Towards the platformisation of employment in post-pandemic Aotearoa New Zealand? Evidence from the *Future Worlds of Work* survey

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Abstract

It has been widely recognised in the international literature that the impacts of the pandemic on workers have been experienced unevenly, most severely affecting women, minorities, and those on insecure contracts. At the same time, Covid-19 has accelerated technologically driven developments such as platform work and online freelancing. To provide evidence for these shifts in Aotearoa New Zealand, a survey (n=570) was completed by a sample aged over 18 and employed in the previous 12 months. The survey found uneven experiences of pandemic-related disruption, particularly for those in insecure forms of work, Māori, and frontline workers in hospitality and retail. Further, there was evidence for the emergence of a culture of "digital hustling" among younger people, who are seeking supplementary forms of income from the online world, while 43 per cent of respondents with an employment agreement were required to use a smartphone as part of their job. I use these findings to develop the concept of *platformisation*, capturing broad impacts of digital technology on workplaces, together with trends towards precarity and individual responsibility. The results have implications for public policy analyses of a "tight labour market" which can negate the unevenly felt effects of an economic slowdown.

Keywords: platformisation, platformization, gig economy, side hustles, covid-19, online freelancing

Introduction

There has been significant scholarship and commentary on shifts in the sphere of work during recent years. Rapid developments in artificial intelligence have threatened to subsume the previously secure jobs of knowledge workers (Bassett & Roberts, 2019; Benanav, 2020), while the inexorable rise of the gig economy has seen the creation of new forms of work, facilitated by online platforms (Cant, 2019; Graham & Woodcock, 2019). New developments in home working, workplace monitoring and people analytics have shifted the nature of office work, trends which have been accelerated by the Covid-19 pandemic (Blumenfeld et al., 2020; Giermindl et al., 2022; Green et al., 2020; Singh et al., 2022). Further, evidence indicates that these changes are experienced in unequal ways, with the potential to exasperate existing inequalities in terms of gender, ethnicity and class (Fuster Morell, 2022; Masselot & Hayes, 2020; McMillan Cottom, 2020; van Doorn et al., 2022).

To investigate these developments in Aotearoa New Zealand, the *Future Worlds of Work* survey was launched in May 2022. With a non-representative sample of 570 respondents, the survey included questions on income sources, employment security, requirement to use platforms, and the impact of the pandemic, producing significant results. Developing the concept of platformisation, defined as shifting practices and trends towards increased

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surveillance, precarity and individual responsibility with an associated loss of employment rights and protections (Huws et al., 2019; Surie & Huws, 2023), the survey highlights the prevalence of online "side hustles" (Ens & Márton, 2021; Orhan et al., 2022), a high proportion of respondents using smartphones and apps in the work, and stark inequalities in terms of those who experience pandemic risk and income insecurity in their workplaces. The results have implications for public policy discussions of a "tight labour market" and "maximum sustainable employment", which tend to negate the iniquitous effects of an economic slowdown.

Literature review: technology, the pandemic and recent changes to work

Even before the impact of the Covid-19 pandemic, a convergence of new technologies with shifts in the economic and social terrain were generating significant changes to the world of work. For knowledge workers, remote working was becoming increasingly popular (Buffer, 2019), while organisations were becoming more likely to have flexible workplace policies (CodeSubmit, 2022). On a less positive note, feelings of "automation anxiety", where artificial intelligence threatens to replace the jobs of knowledge workers, has been increasing steadily since the early 2010s (Bassett & Roberts, 2019; Estlund, 2021).

For frontline workers, artificial intelligence and platform technology has been negatively impacting working conditions for some time (Howe et al., 2019; Kennedy et al., 2022). Frontline workers are defined by Blau et al. (2021) as a particular subset of essential workers. Unlike office workers classed as essential as they work in roles maintaining infrastructure, frontline workers have a manual, in-person element to their work, making them less able to work from home, and therefore more vulnerable to contracting Covid-19 (Blau et al., 2021; Rani & Dhir, 2020; Tubaro & Casilli, 2022). Blau et al. (2021) found that, in a US context, frontline workers were more likely to be less well-educated and from disadvantaged minorities.

Rather than replacing their labour, automation and platform technologies are having a "proletarianizing" effect on frontline workers (Jones, 2021), eroding pay and conditions while rendering them both replaceable and traceable as data objects (Nguyen, 2021; Woodcock, 2021). The rise of the "gig economy" emblemises this trend, where work is mediated through a digital platform and workers enter into a concurrent series of "task-based engagement[s]" (McKenzie, 2022, p. 5), or micro-contracts, directly with consumers (Healy et al., 2020; Ződi & Török, 2021). Gig workers are, therefore, often (mis)classified as independent contractors, rather than employees (Koonse et al., 2021; Howson, et al., 2022),[1] meaning they lose the rights and protections associated with the latter (Dieuaide & Azaïs, 2020; Vieira, 2021).

The increasing precarity associated with gig work and rise of the gig economy is experienced unevenly along gender and ethnic lines (Hamilton et al., 2022; van Doorn et al., 2022). Migrants from the Global South have long been recruited into low-wage work in the Global North (Bauder, 2008; Scott et al., 2022; Webster & Zhang, 2021), and the rise of gig work has extended this trend (van Doorn & Vijay, 2021). And concerningly, evidence from overseas is increasingly associating gig work with negative effects on health and wellbeing (Glavin & Schieman, 2022), particularly during the Covid-19 pandemic, when workers were left without protections and, therefore, more at risk of exposure to the virus (Apouey et al., 2020;

[1] This status as contractors rather than employees is being successfully challenged in the courts in countries around the world, including Aotearoa New Zealand.

MacEachen et al., 2022; Stephany et al., 2020). Yet currently we know little about the prevalence of gig work in Aotearoa New Zealand or the sectors they work in (Riggs et al., 2019; New Zealand Productivity Commission, 2020).

RQ1: How prevalent is gig work in Aotearoa New Zealand? Which employment sectors do they work in?

However, measuring the number of people involved in gig work is complicated by nebulous and shifting definitions of what it means and what it includes (Koutsimpogiorgos et al., 2020; Stewart et al., 2020). For some, gig work is equivalent to platform work, defined as mediated by digital platforms, and which is contingent, piecemeal and casual (Gruszka & Böhm, 2022). However, others adopt a broader definition, which captures long-term economic, social and political processes (Graham & Woodcock, 2019), including neoliberalisation and deindustrialisation, with the resulting shift to the service economy, and a subsequent increase in inequalities between those classed as skilled versus unskilled (Ongley, 2013), as well as an increasing emphasis on individualism, competition and entrepreneurship (Bröckling, 2015; Fleming, 2017). Ens & Márton (2021) argue that the intensified competition associated with entrepreneurship has morphed into a culture of "digital hustling" amongst younger people, where digital tools must be used skilfully to construct and present the ideal self. Digital hustling, or online side hustles, may include diverse practices such as selling items online, making YouTube videos, or other forms of social media work, including influencing. While it may not look like Uber driving, this kind of work can be classed as gig work in the broader sense, as "temporary, unstable and patchworked [with] risk of time spent without income, workers undertaking more jobs (possibly at the same time), and unpaid time spent searching for tasks or gigs" (Graham & Woodcock, 2019, p. 2).

