Journal of the Royal Society of New Zealand

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/tnzr20

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To cite this article: Jarrod Haar, David Brougham & Azka Ghafoor (10 Feb 2025): The impact of Covid-19 on employee job insecurity and wellbeing: a conservation of resources theory approach, Journal of the Royal Society of New Zealand, DOI: 10.1080/03036758.2025.2460576

To link to this article: https://doi.org/10.1080/03036758.2025.2460576

Published online: 10 Feb 2025.

JOURNAL OF THE ROYAL SOCIETY OF NEW ZEALAND
https://doi.org/10.1080/03036758.2025.2460576

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The impact of Covid-19 on employee job insecurity and wellbeing: a conservation of resources theory approach

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ABSTRACT

Job insecurity is detrimental to employee wellbeing. However, we understand little about how unforeseen external shocks, such as Covid-19, might shape these perceptions. We explore how job changes during the Covid-19 lockdown notification period impacted New Zealand employees' wellbeing (anxiety, depression, life satisfaction, happiness), hypothesising that these changes heightened job insecurity, leading to poorer wellbeing, using Conservation of Resources (COR) theory. Using data from 628 employees, we explore differences in outcomes between pre- and post-lockdown notification respondents and find non-significant differences in wellbeing and job insecurity, but significant increases in Covid-19 job changes. We then used a follow-up survey on $N = 323$ employees and compared relationships one month later into lockdown using change-over-time analysis. Here, we find relatively stable wellbeing with only life satisfaction dropping significantly, with Covid-19 job changes increasing significantly. Structural equation modelling shows that Covid-19 job changes influence job insecurity, which, in turn, influences wellbeing, and this holds for both data sets, including the change-over-time data. Using COR Principles, we discuss that in such uncontrollable and unforeseeable external events, employees adopt a defensive mode, acknowledging job changes due to Covid-19 but resisting job insecurity perceptions.

ARTICLE HISTORY
Received 3 September 2024
Accepted 24 January 2025

KEYWORDS
Wellbeing; job insecurity; Covid-19; New Zealand; change-over-time

Introduction

COVID-19 affected nearly all countries worldwide (WHO 2022) and caused a major global health crisis, leading to the closure of social and economic activities. As an initial response, governments from around the world implemented lockdowns to deal with the immediate fallout. This had significant societal and economic impacts immediately and into the future (Akkermans et al. 2020). Though these impacts are felt to date, there has been lack of understanding on how a global event such as Covid-19 can have long-term sustained impacts on the wellbeing of individuals. Learning these impacts and

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their nuances can play a crucial role in navigating future global events of such scale and intensity. The focus of our study is New Zealand (NZ), where country-wide lockdown was placed causing extensive economic cost (Statistics NZ 2020). During this period, most businesses and employee work experiences were greatly impacted (Akkermans et al. 2020). Despite the significant changes for NZ employees, the Covid-19 crisis's impact on wellbeing remains underexplored. These findings, though unique to each country, may broadly apply to other Western economies affected by Covid-19.

We use Conservation of Resource (COR) theory (Hobfoll 1989; Haar and Brougham 2022) to examine the pandemic lockdown's impact on wellbeing (anxiety, depression, life satisfaction, happiness) and its effects across time, with these outcomes being typical of employee wellbeing research (e.g. Bakker et al. 2013; Haar 2013). The Covid-19 event represents an opportunity to explore its effects on employee perceptions of job insecurity, given the nature of job losses around the globe due to the pandemic (McBeth 2020). Job insecurity is defined as reflecting employee worries 'about the future permanence of the job' (van Vuuren and Klandermans 1990, p. 133). It allows researchers to examine how perceptions of insecurity might change rapidly and thus understand how unique events might shape worker perceptions and wellbeing.

Overall, our paper makes three main contributions. First, we examine the effects the Covid-19 pandemic had on employee perceptions of job insecurity; an external shock never explored previously within a nationwide lockdown event. Next, through two samples and testing change-over-time, we provide insights into how Covid-19 ultimately shapes wellbeing. Third, we use COR theory to explore the notion that employees can react to job shocks defensively, for example, by managing their wellbeing through the lockdown, and thus retain their wellbeing via a psychologically defensive mechanism. Such an approach tests an important but largely missing element from the COR theory and its associated Principles.

Theoretical approach

COR theory concentrates on how individuals maintain, gain, or lose their resources in stressful events (Hobfoll et al. 2018; Haar and Harris 2023). COR theory suggests individuals need resources to manage resource losses from workplace stresses and demands (Hobfoll 1989). Work activities deplete resources (e.g. time, energy) limiting worker efficiency, while stressful conditions require immediate, often unplanned resource allocation, leading to exhaustion and restricted resource replenishment (Hobfoll 1989). Hobfoll et al. (2018) define resources as anything that can prove beneficial for individuals to achieve their goals, with these resources being essential for individuals to maintain and deal with their work demands without exhausting themselves. While resources are beneficial (e.g. secure employment), this leads to resource gains when job insecurity is low but resource losses when they are high.

