compared to respondents with high levels of telecommuting support, all respondents in this group report similarly high levels of work-life balance, irrespective of either high or low Covid-19 job changes. This broadly supports the hypothesised effect.

A summary of all Hypotheses and findings from sample two is provided in Table 18.

Table 18. Summary of Hypotheses and Results (Sample two)

Hypothesis	Relationships	Results
Direct Effects Only		
Hypotheses 1	Telecommuting Support will be positively related to (a) job satisfaction and (b) work engagement [sample one only].	H1a **supported** H1b **supported**
Hypothesis 1c	Telecommuting Support will be negatively related to turnover intentions.	H1c **supported**
Hypotheses 2	Telecommuting Support will be positively related to (a) happiness and (b) work-life balance [sample two only].	H2a **supported** H2b Not this study
Hypotheses 2	Telecommuting Support will be negatively related to (c) job anxiety and (d) job depression.	H2c **supported** H2d **supported**
Hypotheses 3	Covid-19 job changes will be negatively related to (a) job satisfaction and (b) work engagement [sample one only].	H3a not supported H3b not supported
Hypothesis 3c	Covid-19 job changes will be positively related to turnover intentions.	H3c not supported
Hypotheses 4	Covid-19 job changes will be negatively related to (a) happiness and (b) work-life balance [sample two only].	H4a not supported H4b Not this study
Hypotheses 4	Covid-19 job changes will be positively related to (c) job anxiety and (d) job depression.	H4c not supported H4d not supported
Hypotheses 7	The public sector will be positively related to (a) job satisfaction and (b) work engagement [sample one only].	H7a not supported H7b not supported
Hypothesis 7c	The public sector will be negatively related to turnover intentions.	H7c not supported
Hypotheses 8	The public sector will be positively related to (a) happiness and (b) work-life balance [sample two only].	H8a not supported H8b Not this study
Hypotheses 8	The public sector will be negatively related to (c) job anxiety and (d) job depression.	H8c not supported H8d not supported
2-Way Moderation Effects Only		

Hypotheses 5	Covid-19 job changes will interact with telecommuting support towards (a) job satisfaction and (b) work engagement [sample one only].	H5a not supported **H5b supported**
Hypothesis 5c	Covid-19 job changes will interact with telecommuting support towards turnover intentions.	H5c not supported
Hypotheses 6	Covid-19 job changes will interact with telecommuting support towards (a) happiness and (b) work-life balance [sample two only].	H6a not supported H6b Not this study
Hypotheses 6	Covid-19 job changes will interact with telecommuting support towards (c) job anxiety and (d) job depression.	H6c not supported H6d not supported
Hypotheses 9	The public sector will interact with telecommuting support towards (a) job satisfaction and (b) work engagement [sample one only].	H9a not supported H9b not supported 9
Hypothesis 9c	The public sector will interact with telecommuting support towards turnover intentions.	H9c not supported
Hypotheses 10	The public sector will interact with telecommuting support towards (a) happiness and (b) work-life balance [sample two only].	H10a not supported H10b Not this study
Hypotheses 10	The public sector will interact with telecommuting support towards (c) job anxiety and (d) job depression.	H10c not supported H10d not supported
3-Way Moderation Effects Only		
Hypotheses 11	Covid-19 job changes and the public sector will interact with telecommuting support towards (a) job satisfaction and (b) work engagement [sample one only].	**H11a supported** **H11b supported**
Hypothesis 11c	Covid-19 job changes and the public sector will interact with telecommuting support towards turnover intentions.	**H11c supported**
Hypotheses 12	Covid-19 job changes and the public sector will interact with telecommuting support towards (a) happiness and (b) work-life balance [sample two only].	**H12a supported** H12b Not this study
Hypotheses 12	Covid-19 job changes and the public sector will interact with telecommuting support towards (c) job anxiety and (d) job depression.	**H12c supported** **H12d supported**

Organisational-Based Self Esteem [sample 2 only]		
Hypotheses 13	Telecommuting Support will be positively related to organisational-based self-esteem.	H13 **supported**
Hypotheses 14	Organisational-based self-esteem will be positively related to (a) job satisfaction and (b) negatively related to turnover intentions.	H14a **supported** H14b **supported**
Hypotheses 15	Organisational-based self-esteem will be positively related to (a) happiness and (b) work-life balance.	H15a **supported** H15b **supported**
Hypotheses 15	Organisational-based self-esteem will be negatively related to (c) job anxiety and (d) job depression.	H15c **supported** H15d **supported**
Hypothesis 16	Organisational-based self-esteem will mediate the influence of telecommuting support to (a) job satisfaction and (b) turnover intentions.	H16a **supported** H16b **supported**
Hypothesis 17	Organisational-based self-esteem will mediate the influence of telecommuting support to (a) happiness and (b) work-life balance.	H17a **supported** H17b **supported**
Hypothesis 17:	Organisational-based self-esteem will mediate the influence of telecommuting support to (c) job anxiety and (d) job depression.	H17c **supported** H17d **supported**
Moderated-Moderated-Mediated Effects		
Hypothesis 18	The indirect effect of telecommuting support towards (a) job satisfaction and (b) turnover intentions via OBSE will be moderated by Covid-19 job changes and public sector (moderated-moderated-mediated), being most beneficial for high Covid-19 job changes and public sector employees.	H18a not supported H18b not supported
Hypothesis 19	The indirect effect of telecommuting support towards (a) happiness and (b) work-life balance via OBSE will be moderated by Covid-19 job changes and public sector (moderated-moderated-mediated), being most beneficial for high Covid-19 job changes and public sector employees.	H19a not supported H19b not supported