RQ2: What evidence is there of online side hustles among younger people?

Another complicating factor in the definition of gig work is the process of platformisation, which Huws et al. (2019) define as "the extension of the digital practices associated with online platforms to other sectors" (p. 8). In other words, traditional forms of work are progressively taking on the characteristics of gig work with increasing use of online platforms, apps and smartphones (Bearson et al., 2021; Casilli & Posada, 2019), particularly for already marginalised and underpaid frontline workers such as care work (Salter et al., 2023; Tandon & Rathi, 2021). The technologies often come with the capacity for the close surveillance of workers (Nguyen, 2021), along with facilitating independent contractor status (Huws et al., 2019). These tendencies include gendered and racialised inequalities, as women and minorities are more likely to be in these frontline roles (Masselot & Hayes, 2020; Webster & Zhang, 2021).

RQ3: Is there evidence for the extension of digital practices (platformization)?

Trends towards platformisation and increasing precarity, with individualised risks and decreased employment protections for workers, have been accentuated by the Covids-19 crisis (Hamilton et al., 2022; MacEachen et al., 2022; Stephany et al., 2020). As well as gig workers, there is a likelihood that those in more insecure types of work, such as fixed-term or casual contracts, and those in sectors more exposed to shifts in demand, such as hospitality and retail (which are also over-represented by Māori and women), would be more exposed to the effects of the crisis, despite the relatively generous support packages offered by the New Zealand government (O'Neil, 2021).

RQ4: Have the disruptions of the pandemic been experienced unevenly by those in insecure forms of work, in sectors more exposed to shifts in demand, and by Māori and women?

Furthermore, during the pandemic, many frontline workers, despite being poorly paid and under-valued, and likely to be on insecure contracts, became classified as essential workers, meaning they would be expected to continue working and exposing themselves to risk of contracting the virus (Masselot & Hayes, 2020; Rani & Dhir, 2020). These kinds of risk, when combined with the generally negative effects of precarity (Standing, 2011), can have deleterious effects on worker's sense of security, mental health and wellbeing (Choudhary & Shireshi, 2022; Glavin & Schieman, 2022).

RQ5: What are the disruptions, risks and wellbeing effects of the Covid-19 pandemic for workers?

Methods

Respondents and Procedures

Ethics approval was granted by the Massey University Human Ethics team (reference number 4000025765), who classed the survey as low risk. Survey respondents were then recruited by Qualtrics, who administered the survey, as well as an initial pilot survey with 41 respondents. The pilot survey (run on 30 May 2022) allowed small adjustments to be made to the question set which was distributed to the full sample (run on 8 June 2022). No response rate was provided.

There were two screening questions on the initial survey welcome/information screen (which also notified them of the ethics approval), whereby respondents had to confirm that they were over 18 years old and that they have been employed in the previous 12 months. Answering no to either of these questions would result in exiting the survey.

The survey sample was random and, therefore, non-representative. However, as discussed below, due to the large survey size (570 respondents), it resulted in being representative in many of the demographic variables, when compared to 2018 census data.

The survey questions comprised a mix of closed questions where respondents chose from a set of pre-defined responses (for certain questions they could choose more than one), and Likert-scale questions where respondents chose an appropriate response on a five-point scale. Questions were grouped under four categories (demographics, income and employment, gig work, the pandemic and financial wellbeing). The survey was ordered with branches, where additional questions were asked to those undertaking platform work, those not holding permanent contracts, and frontline workers. A degree of triangulation was aimed for through asking different questions around the same topic, with qualitative, attitudinal questions with Likert scales supplementing the checkbox questions.

Gender, age and ethnicity

One less representative variable was that almost two thirds of the survey respondents (63.68 per cent) identified as female, with 35.44 per cent identifying as male, and 0.88 per cent as non-binary, compared with 50.67 per cent female and 49.32 per cent male from the 2018 census (no data for non-binary).

Younger age brackets were also over-represented: 69.82 per cent of the respondents were between the ages of 18 and 44; 12.28 per cent were between 45-54; 10.68 per cent 55-64, 5.09 per cent 65-74, and 2.11 per cent 75 or over. This compares with 33.32 per cent of the New Zealand population aged between 20-44, 13.41 per cent aged between 45-54, 11.99 per cent aged 55-64 and 8.78 per cent aged 65-74 from the 2018 census. However, these figures are for the whole Aotearoa New Zealand population, rather than those at working age (as in the survey).

As in the census, respondents were able to select multiple ethnic groups. The distribution of ethnicity selections is shown in Figure 1 below (excluding New Zealand European/Pākehā as this was by far the most common selection with 358 (58.02 per cent of respondents). Excluding Pākehā, Māori was the most common ethnic identity with 73 (11.83 per cent), followed by East Asian, including China, Japan and Korea (6.81 per cent), Pacific (5.67 per cent), South Asian, including India, Pakistan and Bangladesh (5.51 per cent) and South East Asian, including Vietnam, Indonesia and Philippines (4.05%).

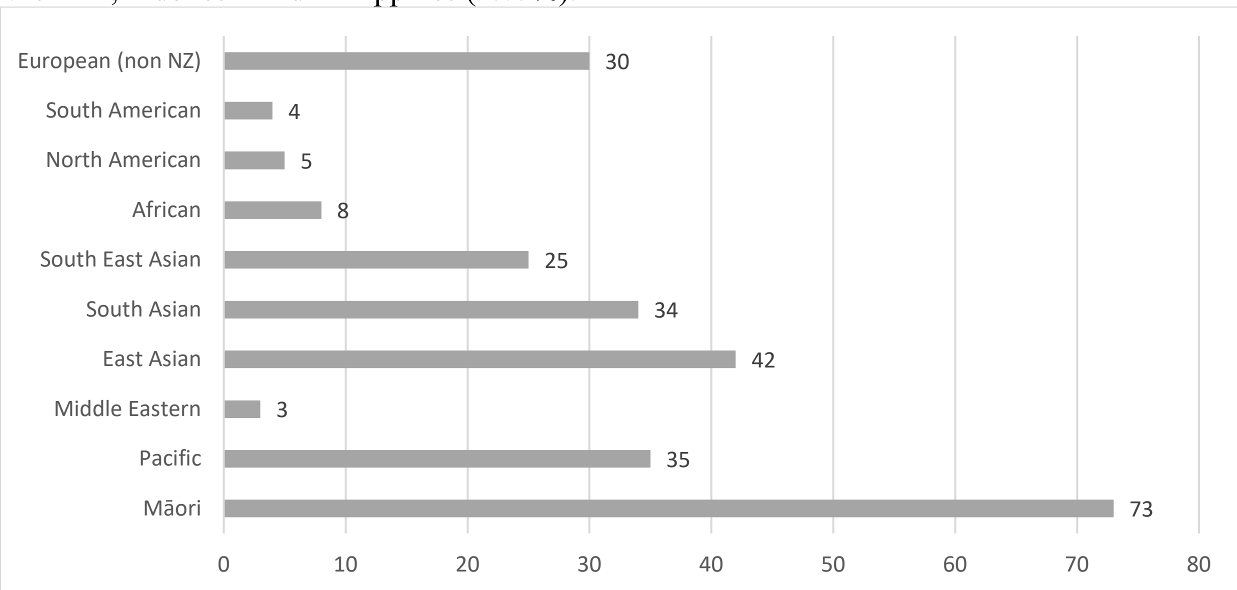

Figure 1: Participant ethnicity (no of selections, excluding NZ European/Pākehā)