Moreover, resources are nurtured and promoted in the presence of other resources in a supportive ecological environment (e.g. workplace context), called *resource caravan passageways* (Hobfoll et al. 2018). This is theoretically significant because the COVID-19 pandemic led to a substantial shift in work arrangements, with many employees transitioning to remote work while others were unable to work altogether. It is also important to note that many organisations demonstrated remarkable support during this period, which under COR theory means they provided strong resources to staff by offering high levels

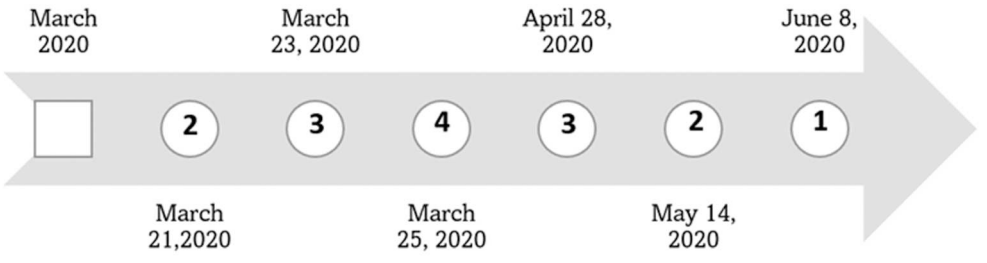
of assistance. However, in some cases employees had lower access to valuable resources to manage and apply to stressful situations given the unknown nature of what was about to unfold, which may have put their wellbeing at a higher risk under COR theory.

COR theory also has four Principles, and we outline two key one's appropriate for this study. While these Principles are largely complimentary, the present study suggests that Principle's 1 and 4 may offer competing effects and thus they are used to hypothesise potentially distinct effects from Covid-19. According to Principle 1 (the primacy of loss, Hobfoll et al. 2018), resource losses are more salient than resource gains, which suggests that resource losses can have disproportionate impacts, including the speed of that impact, and the length of time the impact remains salient. Hobfoll et al. (2018) offer Corollary 2, which covers resource loss cycles, stating that 'because resource loss is more powerful than resource gain, and because stress occurs when resources are lost … individuals and organizations have fewer resources to offset resource loss, and these loss spirals gain in momentum as well as magnitude' (p. 106). Interestingly, under Principle 4 (desperation), extensive resource loss means 'individuals enter a defensive mode to preserve the self that is often aggressive' (Hobfoll et al. 2018, p. 106). In the case of employees considering their job insecurity during and post-Covid-19, with unclear future trends, we suggest under Principle 4 that there is the potential for employees to react differently to these stressors due to extreme demands, including work issues (e.g. working-from-home on short-notice, reduced support) and non-work issues (e.g. the pandemic crisis unfolding on television).

In this context, COR theory suggests that the lack of resources to replenish the potential earlier loss of resources may lead to further resource loss (Principle 1). Hence, we'd expect higher workplace challenges to be especially detrimental. However, it might be that the Covid-19 situation reflects such an extreme event that workers ultimately engage in the desperation approach of Principle 4, whereby they engage in self-preservation and adopt a defensive mode. In effect, employees might be less effected by the effects of Covid-19 because they have in effect 'given up' on reacting to these stressors – ultimately in desperation. We acknowledge that this approach is untested under COR theory (comparing Principles 1 and 4), but the Covid-19 pandemic provides a unique opportunity to explore a comparison between these Principles specifically to the effects of job insecurity on wellbeing. We now contextualise the event our study was undertaken in.

NZ Covid-19 context

NZ is a geographically isolated country located at the bottom of the South Pacific Sea, with 5.3 million people (Statistics NZ 2024). At the beginning of the pandemic, the NZ Government started to place restrictions of people travelling through or transiting through Mainland China on February 3 (RNZ 2020). By February 26, the world reported more new cases of Covid-19 outside of Mainland China than within, indicating wide global spread (WHO 2021). On February 28, NZ reported its first case of Covid-19 with further travel restrictions being imposed soon after (RNZ 2020). On March 7 NZ's fifth case was reported, while at the same time the global number of cases had passed 100,000. These numbers gradually increased and fluctuated with end of wave-1 and during wave-2 and wave-3. By May 2022, NZ surpassed 1 million cases (McClure 2022) and October 2022 indicated an oncoming wave not just in NZ but globally.



Level 1-	NZ should be prepared
Level 2-	Risk of community transmission, and many businesses can operate under precaution
Level 3-	A high risk that the disease is not contained, and only essential businesses (e.g., hospitals, supermarkets, petrol stations) can operate
Level 4-	The virus is not contained, with community transmission and new clusters evident. This is a strict lockdown in place(similar globally) where people must shelter and work-from-home only going out for essential personal movement.

Figure 1. Timeline of Covid-19 lockdowns in New Zealand – during study period.
Note: Lockdown levels = 1, 2, 3, 4.

We next highlight important NZ dates because we are able, as part of our study, to examine the effects of these changes on our employee samples. On March 21, the NZ Government announced a four-level alert system (Covid-19 NZ 2020), as shown in Figure 1. This system was introduced in NZ in March 2020. Figure 1 shows the timeline.

Dates and times are all New Zealand Standard Time. This shift between levels in 2020 allowed us to capture the different stages of the levels and the impact on employees' experience. Once NZ entered lockdown level 4 the government implemented strict measures to limit the spread of the virus. Essential workers, such as healthcare workers, supermarket staff, delivery drivers, and pharmacy employees, were allowed to continue working in person, as their roles were critical to public health and safety. However, many other employees were either required to work from home (if their roles allowed for remote work) or were temporarily unable to work if their jobs couldn't be done remotely, such as those in the hospitality, tourism, and some manufacturing sectors. For those who couldn't work from home, the government provided financial support (i.e. a wage subsidy), to help them stay financially secure during the lockdowns.

