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# Editors' Note: Open Access to the New Zealand Journal of Employment Relations (NZJER)

We are pleased to announce that the New Zealand Journal of Employment Relations (NZJER) will be open access through AUT Library's Tuwhera Open Journal Publishing website.

While we have not taken the decision lightly, we are committed to disseminating quality New Zealand-relevant research and, by making the Journal open access, we hope that we advance this aim. Access to the Journal is via the link: https://ojs.aut.ac.nz/nzjer/ and forthcoming articles will be available as from volume 45, issue 1.

We welcome all relevant, quality manuscripts, and submissions can be made via the website. Instructions to the authors can also be found on the website. Previous issues can still be accessed via https://www.nzjournal.org/. We would also like to point out that the papers published in this issue, 44(3), are pre-COVID-19 and, as such, reflect the time before the pandemic.

Thank you,

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Editors, New Zealand Journal of Employment Relations

# Open Access Publishing: The historical and current developments surrounding changes at the New Zealand Journal of Employment Relations

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## Abstract

The article highlights the long process that open access publishing has taken both in terms of our decision to provide open access to the *New Zealand Journal of Employment Relations* but also in the general sphere of open access publishing. The article commences with a brief overview of the different debates and forms of open access journals. We also chronicle the various stages of our decision to move from the traditional, user-pays model to open access publishing. While technological developments have facilitated more open access publishing, there are also a number of key barriers, especially the universities' use of rankings of journals as performance management proxies, which makes it difficult to move from traditional to open access publishing. It is suggested, however, that open access requirements from major funders could be a game changer which will support better public access to research findings and adjust the balance between traditional and open access publishing.

**Keywords:** open access publishing; subscription-based publishing; journals rankings

## Introduction

This article reflects on our journey towards open access for the *New Zealand Journal of Employment Relations*, as well as providing open access to the textbooks that we have written. This journey has occurred in stages and the key decision-making moments are highlighted below. It is remarkable how this personal journey is aligned with growing international and national support for open access publishing and an increasing academic and political debate over access to research findings and adverse publishing costs. The open access movement has a long history, reflecting the growing concerns over the large profits and profit margins of major publishing firms. But since the so-called 2003 'Berlin Declaration', which set out open access principles (see below), new and cheaper technology has facilitated a rise in different publishing avenues, thus challenging the traditional forms of publishing.

While different publishing approaches are possible, there are also several barriers to overcome before open access publishing will rival traditional academic publishing modes. A key barrier is the international trend of tertiary institutions using journal rankings as part of performance managing academic staff. The current preferential journal rankings used in New Zealand have been generated from Australia and, more often than not, favour overseas journals. Rankings have, therefore,

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something of an imperialistic dimension which can be harmful for national or indigenous research initiatives and have clearly bolstered the influence and incomes of international publishing firms.

Although the article highlights how open access publishing has gained in status and influence over the last couple of decades, this may not be the crucial wholesale reform needed to rein in traditional publishing approaches and the tertiary institutions' fixation with ranking systems. Instead, it is the shift in philosophy amongst key funders of research that has enhanced the accessibility of research reports and findings. Major funders of research are now insisting that there will be open public access to the insights gained by the funded research, though often in tandem with publication in traditional research publications. This is the case in Northern Europe where, for example, the Danish government has set the target of having public access to all publicly funded research by 2025 (Wien & Dorch, 2018). Likewise, there are now many funders in Australia and New Zealand where open access to research insights will be stipulated in the funding criteria (for example, the Australian Research Council and Australia's National Health and Medical Research Council). In the future, we expect more funders will incorporate such requirements and start policing these open access criteria more vigorously.

## Different forms of open access

There are varying degrees of open access journals. There are also varying degrees of quality, as Harzing (2014, p.2) cautions:

> [O]penaccess, online technologies are interacting with new revenue generating business models and historic assessment systems, leading to the rise of predatory open access (POA) journals that prioritize profit over the integrity of academic scholarship. Such interaction is leading to disruptive distortions that are systematically undermining academia's ability to disseminate the highest quality scholarship and to benefit from free, timely access.

The different forms of open access journals are commonly categorised into three groups: "gold", "green", and "hybrid" open access journals (Laakso, 2014). In the "gold" open access category, the journal editor(s) publish the articles directly onto the journal's website (Björk, et al., 2014; Zhang & Watson, 2017). "Green" open access refers to indirect free access to an article or an earlier version of the manuscript that is available on the web at a location other than the website of the journal publisher (Harnad et al., 2004). "Green", in this context, comes from the notion of publishers giving a "green light" for uploading openly available copies of the article contents (Laakso, 2014). A key difference between "gold" and "green" open access is that with "gold" open access, the entire journal content becomes available from a single website whereas with "green" open access, copies of a random and limited selection of the articles are scattered around the web (Björk, et al., 2014).

Over the last few years, more and more traditional subscription-based journals, most of them belonging to the large commercial publishers, have started to offer authors a hybrid open access option. There are a variety of hybrid models. In some hybrid models, the published article sits behind a paywall but the author can self-archive or self-publish on their own webpage, sometimes after an embargo period (Zhang & Watson, 2017). In these cases, the rights to self-publish or for readers to reproduce the article are bound by the restrictions of the publisher's copyright policy (see Suber, 2015). In another hybrid model, the publisher is partially funded by subscriptions and only provides open access for those individual articles for which the authors (or research sponsor) pay a publication fee. One could argue that these are not true open access, if it can be considered 'open' at all. In yet another version of a

hybrid model, some open access journals require authors to pay a fee for publication, covering the costs of editing and typesetting (and possibly *a koha*, a volunteer payment, for reviewers). In some cases, an author's institution or research grant will cover these fees, but it does create an imposition on the author. Some would argue, though, that these developments can be seen as a slowly creeping threat to liberal, unpaid, self-archiving rights. Moreover, there is growing evidence that paying to make an article open access does not represent a worthwhile investment, if the motivation for publishing in a hybrid open access journal is to increase the number of citations (Mueller-Langer & Watt, 2014; Zhang & Watson, 2017).

## The recent promotion of open access publishing

Open access publishing has a long history, and, in many cases, it has been wholly supported by universities that have established renowned publishing houses, such as Oxford University Press and Harvard University Press. However, open access publishing appears to have taken a major leap forward in the new millennium as the activities of major international publishing firms have become more controversial. The pressure for more open access prompted the so-called Berlin Declaration in 2003, which established criteria for Open Access:

> The author(s) and right holder(s) of such contributions grant(s) to all users a free, irrevocable, worldwide, right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship ….

The promotion of open access publishing also gained widespread media attention as part of Harvard University's attack on publishers and their continuous price hikes of journal subscriptions during 2011 and 2012.

> A memo from Harvard Library to the University's 2,100 teaching and research staff called for action after warning it could no longer afford the price hikes imposed by many large journal publishers, which bill the library around $3.5m a year (Sample, 2012, p.1).