This compares well with the proportions of the general Aotearoa New Zealand population from the 2018 census, which is 16.5 per cent Māori (11.83 per cent of our sample) 8.1 per cent Pacific (5.67 per cent of our sample) and 15.1 per cent Asian (16.86 per cent of our sample).

The regional distribution of the survey respondents was roughly equivalent to the 2018 census, where Auckland accounted for 33.44 per cent of the Aotearoa New Zealand population (35.95 per cent of our sample), Canterbury 11.10 per cent (14.91 per cent of our sample), Wellington region 10.78 per cent (10.35 per cent of our sample), and Waikato 9.66 per cent (9.12 per cent of our sample).

Immigration status

31.93 per cent of survey respondents reported that they had emigrated to New Zealand, compared to the 2018 census where 27.4 per cent of the Aotearoa New Zealand population were born overseas. This indicates that immigrants were slightly over-represented in our sample, however, the immigrant population is likely to have increased since 2018.

Of those not born in Aotearoa New Zealand, the majority indicated that they were long-term immigrants. Over three quarters (76 per cent) had lived in this country for at least six years50 per cent having lived here for 11 years or more and a further 26 per cent between six and 10 years. Just five per cent had lived here for fewer than three years, with a further 19 per cent between three and five years.

Roughly 60 per cent of respondents born overseas spoke English as their first language. In terms of visa residency status, 39.56 per cent were citizens, 30.77 per cent permanent residents and 11.54 per cent on a resident visa. Other types of visas (including student, essential skills and work visas) comprised the other 18 per cent.

Findings

Income

Respondents were asked to disclose their total earnings during the 2021/22 financial year (before tax). Figure 2 below shows the results for the general sample, with only slightly over half (55.96 per cent) earning what could be described as a "liveable" salary ($46,000 or above), as this sits between the current minimum wage and the living wage. Moreover, one third of the survey respondents (33.33 per cent) were earning less than $36,000 per year, which is well below the minimum wage as a full-time annual salary.

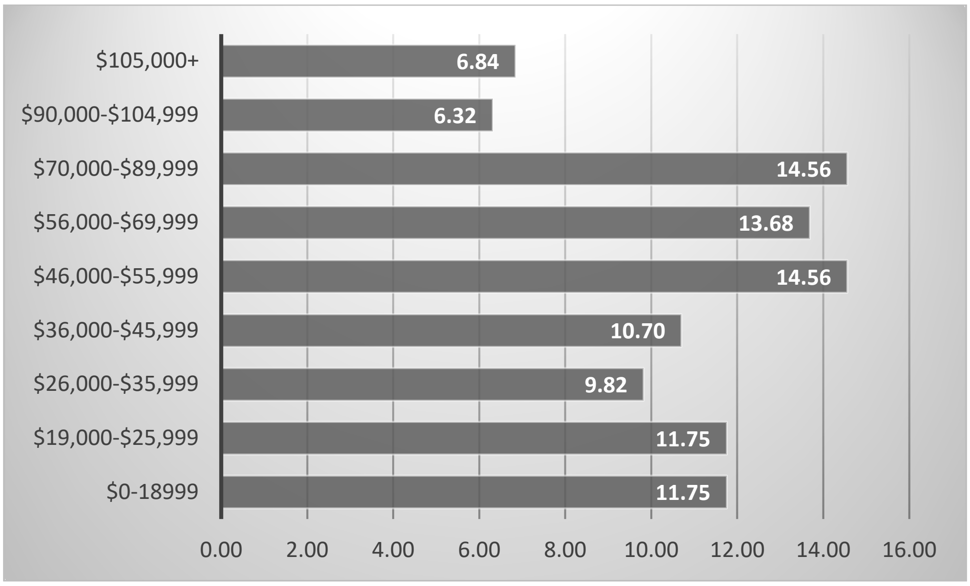

Figure 2: 2021/22 financial year total earnings for the general sample

Breaking this down in terms of gender and ethnicity, 36.66 per cent of women earned less than $36,000 a year, compared to 27.22 per cent of men. At the same time, women were much less likely than men to earn higher than average incomes; 19.8 per cent of men earned above $90,000, while this figure for women was just 9.36 per cent. Women were slightly more likely to hold a permanent employment agreement (79.21 per cent) than men (77.93 per cent) and the general sample (77.49 per cent). While women were more likely than men to work part-time (30.38 per cent compared to 17.8 per cent of men and 26 per cent of the general sample), which would affect their incomes.

Māori were also over-represented in the lower-earnings categories: 45.20 per cent of Māori-identifying respondents earned less than $36,000 a year (compared to 33.33 per cent of the overall sample). However, 10.96 per cent of Māori did earn $90,000 or above (slightly higher than that for women). 69.77 per cent of Māori holding an employment agreement had a permanent contract (77.49 per cent in the general sample), 11.63 per cent fixed-term (10.9 per cent general sample), and 18.6 per cent casual (10.44 per cent general sample), while 76.74 per cent of Māori worked full-time (74 per cent in the general sample).

In terms of the youngest respondents (18-24 years old), 52.94 per cent earned less than $36,000. However, perhaps going against common assumptions of generational earnings divides, 36.76 per cent of 18-24-year-olds earned more than $46,000, with 7.35 per cent earning above $90,000.

Earnings for those who emigrated to Aotearoa New Zealand (182 respondents) were above the average for the general sample; 25.27 per cent earned less than $36,000 (substantially below 33.33 per cent for the general sample). At the higher end, 35.16 per cent of immigrants earned above $70,000 a year (compared to 27.72 per cent of the overall sample), and 18.68 per cent above $90,000 (13.16 per cent of the overall sample). Perhaps surprisingly, for those who spoke English as their second language (ESL), earnings were even higher. Just 20.55 per cent earned less than $36,000, while 37 per cent earned over $70,000, and 21.92 per cent over $90,000.