Wellbeing

Since the pandemic started in 2020, there have been reports on poor wellbeing and health-related issues (Massey News 2023; Kvalsvig et al. 2024). In this study, we explore the patterns of the lockdowns which impacted individual wellbeing. We include two negative factors (anxiety and depression) and two positive factors (life satisfaction and happiness) to capture various approaches to wellbeing over this period. Anxiety and depression lead to physiological and psychological disturbances (Roche et al. 2014; Siegert et al. 2025), as well as adverse job performance (Lerner and Henke 2008; Cheng and McCarthy 2018). While happiness and life satisfaction are positively associated with wellbeing, job outcomes, individual functioning and behaviours (e.g. Renshaw and Cohen 2014; Haar et al. 2019; Meynhardt et al. 2020).

Anxiety is linked with having a low drive to change the current situation even if unsatisfactory (Warr 1996) and is influenced by conditions of threat and danger (Warr 1990). Axtell et al. (2002) define job anxiety as 'low pleasure and high mental arousal' whereas job depression refers to 'low pleasure and low arousal' (p. 222), both specifically in the context of the job. Life satisfaction is defined as one's cognitive evolution of their own quality of life (Diener et al. 1985), and such individuals often have higher positive mental health values with more resistance to mental disorders (Wood and Tarrier 2010). Lyubomirsky and Lepper (1999) define happiness as 'a global, subjective assessment of whether one is a happy or an unhappy person' (p. 139). High individual happiness often resists the influence of negative environmental conditions (Brailovskaia et al. 2019) and mediates the relationship between job demands and organisational outcomes (Thompson and Bruk-Lee 2021).

Hypotheses

Our key predictor here is job insecurity, and under COR theory, as individuals lose key resources (e.g. rumination around their job future – consuming time and energy resources), employees become less able to maintain their existing resources. In effect, job insecurity is a state of loss under COR theory because employees consume resources – losing their time, focus, energy etc. ruminating and worrying about potential job losses. For example, insecurity may lead to burnout or strained personal relationships, worsening overall wellbeing. This highlights the potential for loss spirals under COR theory Corollary 2. Shoss et al. (2020) offer valuable insights, showing how job insecurity disrupts both secure work and resource satisfaction, ultimately exacerbating negative outcomes. There is meta-analytic support for job insecurity influencing wellbeing (see Jiang and Lavaysse 2018).

Various factors influence job insecurity perceptions, such as mergers and competition (Roskies and Louis-Guerin 1990). However, Covid-19's impact on job losses is unprecedented, affecting New Zealand, as well as larger economies including Australia (ABS 2024), and the United States (Statista 2024). For example, businesses, employees, and individuals faced uncertainty and unique health and economic shocks. Under COR theory, this situation of resource loss hindered employees' ability to manage work demands, potentially harming wellbeing. It is important to acknowledge job losses both locally and internationally because media attention around these events was widespread. In NZ, it has been hard to escape all the attention to the job losses from Covid-19 including those internationally. Importantly, the Covid-19 societal reactions (work-from-home, reduced social interactions) which meant that people had time to stay home, watch media, and understand that having a job was both highly beneficial but increasingly challenging and potentially with future uncertainty. Meta-analyses show strong links between job insecurity and depressive symptoms (Niedhammer et al. 2021), with the meta-analysis by Jiang and Lavaysse 2018 reporting moderate strength effects towards anxiety and depression (both positive), and life satisfaction (negative), although happiness is not captured at present.

Fundamentally, aligning with COR theory, employees perceiving threats to their jobs are more likely to report detrimental wellbeing outcomes. However, what influence did the external shock of the Covid-19 pandemic play? Did it influence job insecurity and

employee wellbeing as might be expected under COR theory? In the NZ context, all employees were effectively sent home to work (where possible) apart from essential workers (e.g. hospitals, supermarkets). Like many economies, NZ offered wage subsidies to cover employee income (Work and Income NZ 2020). During the lockdown (five weeks at level 4), some employees (e.g. knowledge and essential workers) continued work, hoping for job stability post-lockdown. Whereas, many workers were also sent home for the lockdown could not complete their typical work-from-home, (e.g. non-essential work such as retail and hospitality) and would have had greater uncertainty around their job continuance. These workers might have received income (e.g. government subsidy) while harbouring growing job insecurity. Thus, the concept of job insecurity is likely to be impacted by Covid-19, but in which way, is currently unknown.

Under COR theory, perceptions associated with Covid-19 represent resource losses (e.g. energy, positivity, confidence) should shape into job insecurity and ultimately lead to poor wellbeing (Hobfoll et al. 2018). Hence, we expect Covid-19-related job changes (e.g. financial pressures, change in work hours, change to work processes (e.g. job enlargement) due to social distancing and hygiene) to increase job insecurity, thereby reducing wellbeing. We posit the following at both a time 1 and change over time (two time periods).

Hypothesis 1: Covid-19 associated job changes will be positively related to job insecurity.

Hypothesis 2: Job insecurity will be negatively related to (a) life satisfaction and (b) happiness.

Hypothesis 3: Job insecurity will be positively related to (a) anxiety and (b) depression.

Beyond these direct effects, we also explore additional effects in this Covid-19 context and test two competing COR theory based on Principles 1 and 4. First, we expect the notification period of lockdown (where employees were required to work-from-home) might trigger changes in jobs pressures (increased uncertainty) and thus spark additional fear around the pandemic and job insecurity. Here, we suggest that the lockdown notification and actual lockdown event (which occurred two days apart) might represent psychological shocks, which represent a loss of psychological resources under COR theory and thus shape employee perceptions. Thus, under Principle 1 of COR theory, we test whether employees' perceptions around job issues from Covid-19 and job insecurity are adversely affected, as the severity of the Covid-19 pandemic becomes a reality. For example, many employees would have begun work from home, learning how to use associated new technology (e.g. Zoom, Teams etc.) and thus completed working in lockdown.