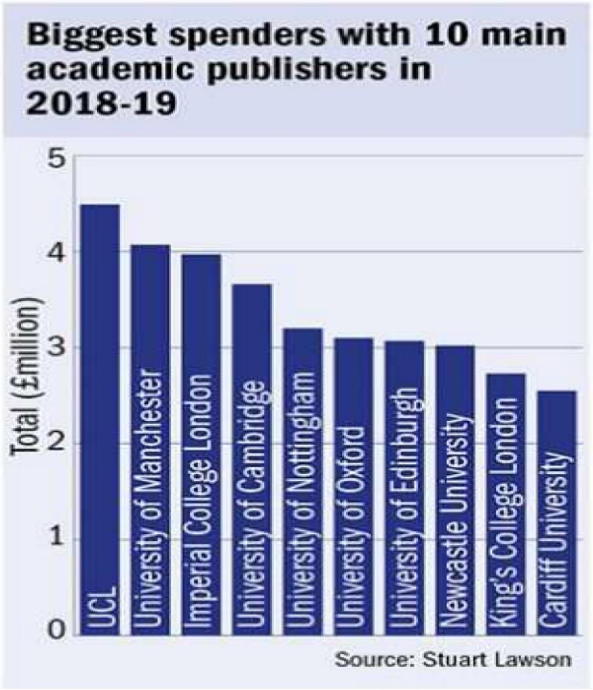
The memo also "…encouraged its faculty members to make their research freely available through open access journals" (Sample, 2012). It was made clear that publishers were achieving extraordinary profit margins (over 35 per cent in some cases) and annual subscriptions to some journals were in the tens of thousands of dollars.

While there was no mention of a specific publishing company, the Harvard University action prompted a boycott campaign, which gathered the names of more than 10,000 academics, against international publishing firm Elsevier. Elsevier felt obliged to state that it had good collaboration with Harvard University and other major universities, and that it had only raised its prices with five per cent per year in recent times. Still, the boycott drew attention to the prices, profits and profit margins of major publishing firms, and resulted in Harvard University recommending that its researchers make their research freely available in open access journals (see below).

So what happened after the attack on publishers and their prices by Harvard University? On the surface it seemed that not a lot had changed. The publishing firms kept increasing their prices, universities

were under financial pressure to keep accommodating these price increases and, at many universities, student fees kept rising, partly to cover the subscription costs. The extent of British universities' costs is indicated in Table 1 which shows that British universities paid large sums to the 10 main academic publishers. Overall, some £950.6 million were paid to the world's 10 biggest publishing houses between 2010 and 2019 (Grove, 2020). According to a recent media report, Elsevier had a £2,538 million revenue in 2018, with £942 million in profit and a profit margin of 37.1 per cent (up 0.1 per cent compared to 2017) while Elsevier's owner, the firm RELX, had a £7,492 million revenue and £2,346 million operating profits (Page, 2019). These kind of profit margins would surely be the envy of most businesses and is reliant, of course, on 'free' labour provided by academics.

**Table 1: British Universities and some of their spending on academic publishing**




Source: cited in Grove, 2020

A recent media article (addressed to the Minister of Education) by two Danish researchers has called on a paradigm shift in favour of open access publishing (Wien & Dorch, 2019). Again, Elsevier's profits and profit margin were mentioned, but it was also pointed out that it was necessary to address the management behaviour of universities. In particular, the prevalence of journal rankings as a crucial element of staff management systems was a major barrier to shift the balance towards open access publishing. This barrier could mean that the Danish Government's target of having open access publication by 2025 will be difficult to achieve. It was suggested that the proposed paradigm shift could happen if there were two fundamental changes: the universities' fixation with journal ranking as part of their performance management systems should be countered; and public funders' insistence on open access publishing from public funded research should be complete. Finally, it was suggested that all academics should report on their open access publishing.

While the debate has shown the major negative effects of traditional publishing, such as costs, ranking obsession, 'free' labour exploitation and direct and indirect public funding subsidising publishing revenues, there has been less focus on the positive impact of publishing firms and how they have changed their role in recent decades. The major publishing firms have established considerable expertise in publishing academic research. They have invested heavily in new technology; their websites are often 'state of the art' and they have considerable distribution and marketing expertise. Their links with the academic research communities can facilitate an early option of new research initiatives or challenges. Recently, the major publishing firms have branched out to offer many tailored teaching and research services whereby they leverage their expertise in editing and publishing. For example, Sage Author Services offers: English language editing, translations, manuscript formatting, plagiarism checks, video abstracts, and artwork preparation. Likewise, textbook publishers can offer custom-made course plans with supporting materials and test banks.

## Our road to open access publishing

Our road to open access started when we became involved in the development of textbooks in the late 1990s (see Deeks & Rasmussen, 2002; Rasmussen & Lamm, 1998), because of students' negative reactions to the prescribed compilations of journal articles or overseas textbooks. It is important to stress that, during the writing of these texts, we had considerable help from the associated publishing firm, and we were able to draw on the firm's editing, production and marketing expertise. As per usual, the publishing contract was clear in stipulating that the publishing rights (which included future updated versions) were firmly lodged with the publisher. Although the authors were granted the authorship rights, it was obvious that the publishing rights constituted the most important component, including the allocation of the income stream.

An impasse appeared when we wanted to proceed with a website that would provide additional material for textbook readers. Again, the detailed publishing and ownership contract made it abundantly clear that the supporting material would be lodged on the publishing firm's website and the publishing firm would own that material. The publishing firm would also be in control of the upload of supporting material, the speed of this upload and the ability to change uploaded material. Faced with these constraints, we thought it would be preferable to build our own website. This would also allow us to incorporate research and supporting material from other researchers (Rasmussen et al., 2006). Thus, we have had our own dedicated website with supporting textbook material for the last two decades (see: www.employment.org.nz ).

Another important step towards a different publishing mode was the shift away from printed hard copies of the *New Zealand Journal of Employment Relations* starting in 2005. The move towards online publishing was partly driven by cost considerations (printing costs and postage costs) and partly driven by more flexibility in compiling and presenting the journal articles. We established our own open access website for this purpose; it is still operating and will be updated to fit with the coming open access publishing of the *New Zealand Journal of Employment Relations* (see below).

When the New Zealand market for textbooks became less lucrative for publishing firms, there was a marked decline in the number of publishing firms continuing to operate. Our publisher Pearson Education left New Zealand, with a smaller company Edify, taking over most of its activities. As part

of this market adjustment, we obtained the publishing rights to our textbooks from Pearson Education (that is, Rasmussen, 2009; Rasmussen & Lamm, 2002). Initially, it was the intention to publish the textbooks through Edify but no agreement was reached on how this would be done. Consequently, we decided to go for an open access platform whereby the various chapters of the textbooks would be freely available. This would mean that students would have free, gratis access to textbook material. Currently, draft textbook chapters are being used in teaching at a couple of New Zealand universities.