Income sources

The question on income sources allowed the selection of more than one option, whereby respondents could select all applicable sources of income from a list of nine options. By far the most popular income source was employment agreement, with 431 selections (75.61 per cent of respondents); benefits, which includes Working for Families Tax Credits (a benefit for those working on low incomes with dependent children), with 132 selections (23.15 per cent of respondents), was the next most common income source (Figure 3 below). Of the 132 respondents who selected benefits, 87 (65.90 per cent) earned less than $36,000 in the 2021/22 financial year (compared to 33.33 per cent of the sample).

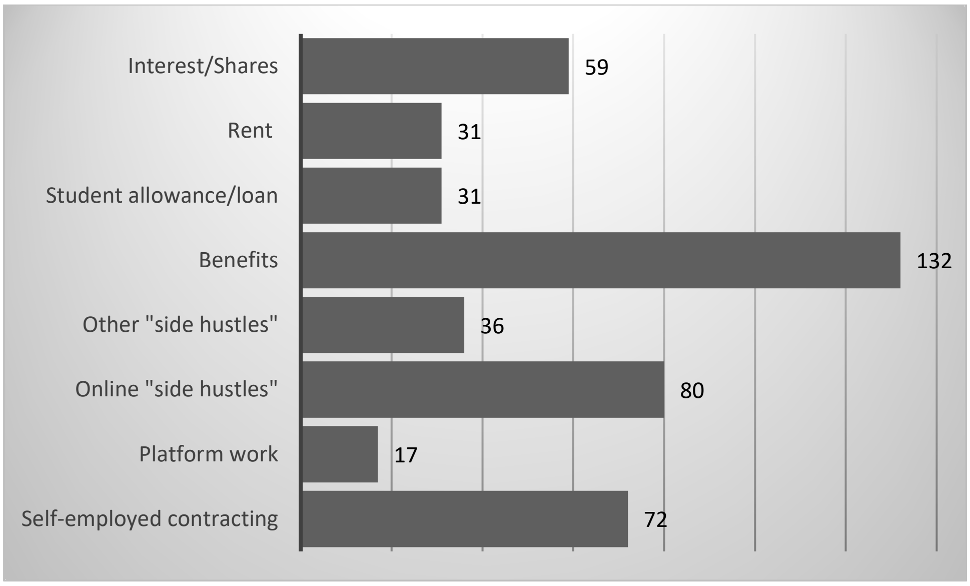

Figure 3: Income sources (not including employment agreement) for the general sample.

While 75.61 per cent of the general sample selected employment agreement as an income source, this was just 34.96 per cent for Māori. Although at 24.39 per cent, the number of Māori selecting benefits was only just higher than the general sample (23.16 per cent).

In reference to RQ2, online "side hustles" (e.g., blogging, YouTube, social media influencing, selling items on a website, gaming, surveys) was the next most popular income source for the general sample, with 80 selections (14.04 per cent of respondents). Just under a quarter (23.75 per cent) of those who selected this option were aged 18-24 (13.68 per cent of the sample), while a further 37.5 per cent were aged 25-39 (33.68 per cent of the sample), indicating that while, the phenomena of earning extra income through the internet is more popular with younger people, it is by no means exclusive to that age bracket.

While online "side hustles" was a more popular selection than anticipated in reference to RQ1, platform work (also known as gig work) was less so (just 17 selections). This is likely linked to well-known difficulties in recruiting platform workers for research studies, due to a multitude of factors (see Rosentreter & Miller, 2021; Salter & Dutta, 2022), and the lack of prevalence in our sample should not necessarily be generalised to the wider Aotearoa New Zealand population.

Of those 17 respondents undertaking platform work, the most common kinds of work being undertaken through platforms was microtasking (or cloud work – e.g., completing piecemeal, on-demand tasks for a platform such as Amazon's Mechanical Turk), passenger transport (e.g., Uber driving), delivery, and care work (all six selections each).

Precarity

Of the 431 survey respondents holding an employment agreement, 334 (77.49 per cent) held permanent contracts, with 47 (10.90 per cent) fixed-term and 45 (10.44 per cent) casual, and 5 (1.16 per cent) selecting other. Those with full-time agreements were also in the majority with 319 (74 per cent), compared to 112 (26 per cent) holding part-time agreements. This is higher than figures of 2.34 per cent for 'fixed-term and temp agency' and 4.02 per cent for 'casual worker', at June 2022 from the Household Labour Force Survey (StatsNZ, 2023).

Respondents holding an employment agreement and earning less than $46,000 a year were significantly more likely than the general sample to be working part-time (56.38 per cent compared to 26 per cent). They were also more likely to be on casual agreements (22.82 per cent compared to 10.44%). However, they were only slightly more likely to be fixed-term (16.11 per cent compared to 10.90 per cent).

Those with fixed-term and casual employment agreements were asked additional questions related to agreement length, number of agreements held in the last 12 months and whether they had a minimum number of hours stipulated in their agreement (causal only). Only 23.40 per cent of fixed-term agreements were longer than 12 months, with six-12 months being the most common length (42.55 per cent); 8.51 per cent of respondents holding fixed-term agreements had a contract length of fewer than three months.

In terms of the number of contracts held in the previous 12 months, just over half (51.06 per cent) of fixed-term employees had held one employment agreement over that time; 14.89 per cent had held three or more, with 34 per cent having held two. Interestingly for casual employees, the proportion of those holding just one contract in the past 12 months was higher, at 62.22 per cent (possibly to do with seasonal work). However, those holding three or more contracts was also higher, at 17.77 per cent. Concerningly, casual employees, who stated that they had a minimum number of hours stipulated in their contract, were in the minority, with just 33.33 per cent compared to 55.56 per cent stating that they did not have a minimum number of hours.

61.70 per cent of respondents holding fixed-term employment agreements stated that they could have their hours reduced with written notice compared to 35 per cent of the general sample. Out of those who had selected that option (149 respondents), 65.77 per cent held permanent employment agreements indicated that it was not necessarily a safeguard against insecure work.

Further, the length of notice required to give to reduce hours was surprisingly low. As shown in Figure 4 below, just 12.75 per cent were required to provide more than four weeks. In comparison, 55 per cent of respondents faced the possibility of having their hours reduced with two weeks' notice or fewer.