Hypothesis 19	The indirect effect of telecommuting support towards (c) job anxiety and (d) job depression via OBSE will be moderated by Covid-19 job changes and public sector (moderated-moderated-mediated), being most beneficial for high Covid-19 job changes and public sector employees.	H19c not supported H19d not supported

Overall, there is strong support for the majority of Hypotheses across both samples. Only the moderating and moderated-mediating effects towards well-being outcomes were universally not supported, although there was support for moderation effects towards outcomes. While organisational-based self-esteem consistently played a mediating role, there was no evidence of moderated mediation. The implications of these findings are discussed in the next chapter.

Chapter 5 DISCUSSION

5.1 Introduction

The Covid-19 pandemic increased the use of telecommuting because of the need for social distancing to stop spreading the virus, and telecommuting was the only way to do that (Kaushik & Guleria, 2020). This study aimed to determine the effect of telecommunicating support provided for employees working from home on work and well-being outcomes, using a sample of New Zealand employees post lockdown in May 2020. The data were collected just after level four (lockdown) in New Zealand containing two samples, public sector N=446 employees and private sector N=357 employees. In addition, two moderators were included (1) the job changes driven by Covid-19 as a relevant contextual factor, and (2) the role that sector plays, with expectations that public sector employees will be better supported. Theoretically, New Zealand organisations providing superior support for workers telecommuting should elicit enhanced work and well-being outcomes (under SET), and this was the primary focus of this dissertation. The details of the findings and results are mentioned in the previous chapter. This chapter aims to discuss the essential findings and understand the significance of the results and the implications and limitations of the study.

5.2 Key Findings

This section shows the job and well-being results for both samples.

5.2.1 *Job Outcomes*

This section details the key findings towards job satisfaction, work engagement, and turnover intentions. These are each detailed separately.

Job Satisfaction. The results for the hypothesis found support regarding the relationship between telecommuting support and job satisfaction in both samples. The explanation of this relationship is supported by SET and, similarly, organisational support

theory, which suggests that employees will improve their work outcomes, including better attitudes such as job satisfaction, if the organisation provides them with resources and value their contribution (Biswas & Bhatnagar, 2013; Cullen et al., 2014). While previous studies have shown links between telecommuting options and job satisfaction (e.g., Arrington, 2007; Johnson, 2016; Pinsonneault & Boisvert, 2001), these are typical whether employees are allowed to telecommute – with the majority of employees not able. Thus, support for these effects is important in the context of Covid-19 and a nationwide lockdown.

Hence, in the context of a Covid-19 world, where large tracts of the workforce are mandated to work from home, organisations that support telecommuting better can achieve superior workforce job satisfaction. Under SET (Blau, 1964), employees are expected to react to their organisation's support with positive work outcomes. In effect, as a payback to the organisation for their 'extra effort' in supporting employees telecommuting experiences. Therefore, the results support the broad studies in the literature (e.g., Kurtessis et al., 2017; Miao, 2011; Miao & Kim, 2010; Virick et al., 2010). Under SET, workers have a felt obligation to reciprocate (Haar & Spell, 2004), and the evidence here supports this towards job satisfaction.

Work Engagement. (U. Ahmed et al., 2016; Swanberg et al., 2011)Supporting hypothesis 1b, the current findings in sample one (as only explored in this study) show that telecommuting support is significantly related to work engagement and provides new evidence in the Covid-19 context. Previous studies concluded that perceived organisational support could be of great value and significantly impact work engagement because it improves the employees' dedication, vigour, and fostering energy (U. Ahmed et al., 2016; Bakker & Bal, 2010; Rich et al., 2010). At the same time, organisational support has been found to influence

and predict work engagement (Ahmed et al., 2016; Swanberg et al., 2011), no current meta-analysis supports it (see Kurtessis et al., 2017).

When applying the SET rules, the employees' work engagement should increase when the organisation provides proper support that employees consider is valuable and above any mandated expectations (Haar & Spell, 2004). In contrast, when the organisation fails to provide the required support level, employees will respond in disengagement (Pohl et al., 2016). Therefore, when the employees perceive organisational support and believe that their organisation provides them with certain benefits, employees will improve their job outcomes, including work engagement (Turnley, Bolino, Lester, & Bloodgood, 2003).

Turnover Intentions. According to organisational equilibrium by March and Simon (1958), the employees' intention to leave their organisations is based on the balance between the required tasks and the organisation's resources. When organisations provide resources and support for employees that will improve the employees' job satisfaction, job performance, innovation, and increase the level of trust between the organisation and employees, all of that lead to reduce the employees' intentions to leave (Kurtessis et al., 2017; Mummedy, 2008; Rhoades & Eisenberger, 2002). This thesis has found support towards some outcomes like job satisfaction and engagement (above).