The effects of COVID-19 and the lockdown extend far beyond immediate health concerns (i.e. catching Covid-19), as many individuals are contemplating the future of their work. Questions about whether they can return to their previous roles, how those roles might have changed are at the forefront of their minds. Some are grappling with the possibility that their jobs may no longer exist, while others anticipate significant shifts in how their work is conducted. For instance, physical distancing is impractical or impossible in certain professions, such as hairdressing, classroom teaching, and roles that require close contact with colleagues or clients.

Overall, we expect this shock should heighten detrimental employee wellbeing under COR theory Principle 1. However, COR theory Principle 4 (desperation principle), provides a

potentially alternative response. Here, it might be expected that employees could register a greater change in their jobs due to Covid-19 but subsequently not report detrimental well-being effects because they are essentially adopting a defensive mode, whereby this self-preservation approach means their wellbeing remains unaffected. In effect, these workers have adopted a defensive approach of 'stop worrying' about the future because (at that point in time) it was totally unknowable. Given the importance of perception for job insecurity (Jiang and Lavaysse 2018), we expect the notification period from Government about lockdown will signal the period of greatest 'psychological shock' (pre- and post-lockdown), although we test this potential psychological reaction both at the *notification* and *actual* lockdown occurrence (2 days later).

Further, we seek to understand the effects of time on our study perceptions around Covid-19, job insecurity, and their influence on wellbeing. Theoretically, we would expect those perceiving increased job change in the Covid-19 effect on their job insecurity should lead to more adverse effects on wellbeing due to the loss spiral effect under COR theory Corollary 2 (Hobfoll et al. 2018). The spiral loss effect captures the employees' inability to get access to resources from work that are required to manage these new Covid-related demands from work. This also allows a comparison to be tested between COR theory Principle 1 versus Principle 4 overtime, to determine whether the self-preservation and defensive posturing of employees (COR Principle 4) is immediately brought into effect or is shaped across time. We suggest that employees might become resistant to change in their perceptions of job insecurity and wellbeing, as they adopt a defensive mode and perhaps become non-reactive to the unfolding phenomenon, and thus reporting no change in job insecurity perceptions over time. In the context of this study, employees may report no change to job insecurity as they regroup resources and focus on applying these resources in a sustainable way.

Hypothesis 4: Covid-19 job changes will be higher amongst employees at (a) lockdown than pre-lockdown and (b) again a month into lockdown.

Hypothesis 5: (a) Job insecurity, (b) life satisfaction, (c) happiness, (d) anxiety and (e) depression will be significantly worse amongst employees at lockdown than pre-lockdown (representing the psychological shocks under Principle 1) but not again a month into lockdown (representing the defensive posturing under Principle 4).

Methods

Sample and participants

Data were collected via a Qualtrics survey panel of NZ employees working at least 20 h per week, many of the participants will full time employed from a wide range of service sector, the secondary industry/manufacturing, and primary industries. Many of these sectors such as the service sector were directly affected by the lockdown. The project received ethics approval (ref #18/327). Qualtrics ensures confidentiality, anonymity, and quality, providing reliable samples (Haar et al. 2019). The study included a very wide range of participants across all sectors and all 20 industry codes e.g. farming, administration, education, health workers, accountants, lawyers, retail workers, marketing etc. A meta-analysis by Walter et al. (2019) found no significant differences between panel and traditional data sources. In total, 628 respondents were captured at time 1, and these were broadly representative of the NZ workforce (by location, age, and gender).

In response to criticisms of empirical studies relying on single samples for statistical tests (Nuzzo 2014) we test our hypothesis on two samples: (1) using single time data, and then (2) utilising a repeat-measure approach, where we examine change over time to capture fluctuations (see Ghafoor and Haar 2022). Here, we specifically focus on (time 1) pre-first national wide lockdown, and (2) during the first nationwide lockdown with a sub-set from time 1. We commenced data collection before the first nationwide notification was made and ended up with a useful split across time. In sample 1, $n = 317$ respondents started and completed the survey before lockdown notification, representing 50.5% of the overall sample. A further $n = 311$ started and completed their survey during this first lockdown notification, when New Zealand had returned to lockdown level 3 and level 2. Thus, our sample is a total of 628 employees. Further, by the time of first lockdown, this total was also able to be separated as $n = 404$ respondents' who had completed their survey pre-lockdown (64.3%) and $n = 224$ who completed post-lockdown. Since data were collected both before and during the lockdown period, employees had substantial time to reflect on the future of their jobs. Many were unable to work during this period because their roles were either not deemed essential or could not be performed safely. Additionally, those who were able to work from home may have questioned the security of their positions and considered how their roles might change as the pandemic progressed.

To test our Hypothesis around COR Principle 1 versus 4, we resurveyed the first cohort to gain additional data, completed one-month into lockdown. This sample was a sub-set of the first sample and had 323 respondents (which we call time 2), and these employees were all still employed. Overall, respondents were aged on average between 36 and 40 years and fairly even split by gender (51.4% females). The largest group of respondents worked in medium-sized firms and were from the private sector (55.5%). We assessed the data across the pre- and post-lockdown notification and pre- and post-actual lockdown groups, and respondents across time 1 and time 2. Overall, we confirmed that these groups did not significantly differ by workplace characteristics (firm size or sector) across all time periods (all t-tests $p > .05$), although there were significantly more males and older employees in time 2 compared to time 1 respondents (both $p < .01$).