Finally, it was decided in 2019 to move the *New Zealand Journal of Employment Relations* to the open access platform of the Tuwhera website, which is administered by the Auckland University of Technology (AUT) Library. This process of migration to the Tuwhera website will be completed in 2020, starting with the next issue, NZJER, 45(1). While there are many other Australian and New Zealand journals which are published online (as discussed below), the range and availability of the services offered by the publishing team behind the Tuwhera website provides several advantages in respect of our journal. As an established platform with dedicated staff, Tuwhera operates a Creative Commons license for all its peer-reviewed publications. Creative Commons means that not only can anyone read the articles, but they can reuse them. Tuwhera provides training and offers operational support for editors. Importantly, it is free for us to use and free for the public to access. We have also decided not to charge authors to publish their work as this practice goes against open access principles. This will put some cost pressures on our publishing (for example, in respect of editing and journal formatting) which will have to be covered through financial support from other sources (see McCabe & Snyder (2015) for a more detailed discussion on the economics of open access journals).

## Discussion: where are we now and where are we going?

Over the last two decades, the debate about open access publishing has gained more traction as the publishing sector has become more concentrated and internationalised. More academics have also become more aware of the issues associated with the dominance of these international publishing firms, especially the considerable costs absorbed by tertiary institutions every year. The high profit margins of some publishing firms are clearly associated with the traditional publishing process where academics do a considerable amount of ‘free’ labour; both in terms of the research itself and the editorial and reviewing process of academic publishing. In nearly all cases, this ‘free’ labour has been underwritten by public funding and/or grants. The traditional publishing approach can be seen as diminution of the public role of tertiary institutions. The need to produce specific high-level research outputs (that is, journal articles accepted in highly ranked journals) means that academics will often disseminate their research more narrowly and slowly; wider society benefits less than enough from public investments in research. It has also been argued that large publishing firms ‘monetise’ research and this drives their interest in academic publishing which, again, tends to narrow public access to academic research findings.

The use of metrics as a management tool is a major barrier in the growth of open access publishing. Journal rankings can be viewed as damaging because they incentivise academics to narrow their research focus and outputs to fit the metrics. In particular, small sub-disciplines (which may have low readership levels and, therefore, low impact factors) are discriminated against in the construction of rankings.

> … [Rankings] can skew the choice of research methodology, lengthen publication lead times, cause academics to be disloyal to the specialist journals in their field, favour theory over practical relevance and unfairly discriminate against relatively young disciplines… (McKinnon, 2013, p.6).

Originally designed to assist librarians with purchase decisions, journal citation metrics are one proxy for research quality. Citation metrics and rankings and other such surrogates for quality are used by institutions in their hiring and promotion decisions, and by funding panels when assessing applications. The construction of rankings, therefore, is not a neutral science. Many ranking lists give precedence to American journals, which may not reflect the needs or characteristics of the field in the author's home country. Some US journals discriminate against writers who are not familiar with the US academic cannon and may publish few non-US studies (Bankovsky, 2019), disadvantaging, in particular, indigenous scholars.

While there have been calls for a paradigm shift, it is unlikely, in our opinion, that there will be a substantial swing away from traditional to open access publishing in the foreseeable future. However, a re-balancing of current publishing approaches towards open access publishing could be a start that could reduce many of the negative aspects of traditional academic publishing and domination of large, international publishing firms. With profit margins being very high in several cases, there is clearly room for some considerable adjustments.

## Conclusion

While the road to open access publishing has been long and slow, there are now many universities supporting open access publishing. We are following other open access endeavours by moving the *New Zealand Journal of Employment Relations* to an open access platform in 2020. The use of the Tuwhera platform provides several advantages and will allow the Journal to continue its academic research publication as well as benefiting from that everybody can access research findings. We are also making our textbooks open access which will certainly benefit students in terms of costs.

Open access is not just about being able to read for free, it is also about being able to share or re-use material without gaining permission. As Prosser (2003, p.163) argues

> many authors find the open access journal model attractive as it immediately and significantly extends dissemination of an author's paper from those at a few hundred institutions worldwide lucky enough to have a subscription to all interested readers with access to the Internet.

Creative Commons licenses, a form of copyright designed to promote sharing so long as specified rules (for example, attribution of the author) are followed, are a good fit for editors looking to achieve open access status for their publications.

Although many academics would agree that traditional publishing approaches prevent access to research findings and are costly for education and research institutions, they are also under pressure to submit and support highly ranked journals. As long as universities use journal ranking as proxies for research quality and critical indicators in their performance management, it will be an uphill battle for open access publishing. There is also a crucial consideration in how the expertise and facilities of publishing firms can be used in the pursuit of improved research access. The crucial role of research funding bodies could be a major lever to shift the balance in favour of open access publishing, and if universities start demanding similar types of openness in respect of research findings, then the balance would shift even further in respect of open access publishing.

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# Organisational-Based Self-Esteem, Meaningful Work, and Creativity Behaviours: A Moderated Mediation Model with Supervisor Support

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## Abstract

Creativity behaviours can be fundamental to ongoing organisational success, but less is known around effects from combination of factors. We test organisational-based self-esteem (OBSE) on creativity behaviours and meaningful work as a mediator and perceived supervisor support as a moderator. Under conservation of resource theory, we expect the combined influence of all these factors will promote creativity behaviours, whereas, under behavioural plasticity theory, we expect the external factor (perceived supervisor support) to be especially advantageous only to employees with low OBSE only. We then test a moderated mediation model to determine a potential boundary condition using a sample of 505 New Zealand employees. We find that OBSE influences creativity behaviours and meaningful work, and that meaningful work is also related to creativity behaviours and fully mediates the influence of OBSE. Further, perceived supervisor support interacts significantly with OBSE towards meaningful work and creativity behaviours, indicating greater outcomes when support and OBSE are high. We also find a significant moderated mediated effect, highlighting the boundary condition whereby the indirect effect of OBSE on creativity behaviours (through meaningful work) increases as support strengthens. Our findings challenge OBSE related theories around the influence of external factor (perceived supervisor support) on OBSE, and we discuss our findings in light of these effects.

**Keywords:** creativity behaviour; organisational-based self-esteem; perceived supervisor support; meaningful work; moderated mediation.

## Introduction

Workforce changes, including global competition and job restructuring, have highlighted the challenge for businesses and the importance of maximising employee creativity (Shalley et al., 2009). Due to the changing nature of business, organisations need creativity to maintain a competitive edge (Ekrot et al., 2016), whether to succeed (Yuan & Woodman, 2010) or survive (Amabile et al., 1996). Creativity at work is the development of novel ideas, process, and services (Amabile, 1988), and innovation is the implementation of ideas and process that can be materialised into organisational success (Shalley et al., 2004). Current research has highlighted numerous factors (e.g., Amabile et al., 1996; Shalley et al., 2004; Ghafoor & Haar, 2020) although evidence from New Zealand is scant. Further, the exploration of boundary conditions, whereby factors might attenuate existing relationships (Wayne et al., 2017) is extremely limited.