Therefore, as predicted in hypothesis 1c, turnover intentions are significantly related to telecommuting support in both samples, supporting the research (Gajendran & Harrison, 2007; Tumwesigye, 2010; Maertz Jr et al., 2007). The organisational support theory justifies the significant relationship. The organisational support theory suggests that when employees perceive organisational support that is valued (e.g., (Haar & Spell, 2004), that will increase the employees' obligations to help their organisation to achieve its goals and objectives and reduce

withdrawal work behaviours such as turnover (Krishnan & Mary, 2012; Rhoades & Eisenberger, 2002). Again, this aligns with SET.

5.2.2 *Well-being Outcomes*

This section details the key findings towards happiness, job anxiety, job depression, and work-life balance. These are each detailed separately. The employees' mental health has become vital for organisations to improve by providing a workplace without risk to the health and safety of the employees (J. Haar & Brougham, 2020). It has been suggested that types of organisational support might reduce the adverse psychosomatic and psychological reactions to stressors by providing emotional support and material aid when needed in the workplace (Rhoades & Eisenberger, 2002). The results show strong support for the direct effects of telecommuting support toward well-being outcome as the flowing:

Happiness. Results from both samples show that telecommuting support is significantly related to happiness, as predicted in hypothesis 2a. The result is consistent with the research of Bajaj and Krishnan (2016) in their study of justice perceptions and enhancing employee happiness, also using SET. According to Homans (1961), individuals initiate providing help in exchange for another's social approval. The organisational social exchange relationship is fatal to reduce the negative and enhance the positive effects of employees (Biggs et al., 2014). Therefore, organisational support like that towards telecommuting can improve the employees' reaction toward their jobs and improve their moods and happiness (Bajaj & Krishnan, 2016; Fard et al., 2015; Rhoades & Eisenberger, 2002).

The inclusion of happiness is an essential contribution to the support literature because it is not expected. This also supports the notion that a well-supported worker is a happy worker.

In contrast, the lack of organisational support may lead to employee's burnout and losing connection with their work; such a work environment will presumably reduce the level of happiness for employees (Bakker & Oerlemans, 2016).

Job Anxiety and Job Depression. In both samples, the findings show a significant relationship between telecommuting support and job anxiety and job depression, supporting hypothesised effects. Employees perceiving high organisational support are less likely to be impacted by workplace stressors and protect them from job anxiety and job depression, which aligns well with other empirical studies in the literature (J. Haar & Brougham, 2020; Labrague & De los Santos, 2020; Virtanen, 2008). In contrast, the lack of perceived organisational support increases the level of anxiety and depression of the employees (Virtanen, 2008). According to Haar and Brougham (2020), there is a link between perceived organisational support and well-being outcomes, including lower emotional exhaustion and stress.

Furthermore, the significant relationship is because organisational support provides reinforcement, resources, communication, and encouragement to employees to conduct their work effectively, leading to positive work outcomes, including less anxiety (Labrague & Santos, 2020; Rhoades & Eisenberger, 2002). Therefore, when the organisational support is fulfilling the employees socioemotional and increasing the anticipation of help, that will lead to better well-being, including lower job anxiety and job depression. Here, employees are expected to report better well-being outcomes in a high support context because this reflects, they can rely on help when needed. This was strongly supported in this thesis because it was found towards both job anxiety and job depression across both samples.

Work-Life Balance. Supporting the hypothesis, the study shows that telecommuting support is significantly related to work-life balance in sample two only. Haar, Sune, Russo, and Ollier-Malaterre (2019) reported that supervisor support was positively related to work-life balance. This result matched with the results in Carson and Kacmar (2000); they suggested the positive relationship is because when the organisation provides the support to help employees with a work-life balance, it will result in better job and family performance. Also, employees who perceive organisational support experience less family conflict, and when organisations provide a suitable work environment that will positively affect the work-life balance (Allen, 2001; J. M. Haar, Sune, Russo, & Ollier-Malaterre, 2019; Pauli et al., 2018). The present study extends that to show that employees who perceive superior support from their organisation towards telecommuting also elicit more significant work-life balance benefits. This provides valuable insights towards understanding how telecommuting support can enhance work-life balance.

5.2.3 *Summary of Direct Effects*

In summary, the findings provide valuable insights towards job and well-being outcomes. Overall, the direct effects of telecommuting support towards job outcomes were fully supported across all outcomes (job satisfaction, work engagement, and turnover intentions) and both samples. This provides empirical support that New Zealand organisations perceived as being better at supporting their workforces' telecommuting experiences were repaid by enhanced job attitudes and behaviours by their workforce. Regarding the well-being outcomes, in both samples, the direct effects of telecommuting support towards well-being outcomes were fully supported across all outcomes including, happiness, job anxiety, job depression, and work-life balance. The results highlight the importance and effectiveness of telecommuting support on improving the employees' well-being outcomes. The results provide empirical support that employees in New Zealand who perceived telecommuting support

reported a low level of job depression, job anxiety, high level of happiness, and work-life balance.