Measures

Covid-19 Job Changes was measured at both time 1 and time 2 with a single item designed for this study '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. We focus specifically on the employee's own job because this aligns with the nature of job insecurity, as opposed to asking about their organisation in general.

Job Insecurity was measured at both time 1 and time 2 with a 3-item scale by Armstrong-Stassen (2001), coded 1 = strongly disagree, 5 = strongly agree. A sample item is 'I am personally worried about being laid off'. This measure had excellent reliability ($\alpha = .91$ both time periods).

Job Anxiety and Job Depression were each measured at both time 1 and 2 using a 3-item scale by Axtell et al. (2002), coded 1 = never, 5 = all the time. Questions follow

the stem 'Thinking of the past few weeks, how much of the time has your own job made you feel each of the following?' and respondents are presented with adjectives (e.g. 'anxious' for anxiety and 'gloomy' for depression). This scale has been well validated (Haar 2013; Haar et al. 2014), with a higher score representing a higher level of mental health issues with regards to work: anxiety (α = .90 [time1] and .91 [time2]) and depression (α = .92 [time1] and .93 [time2]).

Life Satisfaction was measured at both time 1 and time 2 with a single item by Cummins (2003), 'How happy are you with your life as a whole?', coded 1 = extremely unsatisfied and 10 = extremely satisfied. It is typically represented as a percentage. This is the core dimension of the personal wellbeing index, which is well validated (e.g. Tomyn et al. 2013), including in NZ (e.g. Ganglmair-Wooliscroft and Lawson 2008).

Happiness was measured by a single item at both time 1 and time 2 commonly used in happiness research (e.g. Lyubomirsky et al. 2005; Bakker et al. 2013; Haar et al. 2019). Participants were asked to rate their happiness using a 10-point scale (−5 = extremely unhappy, 0 = neutral, + 5 = extremely happy).

Control Variable. Given meta-analytic support (Stock et al. 1983; Ng and Feldman 2010) for age and wellbeing we controlled for Age (1 = 20 years and under, 2 = 21–25 years, 3 = 26–30, 4 = 31–35, 5 = 36–40, 6 = 41–45, 7 = 46–50, 8 = 51–55, 9 = 56–60, 10 = 61+ years).

Measurement models

To confirm the quality of our study scales, we conducted a confirmatory factor analysis in SEM using AMOS 28 following standard approaches (e.g. Haar and Harris 2023) with three goodness-of-fit indices (and thresholds) as follows: (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 (a CFA model with all study variables) was a good fit for data from time 1: χ^2(df) = 65.8(42), CFI = .995, RMSEA = .030, and SRMR = .017, and time 2: χ^2(df) = 88.7(42), CFI = .970, RMSEA = .059, and SRMR = .035. Overall, the hypothesised measurement model was the best fit for the data. We tested alternative measurement models, combining (a) life satisfaction and happiness and (b) anxiety and depression, and these both resulted in poorer fit ($p < .001$) to the data (Hair et al. 2010) in both samples.

Analysis

We tested hypotheses 1–3 in two ways using structural equation modelling (SEM). At time 1, we ran a SEM with Covid-19 job changes predicting job insecurity, and then both predicting wellbeing outcomes. As noted above, these indicators are likely to be related to each other, so we covary the indicators. At time 2, we focused on change-over-time amongst our factors using residual scores in SEM (see Hobfoll et al. 2003). Change scores were obtained by regressing time 2 scores on the time 1 scores (Smith and Beaton 2008) to obtain standardised residual scores for each item that is subsequently used in SEM. Schaufeli et al. (2009) state, 'positive residual scores indicate an increase and negative scores a decrease' (p. 904). The residual approach is recommended (Bergh and Fairbank 2002) because it has the advantage of not inflating

error if the difference scores approach is used (Cronbach and Furby 1970) as well as solving problems caused by the correlation between pre- and post-change scores (Linn and Slinde 1977).

Hypotheses 4–5 were tested using paired *t*-tests for pre- and post-lockdown periods on time 1 data only ($n = 628$). In effect, the time 1 data is split 0 = pre-lockdown and 1 = post lockdown. This enabled us to compare perceptions of Covid-19 job changes and job insecurity, as well as wellbeing outcomes amongst respondents pre- and post-lockdown. Next, time 2 data ($n = 320$) was used for paired *t*-tests data across the two time periods to enabled us to compare perceptions of Covid-19 job changes and job insecurity and wellbeing outcomes after one month of the lockdown period. In this set of *t*-tests, the same scale is tested time 2 versus time 1.

Results

The descriptive statistics and intercorrelations for the study scales are shown in Table 1 (times 1 and 2 and residual scales).

Results of the SEM analysis (time 1 and residuals) are shown in Table 2.

Results of the SEM analysis at time 1, show that Covid-19 job changes are significantly related to job insecurity ($\beta = .12(.04)$, $p = .002$), although, as expected, it is not significantly related to anxiety, depression, or life satisfaction. However, Covid-19 job changes are significantly related to happiness ($\beta = .21(.08)$, $p = .006$). Job insecurity is found to be significantly related to anxiety ($\beta = .30(.04)$, $p < .001$), depression ($\beta = .31(.04)$, $p < .001$), and happiness ($\beta = -.29(.09)$, $p < .001$), although the effect on life satisfaction is not statistically significant ($\beta = -.15(.08)$, $p = .067$). Across all wellbeing models, the control variable age has a significant effect in the expected directions

Table 1. Descriptive statistics and correlations.