The present study seeks to provide insights into employee creativity behaviours in the New Zealand context, and uses organisational-based self-esteem (OBSE) as our key focal construct, because we understand stronger self-esteem at work is positively linked to work outcomes (Bowling et al., 2010). We make several theoretical contributions by testing a number of related and interwoven theoretical

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approaches to understanding employee behaviours, to better comprehend the way personal and work factors can influence creativity behaviours. We also test the interaction between factors to gain deeper understanding of the process and shed theoretical insights. Finally, by exploring moderated mediation, we provide more understanding of these factors in *combination*, to unveil boundary conditions whereby we can better understand creativity behaviours.

## Theoretical Perspectives

*Conservation of Resource Theory*

Positive organisational attitudes and behaviours can elicit creativity. For instance, individual creativity is influenced by both internal motivation and external support provided by the organisation, teams and peers (Staw, 1995). Recently, research evidence from Chang and Teng (2017) shows that both intrinsic and extrinsic motivators promotes individuals to be more creative. Following the work of Hackman and Oldham (1980), suggesting that creativity and innovation are derived by integrating individual traits and work design components, recently research has explored how such components play a role in the development of creative ideas and outcomes. For instance, Anderson et al., (2014) highlighted the individual, team and organisational level factors, including values, thinking, self-concepts and leadership as key determinants of creativity. Hence, it is important to consider the influence of these factors which aligns with *Conservation of Resource Theory*, suggesting that individuals gain, retain and conserve their resources to manage stress and demands from the environment, where resources can be anything that adds value to the individual's achievement of goals (Hobfoll et al., 2018) or to be creative.

We explore OBSE, as our key resource (a psychological factor) under conservation of resource theory towards creativity behaviours. Moreover, beyond studying perceived supervisor support as a potential moderator, the influence of OBSE in the presence of an external factor like perceived supervisor support has been identified (Pierce & Gardner, 2004) as triggering special effects, potentially different from the conservation of resource theory. Hence, we rely on *Behavioural Plasticity Theory* as a theory to determine the effect of perceived supervisor support on the relationship between OBSE towards creativity behaviours, and how plasticity towards creativity behaviours translates in the presence of perceived supervisor support. Pierce and Gardner (2004) suggested that work environment conditions (here, perceived supervisor support) might interact with OBSE due to Behavioural Plasticity Theory, which refers to the extent to which an employee is influenced by external factors (Brockner, 1988). Under this theory, employees are expected to react to external cues differently (Pierce & Gardner, 2004), with low OBSE employees reacting stronger to external factors (e.g., perceived supervisor support) than high OBSE workers. This is because low OBSE workers are behaviourally reactive (plastic), due to being more compliant from external cues (Brockner, 1988), with Pierce and Gardner (2004) stating low OBSE employees "seek out and respond to events in their environment" (p. 595).

Additionally, as creativity is influenced by these factors in combination, the *resource caravan effect* under conservation of resource theory comes in effect, suggesting that resources flourish and grow in supportive ecological environment where they prevail in groups and, hence, provide individuals with more resources to achieve their goals (Hobfoll, 2011; Hobfoll et al., 2018). Beyond this theory, we also utilise *Organisational Support Theory*, which Eisenberger, Huntington, Hutchison, and Sowa (1986) define as employees developing global beliefs regarding the extent to which an organisation or supervisor values their contributions, and they respond accordingly. Hence, perceived supervisor support acts as a support factor under organisational support theory and this acts as a resource gain under the conservation of resource theory. Specifically, the gain paradox where resource gain becomes

important in the face of high demands (Hobfoll et al., 2018). We suggest that employees who receive more support from their supervisors feel greater felt obligation and, thus, reciprocate with stronger creativity behaviours (Haar & Spell, 2004).

*Creativity Behaviours and OBSE*

Many determinants of creativity behaviours have been explored, with Anderson et al. (2014), highlighting multiple individual-level factors, including traits, thinking styles, identity, knowledge, abilities, and psychological states. Hackman and Oldham (1980) suggested that creativity can be achieved by mixing the traits of the employee with work design components of the organisation. Traits can include individual personality types (Madjar et al., 2002), knowledge and abilities (Amabile et al., 1996) and motivation (Grant & Berry, 2011). However, the links between self-esteem at work and creativity behaviours are under-explored, despite links between creativity and traits, such as self-esteem (Anderson et al., 2014), and we suggest OBSE deserves greater exploration.

OBSE is defined as "the degree to which organisational members believe that they can satisfy their needs by participating in roles within the context of an organisation" (Pierce et al., p. 625). OBSE is considered the measure of personal assessment and development, meaning how people assess their own abilities and approve or disapprove their own position with their work (Pierce et al., 1989). Haar and Brougham (2016), stating that "research has concluded that OBSE shapes employee attitudes, motivations, and behaviours" (p. 722) and high OBSE, suggests that the employees are valued by the organisation and, thus, become motivated to work harder and more effectively (Pierce et al., 1989).

OBSE is linked with organisational outcomes and employee behaviours (Pierce & Gardner, 2004), including positively linked to job performance and organisation citizenship behaviours (OCBs) (Gardner & Pierce, 1998; Pierce et al., 1993; Van Dyne & Pierce, 2004), which are referred to as unrewarded discretionary behaviours that help organisations function properly (Organ, 1988). Overall, there is strong meta-analytic support for OBSE, with Bowling et al. (2010) finding that OBSE yielded stronger relationships with organisational and work outcomes than general self-esteem. Despite this strong performance link, there is a lack of exploration towards creativity behaviours, which we develop next.

Employees with high OBSE have a positive attitude towards their goals and consider themselves an important resource for the organisation, improving their sense of citizenship (Rank et al., 2009). Gardner et al., (2015) found a positive link between OBSE and performance, and Haar and Brougham (2016) found positive links between OBSE and OCBs. Combined, these highlighted the links between OBSE and positive work behaviours. Such linkages are expected because high OBSE should lead to greater enthusiasm towards idea generation and creativity related training (Kock et al., 2015), and the generation of creative solutions (Vermunt et al., 2001). This is because higher OBSE employees "reciprocate by making positive, proactive contributions to the organization" (Van Dyne & Pierce, 2004, p. 446). This aligns with *Self-Consistency Theory* (Korman, 1971), where high OBSE employees eagerly "maintain cognitive consistency with their high self-evaluations" (Ferris et al., 2010, p. 562). Furthermore, aligned with conservation of resource theory, high OBSE should act as additional individual resources which can promote creativity behaviours and, in combination with perceived supervisor support under the resource caravan effect (Hobfoll, 2011), provide opportunities to gain supplementary resources leading to creative outcomes.