5.3 **Covid-19 Job Change and Sector**

Beyond the direct effects of telecommuting support, this thesis also explored the role of two moderators: job change concerning Covid-19 and sector. The study selected both of these to provide (1) context to the current Covid-19 pandemic and potential effects on workers, and (2) a sector context because it has been argued that public and private sectors might react differently to such a crisis. The Covid-19 pandemic changed the way of doing business and forced organisations to change how they operate and generate prosperous, secure, and rewarding jobs (de Lucas Ancillo, del Val Núñez, & Gavrila, 2021; Kniffin et al., 2021). Covid-19 introduced new work challenges, and organisations demonstrated their ability to deal with them by establishing new workplace conditions to protect employees and pre-designed crisis management (KPMG, 2020d).

Covid-19 transformed workplaces as organisations were not prepared for such a situation where employees were forced to work remotely from home away from the central office (de Lucas Ancillo et al., 2021; Kniffin et al., 2021). Furthermore, there are various health-related and social-psychological effects for telecommuters (Kniffin et al., 2021). Telecommuting is essential during the pandemic to create a new workplace while studying the employees' feedback to understand how the workplace could be in the future (de Lucas Ancillo et al., 2021). Therefore, it is crucial to understand the relationship between Covid-19 job changes and job outcomes to better understand and prepare the future workplace, especially during unusual situations such as Covid-19. According to the above, this research examined the relationship between Covid-19 job changes and job outcomes.

After examining the relationship between Covid-19 job changes and sector and job and well-being outcomes, the results show that there is no significant direct effect from Covid-19 job change toward job satisfaction, work engagement, happiness, turnover intentions, job anxiety, job depression and work-life balance in sample one failing to support the hypothesised effects. This runs counter to the large job insecurity literature (Sverke, Hellgren, & Näswall, 2002; Jiang & Lavaysse, 2018), although this change from Covid-19 might be explained because not all change was detrimental. For example, some businesses grew their online business to become more profitable. This might explain the lack of direct effect on job outcomes.

In addition, the results for sample two were similarly non-significant except for a positive relationship between Covid-19 job change and job anxiety (positive) and work-life balance (negative). These do support the hypothesised effects. Here, these are detrimental effects – more anxiety and less work-life balance – suggesting that these job changes due to Covid-19 are detrimental for some employees. The following effect was around the sector. Similarly, the results in both samples between sector and outcomes (job satisfaction, work engagement, happiness, turnover intentions, job anxiety, job depression, and work-life balance) were all non-significant. Thus, this failed to support hypothesised effects. While some have suggested that public sector organisations face different pressures (Dolcos & Daley, 2009; Ingram & Simons, 1995) and might provide different effects on well-being outcomes (Hansen & Kjeldsen, 2018), this was not supported here.

5.4 **Moderating Effects**

Beyond these direct effects, the study explored moderation effects. Several hypotheses were supported in sample one. For example, the three-way interaction of telecommuting support, Covid-19 job changes, and public sector were significant towards job satisfaction,

although not significant in sample two. Therefore, employees working in the public sector with low Covid-19 job changes and perceiving high telecommuting support reported higher job satisfaction. Interestingly, in both samples, the two-way interaction effects between telecommuting support and either Covid-19 job changes or public sector were insignificant towards job satisfaction, suggesting that telecommuting support's direct effects are broadly consistent towards job satisfaction.

However, the hypothesised moderation effects were not supported towards work engagement. The literature suggests that perceiving organisational support is crucial in improving work engagement (Ahmed et al., 2016; Cheng, Hong, & Zhong, 2021; Xu, Zhang, Bu, & He, 2021). This was supported here with direct effects. However, a study by Cheng, Hong, and Zhong (2021) showed that the level of organisational support affected the negative impact of Covid-19 on work engagement. However, similar effects were not supported in the present study.

However, as predicted, a significant interaction between telecommuting support and sector towards work engagement was found. This aligns with the meta-analysis by Robertson and Seneviratne (1995), who reported that public sector employees enjoyed superior work outcomes than private-sector employees. Here, it was found that public sector employees reported higher levels of work engagement when telecommuting support was high. Despite the lack of direct effects from the sector, this does provide the first evidence of public sector differences in study one. Furthermore, another significant three-way interaction was found between telecommuting support, Covid-19 job changes, and sector towards work engagement, supporting the hypothesis. Again, this showed that the highest work engagement score was for public sector employees, supporting Robertson and Seneviratne (1995). Interestingly, this is irrespective of whether Covid-19 job changes were high or low, just that telecommuting

support was high. Thus, employees in the public sector reported higher telecommuting support, which reflected significantly higher work engagement reporting.