Variables	*M*	SD	1	2	3	4	5	6	7
Time 1:									
1. Age	5.08	2.51	–						
2. Covid-19 Job Changes	2.42	1.14	–.07	–					
3. Job Insecurity	2.90	1.13	–.14**	.13**	–				
4. Anxiety	2.27	1.02	–.24**	.07	.32**	–			
5. Depression	1.86	1.04	–.24**	.04	.31**	.75**	–		
6. Life Satisfaction	71.3%	21.1%	.19**	.00	–.09*	–.32**	–.40**	–	
7. Happiness	2.21	2.18	.20**	.08	–.14**	–.32**	–.40**	.50**	–
Time 2:									
1. Age	5.40	2.34	–						
2. Covid-19 Job Changes	2.85	1.04	.03	–					
3. Job Insecurity	2.94	1.11	–.07	.13*	–				
4. Anxiety	2.19	1.02	–.22**	.02	.38**	–			
5. Depression	1.85	1.01	–.18**	.03	.34**	.75**	–		
6. Life Satisfaction	69.1%	21.4%	.18**	–.08	–.13*	–.18**	–.27**	–	
7. Happiness	2.21	2.04	.19**	–.06	–.16**	–.19**	–.26**	.55**	–
Residuals:									
2. Covid-19 Job Changes	–	–	–	–					
3. Job Insecurity	–	–	–	.08	–				
4. Anxiety	–	–	–	.04	.19**	–			
5. Depression	–	–	–	.04	.14*	.61**	–		
6. Life Satisfaction	–	–	–	–.12*	–.03	–.09	–.12*	–	
7. Happiness	–	–	–	–.08	–.14**	–.10	–.18**	.26**	–

Note: $N = 628$ (time 1) and $N = 320$ (time 2). *$p < .05$, **$p < .01$. – = not applicable.

Table 2. Summary of SEM results.

	Wellbeing Outcomes (Time 1)				
Variables:	Job Insecurity	Anxiety	Depression	Life Satisfaction	Happiness
Control:					
Age	–.06(.02), $p = .002$	–.08(.02), $p < .001$	–.09(.02), $p < .001$	.16(.03), $p < .001$	.16(.03), $p < .001$
Predictors:					
Covid-19 Job Change	.12(.04), $p = .002$	.01(.03), $p = .753$	–.01(.04), $p = .711$	.05(.07), $p = .534$	.21(.08), $p = .006$
Job Insecurity	–	.30(.04), $p < .001$	.31(.04), $p < .001$	–.15(.08), $p = .067$	–.29(.09), $p < .001$
Total R^2	.04	.17	.16	.04	.07
	Wellbeing Outcomes (Residuals Time 1 + Time 2)				
	ΔJob Insecurity	ΔAnxiety	ΔDepression	ΔLife Satisfaction	ΔHappiness
Control:					
Age	.01(.02), $p = .715$	–.06(.02), $p = .002$	–.04(.02), $p = .031$	.06(.02), $p = .002$	.05(.02), $p = .016$
Predictors:					
ΔCovid-19 Job Change	.07(.04), $p = .094$	.02 (.05), $p = .704$	.02(.05), $p = .656$	–.12(.06), $p = .028$	–.06(.06), $p = .248$
ΔJob Insecurity	–	.31(.08), $p < .001$	.24(.08), $p = .003$	–.11(.00), $p = .229$	–.28(.09), $p = .002$
Total R^2	.01	.10	.05	.05	.05

(all $p < .001$) and similarly so on job insecurity ($p = .002$), being negative towards job insecurity, job anxiety, and job depression, and positive towards life satisfaction and happiness. When the residual data is examined, there is no support for change-over-time Covid-19 job change influencing change-over-time job insecurity ($\beta = .07(.04)$, $p = .094$), and while not significantly related to most wellbeing outcomes, it is with life satisfaction ($\beta = –.12(.06)$, $p = .028$). Overall, change-over-time job insecurity is significantly related to change-over-time anxiety ($\beta = .31(.08)$, $p < .001$), change-over-time depression ($\beta = .24(.08)$, $p = .003$), and change-over-time happiness ($\beta = –.28(.09)$, $p = .002$), but not change-over-time life satisfaction ($p = .229$). Overall, these findings provide support for Hypotheses 1–3.

Results of the independent-samples *t*-tests comparing pre- and post-lockdown periods (time 1 data only) are shown in Table 3.

Table 3. Summary of *t*-test results (Time 1 only).