Ultimately, employees with high OBSE are expected to be cognitively creative and develop creative ideas and solutions in order to achieve their targets. This is because in high OBSE employees, it creates internal motivation and pressure on employee creativity behaviours and means higher self-expectation

towards creativity behaviours and performance. Ekrot et al. (2016) explained that employees are encouraged to "behave in concordance with their high self-expectations by producing innovative ideas that are worth being communicated to peers and superiors" (p. 4). High OBSE employees target their goals seriously as they have higher self-identity leading to the urge to have better results or success (Rank et al., 2009). Combined, we expect high OBSE to positively influence creativity behaviours. Chen and Aryee (2007) noted that creativity behaviours have not been previously examined with OBSE, hypothesising that high OBSE employees "will engage in behavior, possess attitudes, and choose roles that reinforce their positive self-cognition" (p. 228). They found strong support for OBSE positively influencing innovation behaviour, which has subsequently been replicated (Lee & Hyun, 2016), although not in New Zealand. Overall, we expect employees with high OBSE to respond to the trust and esteem placed in them by their organisation by engaging in greater creativity behaviours. We posit the following:

***Hypothesis 1. OBSE is positively related to creativity behaviours***.

*Meaningful Work*

Our second factor is meaningful work, defined by Fairlie (2011) as "job and other workplace characteristics that facilitate the attainment or maintenance of one or more dimensions of meaning" (p. 510). Wrzesniewski and Dutton (2001) suggested that employees create meaningful work through job behaviours that improve feelings of purpose and meaning. Hence, being creative and finding meaningful work appear entwined. Meaningful work also aligns with OBSE, with Spreitzer (1995) noting that "meaning is the value of a work goal or purpose, judged in relation to an individual's own ideals or standards. Meaning involves a fit between the requirements of a work role and beliefs, values, and behaviors" (p. 1443). Meaningful work allows employees to develop a strong sense of dignity, autonomy, and sense of freedom to achieve targets (Yeoman, 2014). In terms of its antecedents, meaningful work is influenced by the goals, perception, and purpose (Fairlie, 2011), as well as fairness, leadership, and worthy work (Lips-Wiersma, Haar, & Wright, 2020). Hence, OBSE is expected to influence meaningful work, although the links towards greater creativity behaviours remain under-explored.

Meaningful work has been positively related to important work outcomes including satisfaction (Spreitzer, 1995), and motivation and engagement (Lips-Wiersma & Wright, 2012). Overall, there is empirical evidence linking meaningful work to positive work attitudes and behaviours. We expect meaningful work will lead to higher creativity behaviours as employees working on tasks with more meaning are likely to be more motivated and inspired to be more creative. Further, given the motivational alignment between meaningful work and creativity behaviours and the links between OBSE as an individual motivator, we argue that meaningful work will mediate the influence of OBSE on creativity behaviours. We posit the following:

***Hypothesis 2. OBSE is positively related to meaningful work.***
***Hypothesis 3. Meaningful work is positively related to creativity behaviours.***
***Hypothesis 4. Meaningful work will mediate the influence of OBSE on creativity behaviours.***

*Perceived Supervisor Support*

Organisational support theory focusses either at the organisational or supervisor level, with Rhoades and Eisenberger (2002) noting that with perceived supervisor support, employees "develop general views concerning the degree to which supervisors' value their contributions" (p. 700). Overall, these support perceptions have meta-analytic support that greater support perceptions lead to stronger

attitudes and behaviours (Rhoades & Eisenberger, 2002). We specifically explore perceived supervisor support as a moderator, because Zhou and Shalley (2011) highlighted the need to examine interaction effects within creativity behaviours.

We suggest employees may collaborate and develop ideas by sharing and collecting information from others, and specifically their supervisor. Environmental factors can impact and promote individuals to find better solutions (Ekrot et al., 2016) and perceived supervisor support also captures supervisor feedback, with Shanock and Eisenberger (2006) highlighting that supervisors can provide individualised treatments to subordinates, espcially "informal feedback concerning job performance" (p. 689). Haar (2006) noted that employees with higher support perceptions engage in more positive behaviours due to reciprocity (via felt obligations) under organisational support theory. Thus, a supervisor who is especially supportive and helpful is likely to receive greater creativity behaviours from employees due to triggering felt obligations under support theory, and this aligns with empirical support towards performance (e.g., Shanock & Eisenberger, 2006; DeConinck & Johnson, 2009).

Under conservation of resource theory, we expect the combined effect of perceived supervisor support, OBSE and meaningful work to be fruitful towards creativity behaviours under the resource caravan effect (Hobfoll, 2011). However, under behavioural plasticity theory, we expect a supportive supervisor to inspire greater creativity behaviours when subordinates have *low* OBSE, because such individuals are more reactive to the attention and feedback of the supervisor. Pierce et al (1989) stated that "experiences within an organization will shape OBSE which will also affect organization related behaviors and attitudes" (p. 626), highlighting the importance of including perceived supervisor support in combination with OBSE. Thus, OBSE concentrates on a person's own interest and beliefs in the context of the organisational role assigned to them. High OBSE employees are more confident in their ability and, thus, are less likely to react to organisational cues. Interactions have been found with OBSE on work and organisational factors, including performance (Hui & Lee, 2000; Pierce et al., 1993), with findings generally showing major change (specifically performance improvements) for low OBSE workers, with little change for high OBSE workers. Consequently, we expect perceived supervisor support to interact with OBSE, enhancing the positive influence more strongly for low OBSE employees only, resulting in higher meaningful work and higher creativity behaviours. We, therefore, posit:

***Hypothesis 5. Perceived supervisor support will interact with OBSE towards (a) meaningful work and (b) creativity behaviours, such that high perceived supervisor support will have enhanced outcomes but only for low OBSE employees.***