In both samples, telecommuting support does not interact significantly with either Covid-19 job changes or sector towards turnover intentions, failing to support the hypothesised effects. However, in combination, the three-way interaction between telecommuting support, sector, and Covid-19 job changes, significant effects are found towards turnover intentions in both samples. The effects show that employees who perceived high telecommuting support, with a low level of Covid-19 job changes and working in the public sector reported the lowest turnover intentions. This supports the argument that Covid-19 job changes play an essential role and the context of the sector (Robertson & Seneviratne, 1995). Here, it is key to employee retention for the public sector especially. These effects are important because, in the present thesis, several two-way interactions are not significant. However, differences are being found when the three factors are explored together: telecommuting support, public sector and Covid-19 job changes. At least towards work engagement in sample one and turnover intentions in both samples.

Towards happiness, in both samples, telecommuting support does not significantly interact with either Covid-19 job changes or sector, showing there may be no such effects towards happiness. Indeed, Robertson and Seneviratne (1995), in their meta-analysis, did only find some differences towards public sector workers and not amongst all work outcomes. However, a significant three-way interaction was found towards happiness. The results showed the highest happiness amongst employees who perceived telecommuting support, working in the public sector, and experienced a low level of Covid-19 job changes. These findings are significant because despite happiness being an individual core factor, its attention in employee studies is limited (for exceptions, see Lyubomirsky, King, & Diener, 2005; Bakker et al., 2013;

Demerouti, Shimazu, Bakker, Shimada, & Kawakami, 2013; Haar, Schmitz, Di Fabio, & Daellenbach, 2019b).

Towards mental health outcomes (job anxiety and job depression), there are mixed interaction effects. Telecommuting support does not interact significantly with sector towards job anxiety and job depression in both samples. However, telecommuting support does interact significantly with Covid-19 job changes in sample two but not sample one. Also, as predicted, three-way significant interaction effects were found for both job anxiety and job depression. Therefore, the results show that employees who perceived high telecommuting support, with a low level of Covid-19 job changes and working in the public sector, reported the lowest job anxiety and job depression. While this is highly consistent across both mental health outcomes, the next level it is worth noting that towards job anxiety, employees working in the private sector, with high telecommuting support, and experienced a high level of Covid-19 job changes, reported the second-lowest level of job anxiety and job depression. Hence, participants towards both outcomes report low mental health issues when telecommuting support is high, but differences exist across the influence of Covid-19 job changes depending on the sector.

Sample two only explored work-life balance, and telecommuting support and Covid-19 job changes were found to significantly interact, although sector and the three-way interaction were not supported. The interaction found strong differences across employees with low telecommuting support, with those with high Covid-19 job changes reporting lower work-life balance than respondents with low Covid-19 job changes. All respondents with high telecommuting support reported higher work-life balance, and both groups (low and high) Covid-19 job changes reported similar work-life balance levels. These findings improve our understanding of work-life balance, adding to that literature (e.g., Haar, 2013; Haar et al., 2014,

2018). This is important because moderators within work-life balance studies are rare (see Haar et al., 2019; Haar & Harris, 2021).

5.5 **Organisational-Based Self-Esteem**

Beyond the direct effects tested above, study two included OBSE as a mediator because there is a strong relationship between OBSE and job outcomes (Bowling et al., 2010). After testing the direct effect of telecommuting support on the job outcomes in sample one, OBSE was used to test if it mediated the relationships between telecommuting support and outcomes. This was tested in sample two to understand better employees' behaviours and a comprehensive understanding of the factors that can affect job outcomes (Ghafoor & Haar, 2019). Furthermore, including OBSE as a mediator gives a better understanding of the factors that influence job outcomes in combination to uncover the boundary conditions (Ghafoor & Haar, 2019).

Chen et al. (2016), after they examined the relationship between organisational support and OBSE, concluded that organisational support is one of the factors that play a significant role in affecting OBSE. In their meta-analysis, Bowling et al. (2010) found three forms of support – organisational, supervisor, and co-worker – were significantly related to OBSE. As predicted here, in sample two, there is a significant relationship between telecommuting support and OBSE. This adds to the types of support found by Bowling et al. (2010). Further, OBSE was significantly related to job satisfaction and turnover intentions, supporting the meta-analysis findings (Bowling et al., 2010). While those job outcomes have been explored often in the literature, Bowling et al.'s (2010) meta-analysis showed depression had been explored only twice. Thus, the direct effects of OBSE on happiness, work-life balance, job anxiety and job depression all add to the literature. This dramatically extends the type of well-being outcomes examined with OBSE. Hence, this thesis is one of the few to explore the links

between OBSE and many of these well-being outcomes, highlighting the importance of self-esteem from work on worker well-being.

Beyond the consistent direct effects, OBSE was found to mediate the direct effect of telecommuting support. Therefore, when including OBSE in the model, that changed the significant relationship between telecommuting support towards job satisfaction, turnover intentions, and job anxiety and job depression, making these initially significant direct effects non-significant. In addition, it also partially mediated the effect of telecommuting support towards happiness and work-life balance. Despite these effects, Hayes (2018) encourages examining indirect effects to determine whether (here) telecommuting support still plays a beneficial effect towards outcomes. Indeed, the indirect effect of telecommuting support was beneficial and significant, supporting OBSE as playing a partial mediation effect only.