Variables:	Sample 1 Pre-Lockdown Notification	Sample 1 Post-Lockdown Notification	Difference	Hypothesis Supported?
Sample size	$N = 317$	$N = 311$		
Covid-19 Job Changes	$M = 1.98$ (SD = 0.98)	$M = 2.87$ (SD = 1.11)	$t = 10.666$ ($p < 0.001$)	Yes
Job Insecurity	$M = 2.92$ (SD = 1.14)	$M = 2.88$ (SD = 1.13)	$t = −0.420$ ($p = 0.675$)	No
Anxiety	$M = 2.27$ (SD = 1.06)	$M = 2.26$ (SD = 0.99)	$t = −0.159$ ($p = 0.874$)	No
Depression	$M = 1.91$ (SD = 1.08)	$M = 1.80$ (SD = 0.99)	$t = −1.267$ ($p = 0.206$)	No
Life Satisfaction	$M = 71.5$ (SD = 20.9)	$M = 71.1$ (SD = 21.3)	$t = −0.231$ ($p = 0.818$)	No
Happiness	$M = 2.09$ (SD = 2.22)	$M = 2.33$ (SD = 2.14)	$t = 1.377$ ($p = 0.169$)	No
Variables:	Sample 1 Pre-Lockdown	Sample 1 Post-Lockdown	Difference	Hypothesis Supported?
Sample size	$N = 404$	$N = 224$		
Covid-19 Job Changes	$M = 2.08$ (SD = 1.03)	$M = 3.03$ (SD = 1.07)	$t = 10.909$ ($p < 0.001$)	Yes
Job Insecurity	$M = 2.93$ (SD = 1.15)	$M = 2.85$ (SD = 1.11)	$t = −0.863$ ($p = 0.388$)	No
Anxiety	$M = 2.28$ (SD = 1.05)	$M = 2.25$ (SD = 0.97)	$t = −0.337$ ($p = 0.736$)	No
Depression	$M = 1.89$ (SD = 1.07)	$M = 1.80$ (SD = 0.96)	$t = −1.057$ ($p = 0.291$)	No
Life Satisfaction	$M = 70.6$ (SD = 21.6)	$M = 72.5$ (SD = 20.2)	$t = 1.109$ ($p = 0.268$)	No
Happiness	$M = 2.10$ (SD = 2.22)	$M = 2.40$ (SD = 2.09)	$t = 1.640$ ($p = 0.101$)	No

Table 4. Summary of paired sample *t*-test results (Time 1 + Time 2).

Variables:	Time 1	Time 2 4 Weeks into Lockdown	Difference	Hypothesis Supported?
Sample size	$N = 320$	$N = 320$		
Covid-19 Job Changes	$M = 2.35$ (SD = 1.10)	$M = 2.85$ (SD = 1.04)	$t = -6.913$ ($p < .001$)	Yes
Job Insecurity	$M = 2.97$ (SD = 1.12)	$M = 2.94$ (SD = 1.11)	$t = 0.566$ ($p = .572$)	No
Anxiety	$M = 2.25$ (SD = 0.97)	$M = 2.19$ (SD = 1.02)	$t = 1.236$ ($p = 0.217$)	No
Depression	$M = 1.79$ (SD = 0.95)	$M = 1.85$ (SD = 1.01)	$t = -1.087$ ($p = 0.278$)	No
Life Satisfaction	$M = 73.2$ (SD = 18.4)	$M = 69.1$ (SD = 21.4)	$t = 3.973$ ($p < .001$)	Yes
Happiness	$M = 2.38$ (SD = 2.04)	$M = 2.21$ (SD = 2.04)	$t = 1.583$ ($p = 0.114$)	No

The results show that across the time 1 sample ($n = 628$), that did not differ significantly across the demographic factors, they reported no significant change in job insecurity or wellbeing outcomes when we compared (a) lockdown notification (before and after), or (b) actual lockdown (before and after). However, Covid-19 job changes did increase significantly (at $p < 0.001$) for both lockdown notification and actual lockdown. Thus, Hypothesis 4a is supported.

Results of the paired *t*-tests comparing time 1 and time 2 (representing a one-month period) are shown in Table 4.

The results show that comparing the sample across time, found that Covid-19 job changes did significantly increase across the one-month period: $t = -6.913$ ($p < .001$), supporting Hypothesis 4b. Job insecurity and three of the four wellbeing outcomes did not change significantly across time, but life satisfaction was significantly lower ($t = 3.973$, $p < .001$). Overall, this supports the defensive approach of COR theory Principle 4 and supports Hypotheses 5a, 5c-5e.

Discussion

The present study sought to explore employee perceptions and their wellbeing during the Covid-19 pandemic, in the context of the lockdown period in NZ. This study focuses on the small window of time when the first lockdown happened and tested data from pre- and post-lockdown and explores the impacts of unique stressful events on job insecurity and wellbeing through the COR lens. Under COR theory (Principle 1: primacy of loss principle), it was expected that the wellbeing of NZ employees should have changed and diminished across time, while it was expected that job insecurity would increase due to large scale job losses in NZ and globally. We also argued that under Principle 4 (desperation), NZ employees might adopt a defensive approach and remain largely unaffected by these events, due to the sudden nature and shock of the Covid-19 pandemic. Indeed, we found that the potential 'societal shock', where the NZ Government announced lockdown and then NZ workers were told work-from-home, that employees registered an increase in Covid-19 job changes, which was expected, but no change in job insecurity and wellbeing outcomes. Thus, NZ employees appeared to remain calm and were largely unaffected, failing to report any significant drop in wellbeing despite having their work and lives radically altered. We suggest this aligns well with the Principle 4 of COR theory, whereby in desperation of such changing dynamics, the workforce (on average) remained largely calm and unchanged in their wellbeing.

It must be noted that the lockdowns and the ongoing nature of COVID-19 from 2020 through to 2022 and beyond had a profound impact on how employees work. Many of these changes were unforeseen when we collected the data. Before the first lockdown, for example, many employees faced adjustments such as the use of protective equipment (e.g. masks and more frequent hand sanitisation), social distancing, and limits on the number of people allowed indoors. While many employees were able to work from home, avoiding direct face-to-face interactions with clients and customers, others had to significantly adapt their roles. Many workers and consumers needed to enhance their digital literacy to complete tasks online, using video conferencing software and other tools designed to limit exposure during this period. The authors could not have anticipated the extent of these changes. However, the data enabled us to measure whether employees believed their work would change as a result of the pandemic.