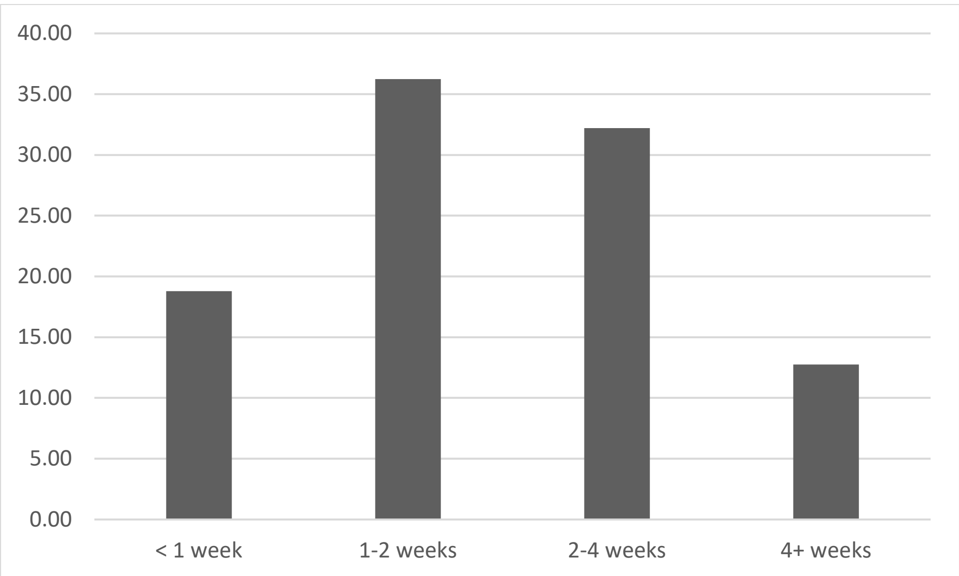

Figure 4: Length of written notice required to reduce hours (all contract types)

With the aim of garnering respondents' subjective feelings about employment precarity, financial security and wellbeing, survey respondents were asked three additional ranking questions with five-point Likert scales. The first asked them how confident they felt that they would have sufficient ongoing work in the next 12 months, the second asked them to rate their current financial wellbeing out of five, and the third provide an estimation on whether they thought they would become more or less financially comfortable in the next 12 months.

In the general sample, a substantial majority of respondents were confident that they would have sufficient ongoing work: 'very confident' was the most popular option at 42.28 per cent, with a further 33.16 per cent selecting 'somewhat confident'. However, the results of this question differed considerably in relation to type of employment agreement. For fixed-term employees, the prevalence of the 'very confident' option declined dramatically to 25.53 per cent with 'somewhat confident', instead, being the most popular option at 42.55 per cent. Further, the prevalence of 'not very confident' (10.64 per cent compared to 4.91 per cent in the general sample) and 'very unconfident' (6.38 per cent compared to 3.86 per cent in the general sample) increased significantly. Interestingly, the proportion of casual employees who were 'very confident' of sufficient ongoing work was higher than for fixed-term, with 37.78 per cent, and only 4.44 per cent being 'not very confident' and 2.22 per cent being 'very unconfident' (again, possibly due to the high demand for seasonal workers in 2022 while pandemic-related border restrictions remained in place).

41.1 per cent of those identifying as Māori selected 'very confident' (just below the general sample), 30.14 per cent were 'somewhat confident', 15.06 per cent 'neither confident or unconfident', 9.59 per cent 'not very confident' and 4.11 per cent 'very unconfident'. Gender-wise, 42.14 per cent of women (42.28 per cent of the general sample) selected 'very confident', 34.71 per cent were 'somewhat confident', 14.32 per cent 'neither confident or unconfident', 4.40 per cent 'not very confident' and 4.40 per cent 'very unconfident'.

In terms of the second Likert-scale question which asked respondents to rate current financial wellbeing out of 5, 40.42 per cent of those on fixed-term contracts, and 37.78 per cent of those on casual contracts rated this at one or two (compared to 28.95 per cent of the general sample). Women (31.68 per cent) and Māori (31.51 per cent) were slightly more likely to select the two lower options of one or two out of five for financial wellbeing than the general sample.

The third and final five-point scale question asked 'Do you think you will become more or less financially comfortable in the next 12 months?'. In the general sample, the responses were skewed towards the comfortable side, however, the proportion of respondents who thought they would be more financially comfortable (30.88 per cent) or much more comfortable (7.37 per cent) was not as high as those who were somewhat (42.55 per cent) or very confident (25.53 per cent) of having sufficient ongoing work, possibly related to increases in the cost of living.

Projections of financial security over the next 12 months did not differ significantly for fixed-terms or casuals. Only 19.55 per cent of fixed-terms and 13.33 per cent of casuals thought they would be less or much less financially comfortable in the next 12 months (compared to 19.65 per cent of the general sample). Māori and women were only slightly more likely to select less or much less financially comfortable in the next 12 months (20.01 per cent and 20.55 per cent respectively).

In terms of those respondents undertaking platform work, generalisations are difficult due to the small sample size. However, the limited findings do seem to substantiate a thesis that platform work is unsustainable by itself (Rosentreter & Miller, 2021; Salter & Dutta, 2022). Of the 17 respondents, seven (41 per cent) reported that they did not earn the minimum wage after the subtraction of expenses. Moreover, only one participant (5.88 per cent) undertook platform work as their sole income source. The others undertook platform work in addition to a separate income source, with six holding a part-time job, six a full-time job, and four another type of income source.

The pandemic, safety and working lives

All respondents were asked five questions related to the effects of the pandemic on their working lives, including how safe they felt at work. The first two questions were binary yes/no choices, with the first asking them if they had been made redundant or lost a job since March 2020, and the second whether their hours had been reduced because of the pandemic. In the general sample, 15 per cent had been made redundant or lost a job because of the pandemic, while 32 per cent had their work hours reduced. Broken down by sector, Hospitality, Retail or Food was by far the most represented in both questions, comprising 22.53 per cent of those who had lost their jobs, and 24.84 per cent of those who had their hours reduced. That employment sector was selected by 18.30 per cent of the overall sample as their primary income source. At the same time, adding to precarity, this sector on average received lower pay than the general sample – over half (52.57 per cent) were earning less than $46,000 per annum (compared to 44.04 per cent of the general sample). This could not be explained by the prevalence of part-time work – only 27.83 per cent of those working in this sector were part-time employees (compared to 25.99 per cent of the general sample).

Women were slightly less likely to have been made redundant (12.67 per cent) and have their hours reduced (30.57 per cent) than the overall sample. However, Māori, at 26 per cent were significantly more likely to have lost a job due to the pandemic, and more likely to have had their hours reduced (38.35 per cent). In terms of employment status, those on fixed-term (27.66 per cent) and casual contracts (31.11 per cent) were much more likely to have had lost their job because of the pandemic, and to have had their hours reduced (53.19 per cent for fixed-term and 53.33 per cent for casual).