Beyond these effects, Covid-19 job changes and sector were also included as moderators of the mediated effects, and thus multiple moderated-moderated-mediated models (see Hayes, 2018) were tested. However, despite being seldom explored in the literature (see Haar et al., 2019 for an exception), exploring a moderated-moderated-mediated model was appropriate given the two moderators used here. However, no statistically significant effects were found. Given that levels of interaction effects can be difficult to detect (see Aguinis & Stone-Romero, 1997; Stone & Hollenbeck, 1989), perhaps this is not surprising. Ultimately, this means the effects of telecommuting support – direct or indirect, and OBSE on all outcomes is consistent and not subject to boundary conditions. This provides certainty that these factors are crucial and not constrained by an additional force, such as a boundary condition based on sector and Covid-19.

5.6 **Contributions**

The present study supports the organisational support theory literature. Further, while it also supports the literature on the relationship between telecommuting support and employees' job and well-being outcomes, it extends this with its current context and focus. This thesis provides much-needed insights into how New Zealand organisations managed the Covid-19 pandemic and its effects on the workforce. Also, it provides human resources departments, managers, and employees in New Zealand organisations, understanding that telecommuting support provides the employees with several advantages. These include enhanced job satisfaction, work engagement, happiness, work-life balance, and lower job anxiety, job depression, and turnover intentions.

After Covid-19 changed the way New Zealand (and global) organisations operate and the importance to understand the workplace changes and their effect on employees, this study contributes to understanding how Covid-19 job changes related to the employees' job and well-being outcomes. Also, the present study examined the difference between private and public sectors and their effects on work outcomes. Furthermore, including the participants only from New Zealand and those who worked full-time during the lockdown does provide organisations and researchers with comprehensive and deep insight into the best way to operate remotely with the importance of providing telecommuting support to the employees to make telecommuting a successful experience for Kiwis. The key is not only working remotely, but organisations are offering a solid level of support as this gains the most substantial advantages to employees and their employers.

Furthermore, the study adds more evidence theoretically towards SET. It emphasises the importance of social exchange relationships at the workplace, especially in environments that challenge both employees and employers, such as Covid-19. This makes a valuable theoretical contribution and shows that SET appears to function normally (and as expected)

even within the context of unusual factors like a global pandemic. Given that most studies explore telecommuting as an 'optional extra', the present study extends that literature by exploring telecommuting support. Further, given the context where most workers were telecommuting without any other option (except for essential workers), this highlights the theoretically aligned benefit for the organisation that exceed the level of support expected by employees. Overall, this shows that telecommuting and its organisational support are likely to be positive and beneficial for workers and employers (e.g., higher productivity and lower turnover). It shows that organisations providing extra support for telecommuting can elicit the felt obligations under SET (Haar & Spell, 2004), providing a pathway for their employees to enjoy superior well-being and work outcomes.

These findings also have implications for researchers. First, researchers might want to explore telecommuting options (yes/no) and telecommuting support in the future. This would be especially useful if workforces (potentially) return to the pre-Covid-19 norm, where telecommuting is rare. Does providing superior support benefit beyond offering to telecommute? Given that working-from-home options appear to be changing and becoming more normalised after the global working-from-home experiments due to Covid-19, it might be that organisational support for telecommuting will continue to be an essential factor. More research on this is needed. The present study could also be expanded to include other job and well-being outcomes, including organisational citizenship behaviours and job performance, as well as job burnout. The use of different moderators might be useful for better understanding the potential effects, including boundary conditions. These might include personality factors and other forms of workplace support, like leadership styles. Future research might also include mediators, given that study 2 showed OBSE appeared to play a vital mediation role. Other factors like psychological capital (Luthans et al., 2007) might be useful. Further, replication in other settings like Australia or the United States might aid our understanding of the

generalisability of the effects being found here. Future studies might also seek external data such as actual turnover or supervisor-rated job performance to provide unique insights and understanding.

5.7 **Limitations**

Common method variance (CMV) is a potential concern with many studies, especially student work, where the researcher has strong financial and time constraints. However, the present thesis sought to moderate these potential concerns by using two studies. There have been called for studies conducting greater replication because, statistically, this approach provides greater confidence in effects (Nuzzo, 2014). Further, Haar, Russo, Sune, and Ollier-Malaterre (2014) suggested that the use of high-level statistical analysis on constructs – specifically CFA and alternative CFA model testing, provides more substantial confidence in variables being studied. They argue that the constructs have solid and unique psychometric properties, which is not likely to suffer from CMV (Haar et al., 2014). In addition, Evans (1985) conducted Monte Carlo analyses and found that CMV is unlikely in the presence of significant moderation effects. While a large number of significant moderation effects were not found, the small number found does lend support for this argument.

Beyond following suggestions from Podsakoff, MacKenzie, Lee, and Podsakoff (2003), I conducted post-hoc tests on both samples. Harman's One Factor Test reflects an unrotated factor analysis, whereby if a dominant factor accounts for 50 per cent or more variance, then that is evidence of CMV. In study 1, this produced the most prominent factor that accounted for 37.7 per cent of the variance. In study 2, this was 36.2 per cent of the variance. Both are well below the CMV threshold (Podsakoff et al., 2003), suggesting CMV is not an issue. Overall, the thesis used two studies with large and representative samples of New

Zealand employees, spread across a broad range of sectors and industries, providing confidence in the generalizability of the data.