*Perceived supervisor support as a Boundary Condition*

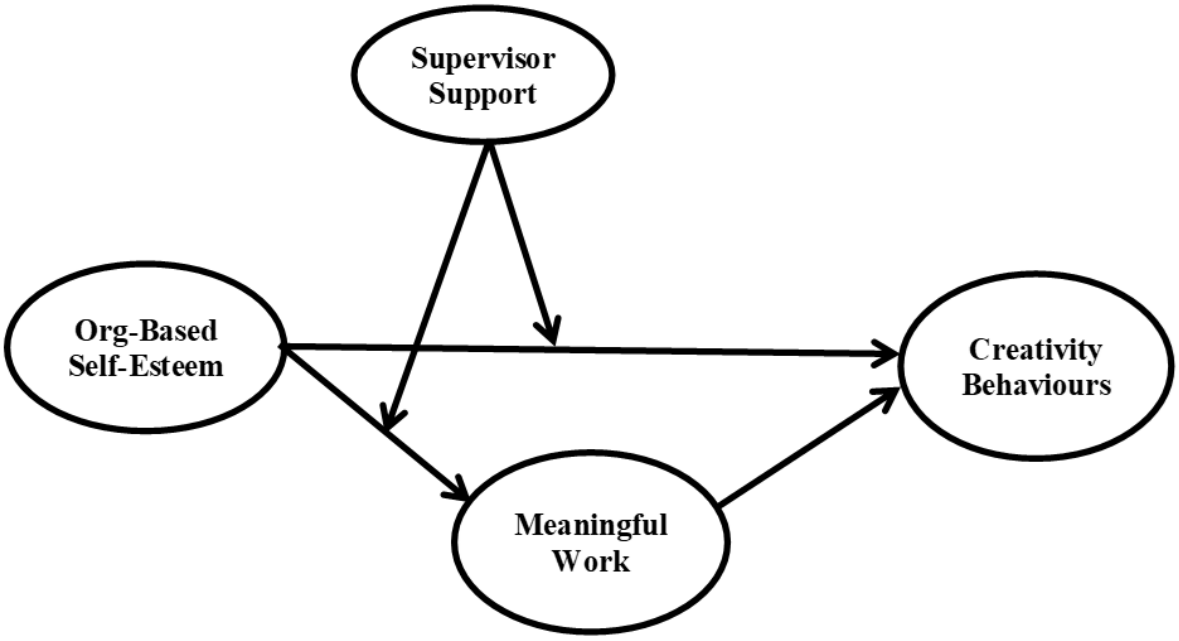
Finally, we examine perceived supervisor support as a boundary condition whereby it might attenuate relationships. Thus, we explore perceived supervisor support as moderating the indirect effect of OBSE on creativity behaviours through meaningful work, thus testing a moderated mediation effect, which Hayes (2018) defines as "an analytical strategy focused on quantifying the boundary conditions of mechanisms and testing hypotheses about the contingent nature of processes, meaning whether "mediation is moderated" (p. 5). Specifically, the moderated mediation approach can analytically "address whether an indirect effect (mediation) is dependent on another variable (moderation)" (Hayes, 2018, p. 5). Hence, the indirect effect of OBSE on creativity behaviours through meaningful work is expected to differ at various levels of perceived supervisor support. Aligned with behavioural plasticity theory, we expect the indirect effect of OBSE to be most beneficial at low levels of perceived supervisor support, with the indirect effect weakening as perceived supervisor support increases. Thus,

we expect perceived supervisor support to act as a boundary condition. This leads to our final hypothesis:

***Hypothesis 6: The indirect relationship between OBSE and creativity behaviours via meaningful work is moderated by perceived supervisor support, such that the indirect relationship becomes stronger as perceived supervisor support becomes weaker (moderated mediation).***

Our study model is shown in Figure 1.

**Figure 1. Hypothesized Study Model.**




## Methods

*Participants and Sample*

A total of 505 participants were recruited in 2017 via a Qualtrics survey panel of New Zealand employees. Respondents had to be working at least 20 hours a week and be aged 18 years and over, in order to ensure enough work experience. Participants are anonymous and confidential, and the system ensures there are no multiple respondents and removes respondents who answer too quick/slow. This methodology has yielded positive samples (e.g., Haar et al., 2018) with data being comparable to other non-panel samples (Ng et al., 2019). A recent meta-analysis by Walter, Seibert, Goering, and O'Boyle (2019) found no significant differences between data sourced conventionally and data from panels like Qualtrics.

Respondents were evenly split by gender (52 per cent women), with average age of 39.7 years (SD=13.8), and the majority being married (67 per cent). Average tenure was 7.8 years and work hours 39.1 per week. Education was well spread: 23 per cent high school, 30 per cent technical qualification, 33 per cent university degree, and 14 per cent postgraduate qualification in education. By sector, the majority were from the private sector (73 per cent), followed by the public sector (21 per cent) and

not-for-profit sector (six per cent). Statistics New Zealand (2015) reports, from the 2013 Census, that 79 per cent of the New Zealand population has higher education (greater than high school), which does equate well with our data (77 per cent). However, aligned with other New Zealand studies (e.g., Haar & Brougham, 2016), our sample does have higher university qualified respondents. Statistics New Zealand (2017) report 51.2 per cent women in the workforce compared to men, and this also equates well with our sample (52 per cent).

*Measures*

Creativity behaviours were measured with the three-items by Shimazu et al., (2015), coded 1=not at all characteristic of me, 5=very characteristic of me. A sample item is "I am a good source of creative work ideas" (α= .86).

Perceived supervisor support was measured using three items from Eisenberger et al., (2002), coded 1=strongly disagree, 5=strongly agree. A sample item is "my supervisor is willing to extend themselves in order to help me perform my job to the best of my ability" (α= .88).

OBSE was measured using items by Pierce et al. (1989), coded 1=strongly disagree, 5=strongly agree, using the 5-item short measure (Scott et al., 2008). A sample item is "I am trusted around here" (α= .92).

Meaningful work was measured using the three-item construct by Spreitzer (1995), coded 1=strongly disagree, 5= strongly agree. A sample item is "The work I do on this job is meaningful to me" (α=.95).

We control for a range of factors likely to influence creativity beyond our main factors that are likely to be a necessary work condition, including Hours Worked (total/week) as Amabile et al., (2002) note that hours worked can be related to creativity and Job Repetition, from Brougham and Haar (2017), coded 1==strongly disagree, 5=strongly agree, item is "My work is highly repetitive". We argue that high repetition jobs will be negatively related to creativity behaviours. Finally, we controlled for Private Sector (1=private sector, 0=non-private sector), due to underperformance in the sector (Robertson & Seneviratne, 1995) and Tenure (years), due to meta-analysis around its links to positive innovation behaviours (Ng & Feldman, 2013).

*Measurement Models*

We conducted a CFA in AMOS version 25, following Williams, Vandenberg, and Edwards (2009) goodness-of-fit indices and thresholds: (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 and two alternative models are shown in Table 1.

**Table 1. Results of Confirmatory Factor Analysis**

| | Model Fit Indices | | | | | Model Differences | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Model** | **$\chi^2$** | **df** | **CFI** | **RMSEA** | **SRMR** | **$\Delta\chi^2$** | **Δdf** | **p** | **Details** |
| Model 1 | 175.2 | 71 | .98 | .05 | .03 | | | | |
| Model 2 | 1645.9 | 74 | .71 | .21 | .13 | 1470.7 | 3 | .001 | Model 1 to 2 |
| Model 3 | 822.1 | 74 | .86 | .14 | .11 | 646.9 | 3 | .001 | Model 1 to 3 |

Model 1= Hypothesised 4-factor model: perceived supervisor support, OBSE, meaningful work and creativity behaviours.
Model 2= Alternative 3-factor model: perceived supervisor support, OBSE and meaningful work combined, and creativity behaviours.
Model 3= Alternative 3-factor model: perceived supervisor support, OBSE, and meaningful work and creativity behaviours combined.

Overall, the hypothesised measurement model was the best fit for the data, with alternative measurement constructs resulting in poorer fit (Hair et al., 2010).

*Analysis*

Hypotheses 1-5 were tested using SEM in IBM AMOS version 25. We tested moderation and, following potential issues of multicollinearity in SEM (Haar et al., 2014), we entered the single-item interaction term (already calculated) into our model to provide the interaction calculation (as per Wayne et al., 2017). We conducted the moderated mediation analysis (Hypothesis 6) in PROCESS 3.4 (in IBM SPSS version 25) per Hayes (2018), at the 95 per cent confidence interval and bootstrapping at 5,000, providing an Index of Moderated Mediation (a statistical test of moderated mediation effects). PROCESS is a macron that runs in IBM SPSS and is specifically designed to run complex statistical analyses, including moderation, mediation, and moderated mediation. Calculation of skewness and kurtosis statistics indicated that all our study variables were normally distributed within acceptable limits (Hair et al., 2010).