The other three pandemic-related questions were more qualitative, with the first of these asking how their work-life balance had changed. Respondents could select as many options as applicable from a list (see Figure 5 below). Working from home more often was the most popular selection, with 183 selections (32.10 per cent of the sample). Those that selected that option were almost as likely as the general sample to select employment agreement as an income source (74.32 per cent compared to 75.61 per cent). However, those working from home more often and selecting employment agreement as an income source were more likely to be permanent (80.14 per cent compared to 77.49 per cent of the general sample), suggesting a certain degree of privilege in being able to pursue that option. Moreover, 80 per cent of respondents working from home more often and selecting employment agreement as an income source had selected 'Office (based at home or at employer)' as their primary work setting, compared to just 51.97 per cent of the general sample who selected employment agreement as an income source (other locations they could choose from were: client-based, site-based and shop/restaurant/café). Just 5.15 per cent of those who selected Hospitality, Retail or Food as their work sector said they were working from home more often following the pandemic. This is compared to percentages from other, more home-working friendly sectors: 55.55 per cent for Computing or IT, 47.36 per cent for Business, Consultancy or Management, 56.52 per cent for Financial & Insurance, and 51.51 per cent for Government (central or local).

The second most frequent selection for the question on work-life balance was on whether they felt their work felt less sure, with 125 selections (21.92 per cent of the sample). Of those 125 selections, 81 (64.8 per cent) of those who held an employment agreement were permanent (77.49 per cent of the general sample who held an employment agreement were permanent), indicating that, while those on permanent contracts were less likely to feel insecure in their work, subjective feelings of precarity are widespread following the upheaval of the pandemic. This selection was more evenly distributed across the sectors, although Hospitality, Retail or Food still placed higher with 30.92 per cent, compared to 22.22 per cent of Computing or IT, 26.31 per cent of Business, Consultancy or Management, 21.73 per cent of Financial & Insurance, and 15.15 per cent for Government.

Taking on extra work to pay the bills was the next most frequent selection, with 101 selections (17.71 per cent of the sample). Of these, 61.39 per cent were on permanent contracts, with 78.19 per cent of those holding a full-time employment agreement. Those working in Hospitality, Retail or Food (23.71 per cent) were again more likely than Computing or IT (22.22 per cent), Business, Consultancy or Management (15.79 per cent), Financial & Insurance (8.7 per cent) to select this option, although slightly less likely than Government (24.24 per cent).

Taking on side hustles or platform work (85) were more commonly selected than the two options associated with reducing work, due to caring commitments (51) or going back to study (27). For those 85 respondents taking on side hustles or platform work, 56 (65.88 per cents), held permanent employment agreements, with 76.79 per cent of those being full-time.

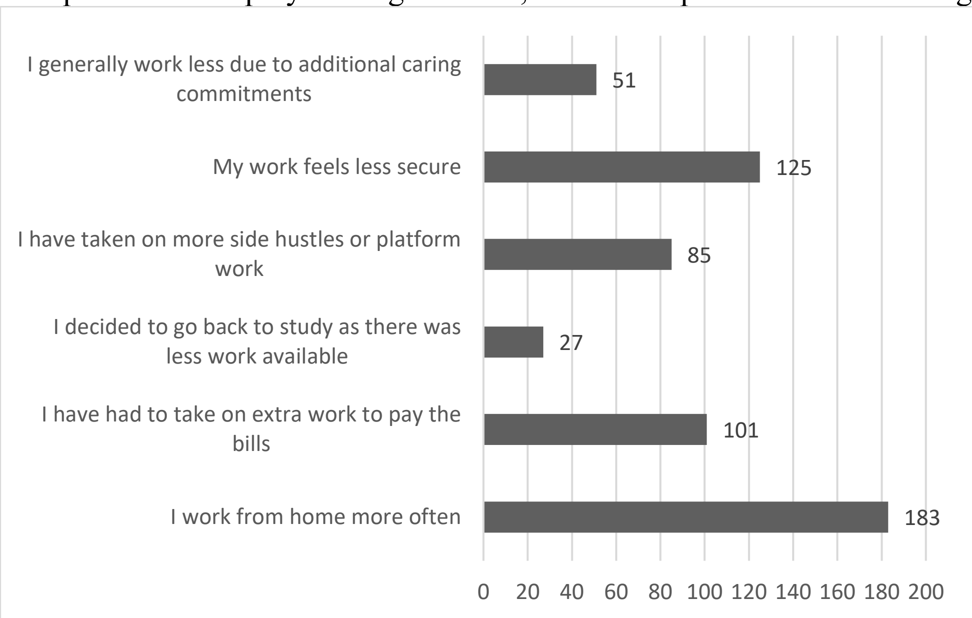

Figure 5: How has your work-life balance changed since March 2020?

The final two questions on the effects of the pandemic used Likert scales to ask about personal protective equipment (PPE) and safety at work. The first was phrased ‘If your work cannot be done from home, to what extent are you provided with sufficient PPE?’, and 45.96 per cent of the general sample responded that they were very happy with the PPE provided, 21.58 per cent somewhat happy, 25.09 per cent neither happy or unhappy, 3.51 per cent not very happy, 3.86 per cent very unhappy. Of those respondents who were either not very happy or very unhappy, 21.42 per cent had selected Hospitality, Retail or Food as their employment sector (above the 18.30 per cent of the overall sample who worked in that sector). Those on lower incomes (less than $46,000), were over-represented amongst those who were either not very happy or very unhappy, making up 47.61 per cent of those who selected either of those two options (compared to 44.03 per cent of the general sample earning less than $46,000).

The next Likert-scale question asked, ‘If your work cannot be done from home, how safe do you feel in your work environment from COVID risk?’ Again, more respondents felt safe than unsafe, however, the results were not as conclusive as the PPE question; 35.96 per cent felt very safe, 33.33 per cent somewhat safe, 19.30 per cent neither safe or unsafe, 9.82 per cent not very safe, and 1.58% very unsafe. Hospitality, Retail or Food was over-represented in those who selected either not very safe or very unsafe, with 20 per cent. Those on lower incomes were also over-represented in feeling unsafe at work, with 49.23 per cent earning less than $46,000 a year (compared to 44.03 per cent of the general sample).

Frontline workers

Frontline workers are defined, here, as those respondents who selected one of the three options of ‘client-based (travel to clients)’, ‘site-based’, or ‘shop or restaurant/café’ as the setting of their primary (highest paid) employment. 41.58 per cent selected this option, compared to 47.54 per cent selecting ‘office (at home or employer)’ (10.88 per cent selected ‘Other’). In line with Blau et al. (2021), 29.96 per cent held a tertiary qualification (Bachelor’s degree, Master’s degree or PhD), compared with 51.66 per cent of respondents who worked in an office setting. Frontline workers were more likely to identify as Māori (16.45 per cent) than office workers (10.97 per cent), and Pacific (6.33 per cent compared to 5.16 per cent of office workers). In terms of income, nearly half (48.52 per cent) of frontline workers earned less than $46,000 per annum, compared to only around a third (33.21 per cent) of office workers. Frontline workers were also more than twice as likely to have a casual employment agreement (11.39 per cent) than office workers (5.16 per cent). Although they were slightly less likely to have a fixed-term agreement (8.02 per cent) than office workers (10.33 per cent).