Analysis with the full cohort (time 1) showed that job insecurity was detrimentally related to wellbeing outcomes, aligning with meta-analyses (Jiang and Lavaysse 2018). Indeed, these effects largely held towards wellbeing in the change-over-time data. Ultimately, those with higher insecurity did show higher resource losses and thus poorer wellbeing, which does support COR theory Principle 1 (Hobfoll et al. 2018). However, testing the changes-over-time data (across a one-month period) suggested that despite the reduced liberties (non-essential workers working-from-home, limited social interaction), NZ employees appeared quite resilient, appearing to support the defensive mode, aligning with our approach to Principle 4. One month later, we found employees reported that changes to their job from Covid-19 had increased in intensity, as might be expected, but most wellbeing outcomes remained unchanged, with only life satisfaction dropping significantly (by 4.1%).

This finding, while somewhat counter to the expectations of desperation under Principle 4, might be explained as indicating that the lockdown period was taking a toll on employees' overall evaluation of life. By this stage of the lockdown, it was clear that the NZ economy would suffer markedly, whole industries were in trouble (e.g. tourism and hospitality) and that international travel would be curtailed at least for 2020. People's social interactions with family and friends would also have sharply changed by being largely house bound also. The COR Principle 4 (defensive principle) also applied to job insecurity as these perceptions did not change between time 1 and 2, where lockdown was expected to trigger a changed perception around the seriousness of Covid-19 and potential job losses. To contextualise our job insecurity scores ($M = 2.90$ time 1 and $M = 2.94$ time 2), we note these are significantly higher than other recent NZ data (e.g. Douglas et al. 2017; Brougham and Haar 2018, 2020), especially given the economic situation had not largely changed. As such, our scores here likely represent much higher job insecurity from the *beginning*, and thus the economic shock/s that might have shaped these perceptions might have already psychologically occurred.

Interestingly, while we know that Covid-19 job changes increased over time, that did not predict job insecurity (change over time). This provides additional support for COR Principle 4 because this would suggest that employees were embracing a defensive approach to these changes and thus as significant changes occurred (e.g. lockdown), and jobs continued to be affected by Covid-19, individual job insecurity perceptions did not change. We suggest this theoretically indicates a sample of employees 'in crisis', who subsequently adopt an aggressive self-preservation mode, perhaps through

telling themselves their job 'will still be there' or adopting a pragmatic 'wait and see' approach. Thus, individuals did report changes in their job due to Covid-19 but across time, this was not strong enough to enhance the already heightened job insecurity perceptions. Despite this lack of change across the sample, those who did report an higher change in job insecurity over-time did report consistently poorer wellbeing (higher job anxiety and job depression, and lower happiness), indicating that the largely detrimental consequences still hold. Thus, empirically we provide evidence that under COR theory, Principle 4 does not preclude Principle 1.

The present study offers insights into managing workforce resilience and wellbeing during future pandemics or crises. It highlights the importance of proactive support, as employees often adopt defensive mechanisms, such as psychological self-preservation, to cope with sudden disruptions. Stable job security perceptions despite significant job changes suggest that early and transparent communication can shape employee responses positively, reducing anxiety around potential job losses, which ultimately foster psychological stability.

The findings from our study have several implications: underscoring the need for investment in digital infrastructure and workforce upskilling to enhance readiness for rapid transitions like remote work or new health protocols. Addressing job insecurity proactively, particularly in vulnerable industries, remains critical, as those with high insecurity consistently reported poorer wellbeing outcomes. The drop in life satisfaction during lockdown might highlight the broader socio-economic and personal toll of such events. Future planning should prioritise holistic wellbeing initiatives, including mental health resources and flexible work arrangements, to support employees during prolonged disruptions. Finally, the study underscores the value of data across time periods to aid our understanding of employee experiences over time, enabling better-informed crisis management strategies. These insights provide a blueprint for enhancing resilience, mitigating insecurity, and supporting wellbeing in future pandemics and lockdowns.

Limitations

We analysed data using change-over-time approach with residuals, and while popular, Bergh and Fairbank (2002) highlight alternative ways to examine such data, and thus, we acknowledge the current approach used here is but one approach. Next, we acknowledge that happiness and life satisfaction were assessed using single-item scale, although these are typical of the literature (e.g. Cummins 2003; Lyubomirsky et al. 2005), and have been used with NZ samples (e.g. Ganglmair-Wooliscroft and Lawson 2008; Haar et al. 2019). Further, there is evidence showing the convergent validity of single item with multi-item scale (Wanous et al. 1997). Our study included two sets of data, including temporal separation (Podsakoff et al. 2003) providing greater confidence in the findings (Nuzzo 2014), especially given similar findings. The use of higher-level statistical analysis, specifically confirmatory factor analysis in SEM, also provides strong confidence in the measures used (Haar et al. 2014). Future studies might explore collecting data more frequently over longer periods of time. Finally, our single item scale of job change was created when we could not predict the specific nature of future jobs effects from Covid-19. Consequently, the measure was designed to be broad, asking employees

how their roles might be impacted rather than focusing on specific factors such as social distancing, mask usage, or the adoption of new technologies. Future studies might incorporate such elements.

Conclusion

The present study sought to understand employees' job insecurity and wellbeing in the NZ lockdown period due to the Covid-19 pandemic. The research findings demonstrated that wellbeing outcomes were not changed during the initial lockdown notification (or actual lockdown), but that job insecurity was a key detrimental determinant of wellbeing. Interestingly, while Covid-19 job changes did shape job insecurity initial (time 1) these effects did not hold across-time, indicating that job insecurity, while higher than typically found in NZ, did not grow across the sample as might otherwise be expected. Our findings suggest NZ employee's wellbeing was largely stable across time, and our study provides unique insights into testing COR theory Principles.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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