## Results

Descriptive statistics for the study variables are shown in Table 2.

**Table 2. Correlations and Descriptive Statistics of Study Variables**

| Variables | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Tenure | 9.0 | 9.2 | -- | | | | | | |
| 2. Hours Worked | 38.9 | 10.0 | .07 | -- | | | | | |
| 3. Job Repetition | 2.81 | 1.2 | -.23** | -.10* | -- | | | | |
| 4. Perceived Supervisor Support | 3.5 | .89 | -.08 | -.13** | -.09* | -- | | | |
| 5. OBSE | 3.9 | .75 | -.00 | -.07 | -.10* | .66** | -- | | |
| 6. Meaningful Work | 3.7 | .95 | .15** | .03 | -.26** | .31** | .37** | -- | |
| 7. Creativity Behaviours | 3.8 | .65 | .12** | .12** | -.09* | .15** | .17** | .29** | -- |

N=505. *p<.05, **p<.01

Table 2 shows that creativity behaviour is significantly correlated with perceived supervisor support (r= .15, p<.01), OBSE (r= .17, p<.01), meaningful work (r= .29, p< .01), as well as the control variables tenure (r= .12, p< .05), hours worked (r= .12, p< .01) and job repetition (r= -.09, p< .05). Perceived supervisor support is significantly correlated with OBSE (r= .66, p<.01) and meaningful work (r= .31, p< .01), while OBSE and meaningful work correlate with each other significantly (r= .37, p< .01). Finally, tenure correlates significantly with meaningful work (r= .15, p< .01).

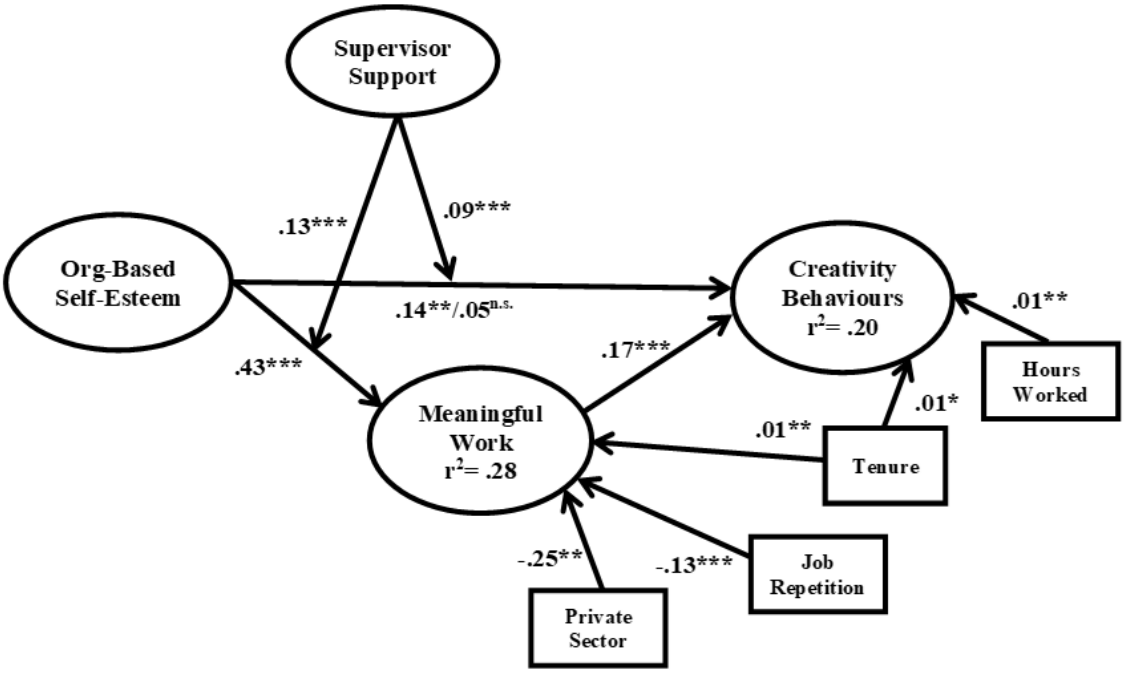
*Structural Models*

We tested three models: (1) a direct effects model (OBSE to all outcomes), (2) a full mediation model: OBSE→ meaningful work → creativity behaviours and (3) a partial mediation model, where OBSE predicts meaningful work and creativity behaviours and meaningful work predicts creativity behaviours. Overall, the partial mediation (model 3) is superior to the other models (both p< .001). We then added the interaction term into the partial mediation model, and that structural model was robust

and met minimum goodness-of-fit indexes noted above (Williams et al., 2009): $\chi^2$(df)= 262.3 (141), CFI=.98, RMSEA=.04, and SRMR=.03.

The path analysis results (unstandardised regression coefficients) are presented in Figure 2.

**Figure. 2 Study Model with Effects.**




**Key: *p< .05, **p< .01, ***p< .001, n.s.=non-significant.**

Figure 2 shows the results of model 2 (partial mediation) as this is the best fit to the data. Figure 2 also shows that OBSE is significantly related to creativity behaviours and meaningful work; and when meaningful work predicts creativity behaviours in model 3, it is significant, and fully mediates the influence of OBSE towards creativity behaviours. Overall, these findings provide support for all Hypotheses one to four, including mediating effects of meaningful work. The interaction effects were both supported, with significant interactions between perceived supervisor support and OBSE towards meaningful work and creativity behaviours. Overall, the models account for modest amounts of variance towards creativity behaviours (20 per cent) and meaningful work (28 per cent). The overall variance accounted towards creativity behaviours aligns well with the works of Zacher and Wilden (2014) for innovation behaviours (13 per cent), and Furnham et al., (2008) for self-rated creativity (17 per cent).

We graph the interactions to illustrate the two-way interactions (Figures 3 and 4).