Frontline workers were less likely (18.99 per cent) than office workers (28.78 per cent) to have been made redundant or lost a job since March 2020 (perhaps related to being more likely to be casual workers as well as the high demand for “essential workers” over the pandemic). However, they were more likely to have had their hours reduced (39.24 per cent- of frontline compared to 28.78 per cent of office).

Perhaps unsurprisingly, due to the nature of their jobs, frontline workers (9.70 per cent) were much less likely to work from home more often following the pandemic than office workers (51.29 per cent). However, they were similarly likely to feel less secure in their jobs (23.63 per cent for frontline and 23.98 per cent for office). Conversely, they were far more likely to have had to take on extra work to pay the bills (27 per cent) than office workers (13.65 per cent).

Underpayment for client, site-based and platform workers

Those frontline workers who specified ‘client-based’ or ‘site-based’ as their work-location (30.7 per cent of the general sample) were asked two additional questions on whether they were paid for things like travel time, travel expenses and waiting times. The results are shown in

Figure 6 below. Waiting time indicates whether they are paid for time in between clients or sites, when they are not officially with their client or on their site, and 91.67 per cent of site-based workers stated that they were not, while client-based was almost as high at 90.32 per cent. In terms of travelling between sites and clients, 82.64 per cent of site-based and 61.29 per cent of client-based workers stated that they were not paid for this time. Travel expenses is the costs associated with travel in-between sites and clients, with 79.16 per cent of site-based and 41.94 per cent of client-based workers claiming that they were not recompensed for expenses such as petrol, car maintenance or public transport costs.

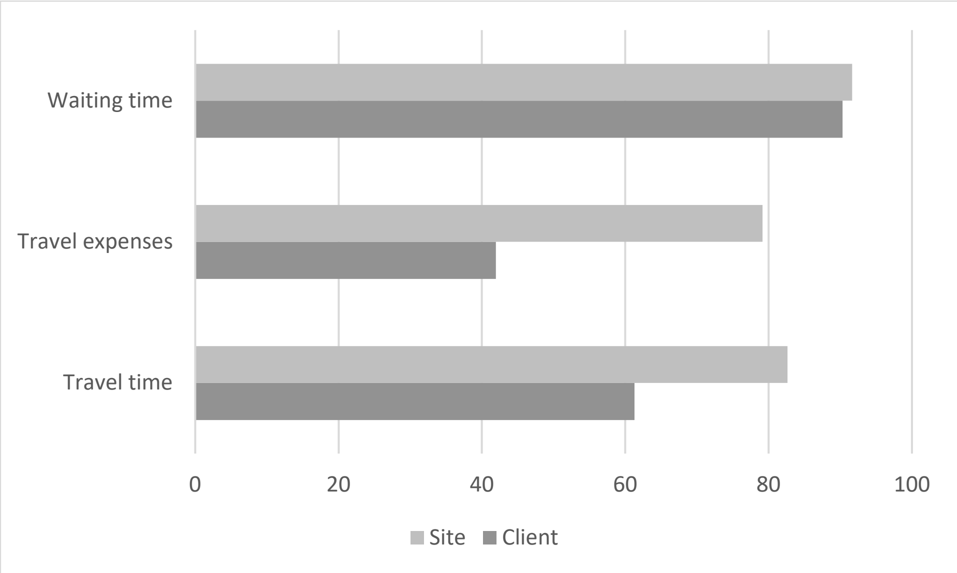

Figure 6: Percentages of site and client-based workers who selected that they were not paid for these elements

Platformisation

The survey asked two questions tracking platformisation (RQ3). Firstly, those with an employment agreement (431 respondents) were asked if they were required to use a smartphone as part of their job, to which 43 per cent replied affirmatively. This requirement reduced for frontline workers (defined as selecting client or site-based, shop or restaurant/café as their work location, rather than office-based), to 24.4 per cent. When only including client or site-based, the requirement increased slightly to 30 per cent.

Those who were required to use a smartphone as part of their work were asked whether the device had an app installed that performs the kinds of tasks associated with platform work (this was a multiple-choice question with respondents able to select as many as applicable). Out of 184 respondents that were required to use a smartphone, 109 (59.24 per cent) had an app installed that performs one or more of the four tasks shown in Figure 7 below. Assigning tasks was the most common with 54 selections, followed by monitoring performance with 38, followed by tracking location with 20, and processing leave with 18.

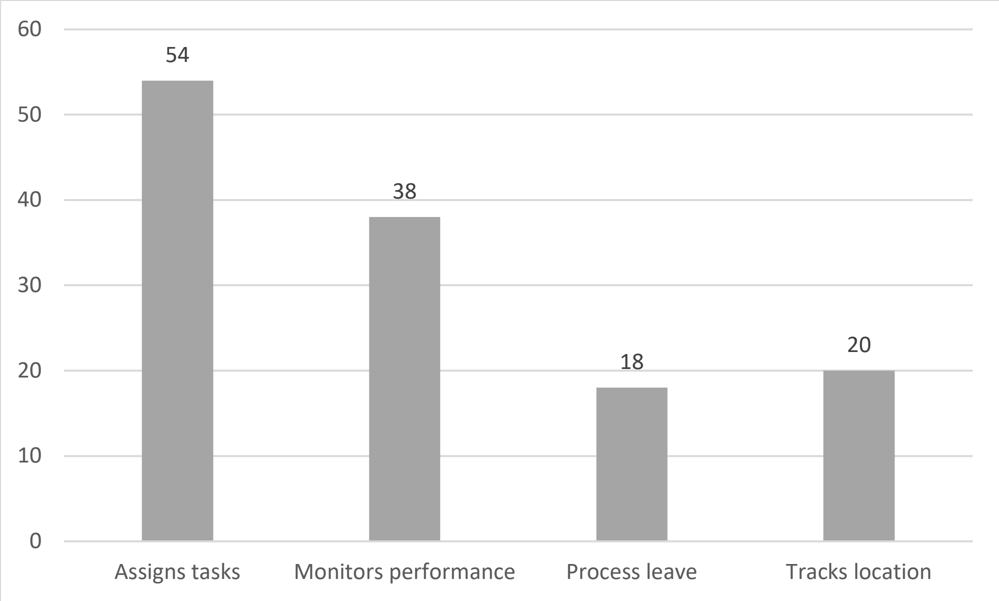

Figure 7: Does the smartphone have an app installed that...(number of selections)

General Discussion

This article, drawing on the *Future Worlds of Work Survey*, investigated the iniquitous impacts of the Covid-19 pandemic on the work and wellbeing of New Zealanders, as well as broader processes of platformisation. Rather than simply an increasing requirement to use smartphones, apps and other digital media (Spencer & Huws, 2021), platformisation was defined in terms of a broader, longer-term reconfiguration of labour practices related to, but not necessarily directly caused by, technological developments (Bearson et al., 2021; Casilli & Posada, 2019). This reconfiguration often includes increased surveillance, precarity and diminished employment rights, as emblemised by gig work (Gandini, 2019; Graham & Woodcock, 2019).