5.8 **Conclusion**

The Covid-19 pandemic forms an actual threat to the health systems and economics worldwide. The new policies and measures resulting from the pandemic, such as social distancing, gathering restrictions and lockdowns, forced organisations to operate remotely to keep the business going. Therefore, in New Zealand, in an attempt to control the virus and stop the spreading, the government announced several restrictions, including a complete lockdown for the whole country. During levels three and four, organisations were forced to operate remotely.

Considering the unique circumstances of the Covid-19 pandemic, this study aimed to examine the relationship between support perceptions towards telecommuting and job and well-being outcomes. These include employees' job satisfaction, happiness, work engagement, turnover intentions, work-life balance, job depression, and job anxiety in New Zealand during the lockdown. Furthermore, the research examined whether Covid-19 job changes moderate the influence of telecommuting support, explicitly measuring the associated changes when Covid-19 job changes are significant. Additionally, understanding the difference between the private and public sectors concerning telecommuting support.

The hypotheses were tested using two samples: study 1 with 446 employees from both the public and private sectors, and study 2, with 357 employees from both public and private sectors, who worked full time during levels three and four in New Zealand. The overall findings show that telecommuting support is negatively related to turnover intentions, job anxiety, and job depression. Also, telecommuting support's consistent effects positively relate to job satisfaction, work engagement, happiness, and work-life balance. Many significant moderation

effects are found – especially in sample one – supporting the notion that public sector workers (in particular) do best, especially when Covid-19 job changes are low.

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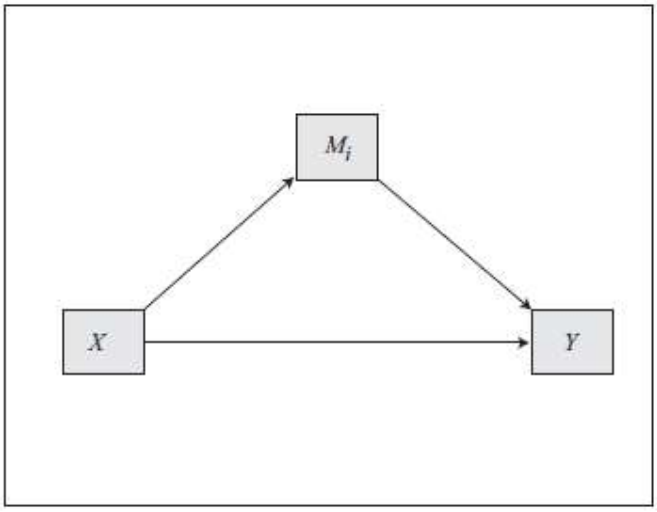
Appendix 1. PROCESS Model 4.

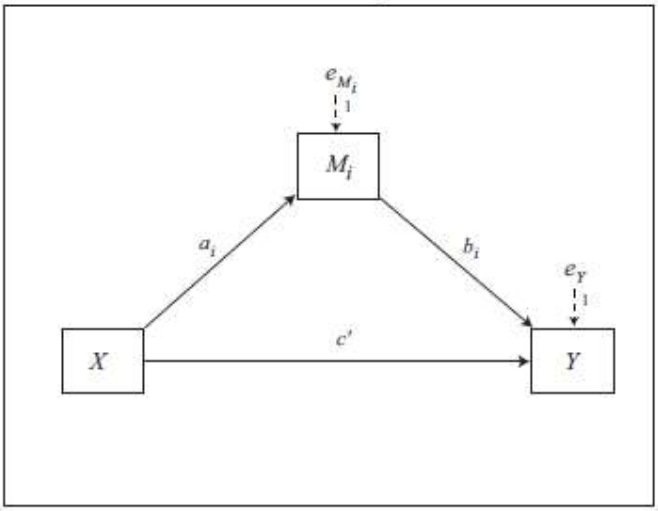
Model Templates for PROCESS for SPSS and SAS

Model 4

Conceptual Diagram



Statistical Diagram



Indirect effect of X on Y through $M_i = a_i b_i$
Direct effect of X on $Y = c'$

*Model 4 allows up to 10 mediators operating in parallel

Appendix 2. PROCESS Model 3.