However, instead of being restricted to specific forms of gig work which resemble Uber driving, the term also includes the rise of "digital hustling" culture (Ens & Márton, 2021; Ravenelle, 2019), as well as increasing precarity experienced in previously well-protected sectors (Trojansky, 2020), with their iniquitous effects on minorities such as Māori and women, as well as those working in frontline sectors (Masselot & Hayes, 2020; Masters-Awatere & Tassell-Matamua, 2017; Ongley, 2013). The quantitative findings presented here support these conclusions, related to the five research questions, each of which will be addressed below.

Due to the limited data (just 17 respondents), it is difficult to draw conclusions related to the prevalence of gig work in Aotearoa New Zealand, or the sectors they work in (RQ1). However, in reference to RQ2, there was evidence for the frequency of online "side hustles" for young people. This was most common in the two youngest groups (18-24 & 25-39), with almost a quarter of those who selected that option being under 25 (with that age bracket making up just 13.68 per cent of the sample). Concurrently, 85 respondents (the fourth most popular option) selected taking on more side hustles or platform work when asked how their work-life balance had changed since the onset of the pandemic. There is, therefore, some evidence for the existence of a culture of "digital hustling" (Ens & Márton, 2021) amongst younger people, deriving from pressure to turn interests and hobbies into an income stream to supplement salaries. This correlates with data from the UK, where "one in four adults in the UK have a 'side hustle' – a secondary business or job" (Horgan, 2021, p. 112). When combined with other "side hustles", the proportion of respondents in this survey relying on these kinds of supplementary forms of income was 20 per cent. And while these forms of work do not necessarily resemble Uber driving at first look, they share many characteristics through being temporary, piecemeal and fractured, with risks and responsibilities placed solely on the individual worker (Graham & Woodcock, 2019).

In reference to RQ3, there was evidence for the platformisation work in both the narrower and broader senses of the term. In the narrower sense of an increasing requirement to use digital technology, 43 per cent of respondents with an employment agreement were required to use a smartphone as part of their job. While this rate reduced for frontline workers, their work was subject to platformisation in the broader sense of precarity and individual responsibility. 91.67 per cent of site-based and 90.32 per cent of client-based workers were not paid for waiting times in between jobs, and 82.64 per cent of site-based and 61.29 per cent of client-based workers stating that they were not paid for travel time, indicating a piecemeal structure to their work which has similarities to gig workers.

In terms of other facets of platformisation, such as increasing surveillance, the extraction of data and the production of performance metrics (Blumenfeld et al., 2020; Tandon & Rathi, 2021), 59 per cent of those required to use a smartphone had an app installed that assigns them tasks, monitors their performance, processes leave and/or tracks their location. Again, this indicates platformisation defined as "the extension of the digital practices associated with online platforms to other sectors" Huws et al. (2019).

In reference to RQ4, the survey provided substantive evidence of uneven experiences of pandemic related disruption, particularly for those in frontline roles, insecure forms of work, and Māori. Those on fixed-term (27.66 per cent) and casual contracts (31.11 per cent) were much more likely to have had lost their job because of the pandemic, and to have had their hours reduced (53.19 per cent for fixed-term and 53.33 per cent for casual).

Focusing on the Hospitality, Retail or Food sector, as well as the broader category of frontline worker (defined as not working in an office), allowed for some drilling down on inequalities. Not only were those working in the Hospitality, Retail or Food sector more likely to be earning low wages, but also more likely to have lost their job due to the pandemic, and they felt less secure in their jobs than the general sample. Frontline workers generally were more likely to have had their hours reduced because of Covid-19, and were less able to work from home, making them more vulnerable to contracting the virus.

Frontline workers were less likely to hold a tertiary level qualification, while 16.45 per cent identified as Māori, compared to 10.97 per cent of office workers. At the same time, 45.20 per cent of Māori-identifying respondents in the general sample earned less than $36,000 a year (compared to 33.33 per cent of the overall sample), while Māori, at 26 per cent, were significantly more likely to have lost a job due to the pandemic, and more likely to have had their hours reduced (38.35 per cent) than the general population.

In terms of the final research question, RQ5, there were differences in terms of perceived Covid risks at work which revealed inequalities. Those working in Hospitality, Retail or Food, who are some of the most exposed workers to the virus, were more likely to state that they felt unsafe in their workplaces. Given that this data was collected during the height of Aotearoa New Zealand's first Omicron wave in the first half of 2022, we might have expected this feeling of insecurity to be higher. However, it is a useful reminder that precarity should be considered holistically – those who experience greater insecurity in terms of their work contracts also tend to experience greater exposure to health risks, inequalities which are greatly extenuated during a health crisis such as Covid-19.

The work-life balance question illustrated that the Covid-19 pandemic created very different kinds of "disruptions" for different categories of worker. 80 per cent of respondents working from home more often were office workers, compared to just 5.15% of the Hospitality, Retail or Food sector, while those in that sector, as well as frontline workers more generally, were more likely to have had to take on extra work to pay the bills.

Concluding remarks

Defining the category of the frontline workers, along with illustrating their demographics, highlights important inequalities that have not been captured in other studies, such as the Household Labour Force Survey (StatsNZ, 2023). These distinctions are important, given recent policy discussions around a "tight labour market" (Cameron, 2022) and "maximum sustainable employment", one of Reserve Bank of New Zealand's "mandated objectives for monetary policy" which have driven the recent sharp increases in interest rates (RBNZ, 2022). While there may be more demand than supply in highly skilled jobs which are largely undertaken in offices, those who have a manual, in-person element to their work, and who are more likely to be on lower wages, and have less job security, are more likely to be feeling the ill effects of higher inflation. Frontline roles are more easily filled through increasing immigration, meaning they have less bargaining power to increase their wages.

Trends towards the platformisation of work have also not been highlighted in previous surveys on the gig economy in New Zealand (e.g. Rosentreter & Miller, 2021), and it is important to consider this in future research. As argued by Bearson et al. (2021, p. 538) it is vital to "consider the totality of the types of labor and value-creating processes undertaken on and through platforms", not just new forms of labour defined as gig work, such as Uber driving.

Finally, the limitations of this study should be discussed, as well as suggestions for future research which may address them. Firstly, the quantitative results from the survey leave questions open around "push" versus "pull" – e.g., whether respondents working in fixed-term, casual and frontline positions prefer this kind of work, due to the flexibility it offers and its ability to fit around care commitments. And why, for example, casual workers were more confident of having sufficient ongoing work, than fixed-term workers. While it is easy to speculate, this kind of detail can only be ascertained through in-depth, qualitative interviews. which more fully capture the life experiences and specific challenges faced by precarious workers, in the context of pandemic upheaval. Providing spaces for the articulation of these challenges has been the focus of my work with Uber drivers (Salter & Dutta, 2022) and Home Support Workers (Salter et al., 2023).

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