Model Templates for PROCESS for SPSS and SAS
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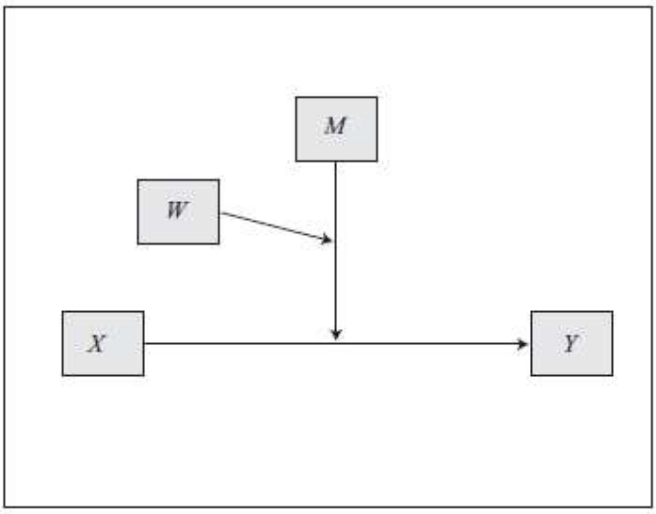
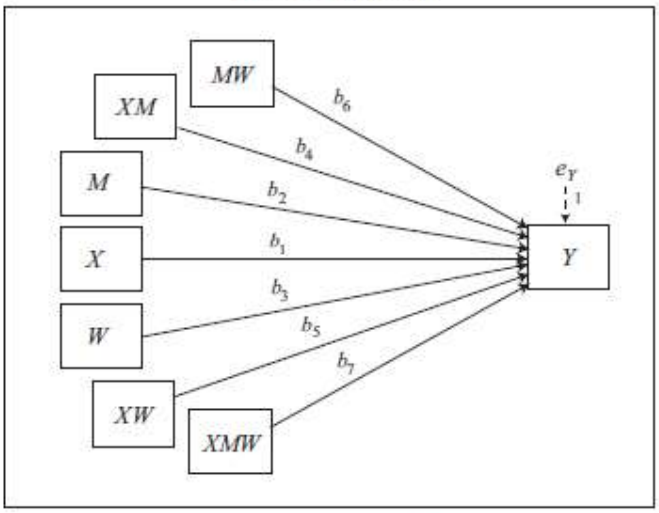
Model 3

Conceptual Diagram



Statistical Diagram



Conditional effect of X on $Y = b_1 + b_4M + b_5W + b_7MW$

Appendix 3. PROCESS Model 12.

Model Templates for PROCESS for SPSS and SAS
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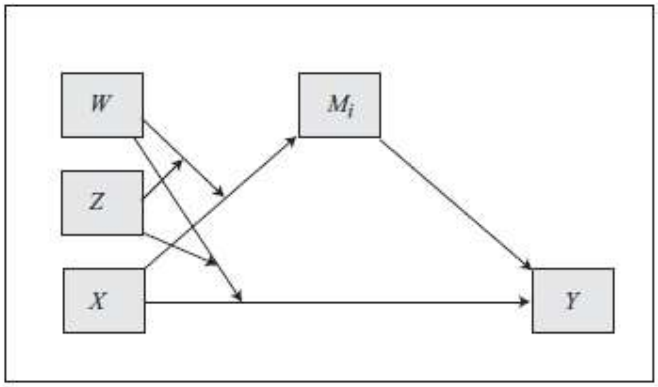
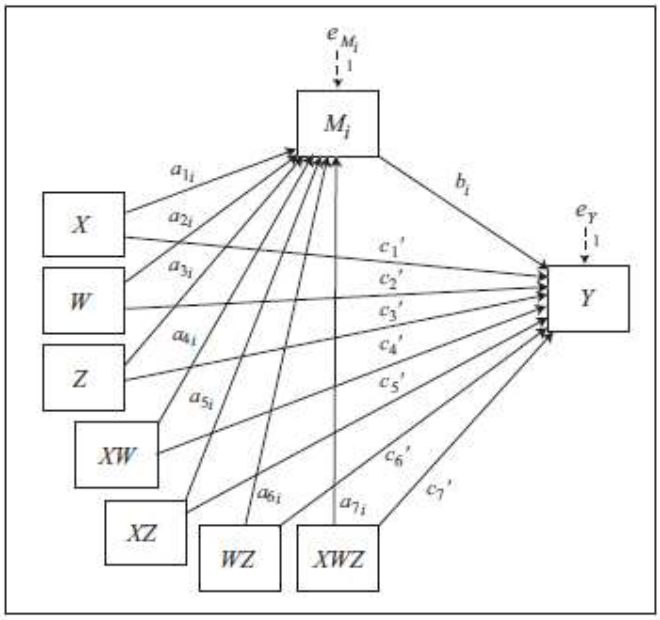
Model 12

Conceptual Diagram



Statistical Diagram



Conditional indirect effect of X on Y through $M_i = (a_{1i} + a_{4i}W + a_{5i}Z + a_{7i}WZ)\, b_i$
Conditional direct effect of X on $Y = c_1' + c_4'W + c_5'Z + c_7'WZ$

*Model 12 allows up to 10 mediators operating in parallel

Appendix 4. ETHICAL APPROVAL

Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

16 April 2020

Jarrod Haar
Faculty of Business Economics and Law

Dear Jarrod

Re: Ethics Application: **18/326 Ethical Work Project**

Thank you for your request for approval of amendments to your ethics application.

The amendment to the data collection protocol allowing additional questions is approved.

I remind you of the **Standard Conditions of Approval**.

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted. When the research is undertaken outside New Zealand, you need to meet all ethical, legal, and locality obligations or requirements for those jurisdictions.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through http://www.aut.ac.nz/research/researchethics

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

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