**Figure 3. Interaction of OBSE x Perceived supervisor support (PSS) with Meaningful work as the Dependent Variable.**

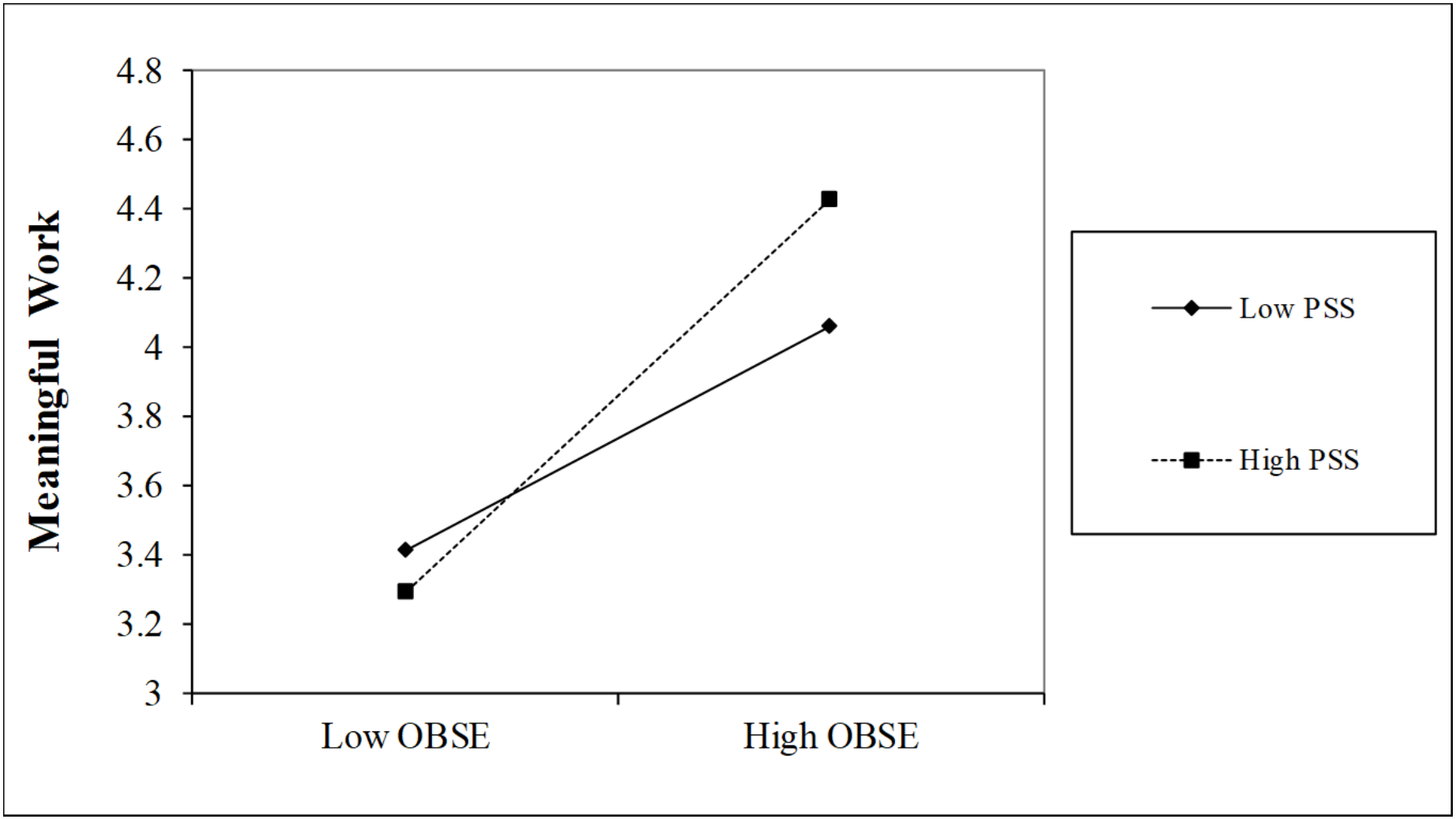
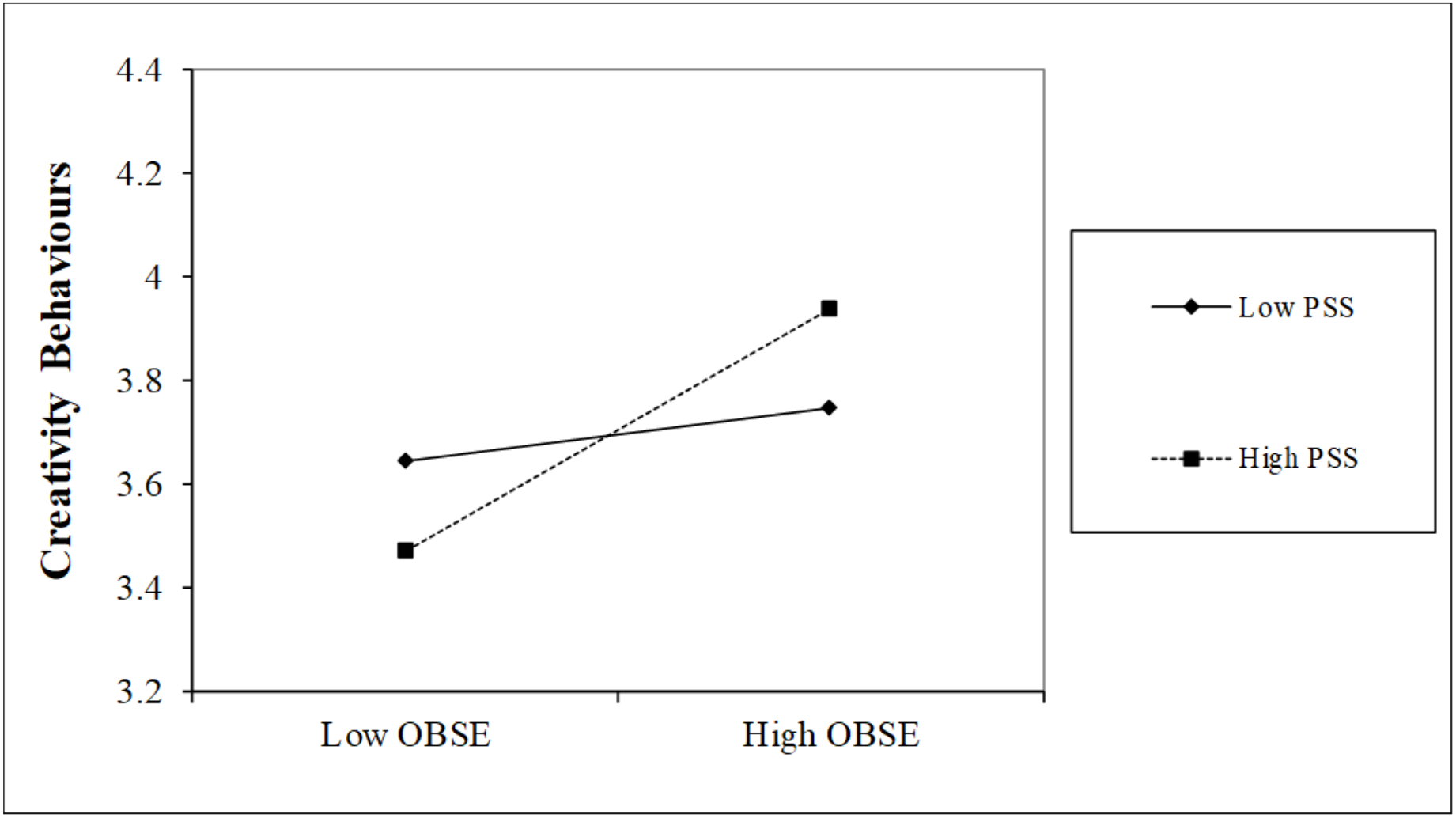


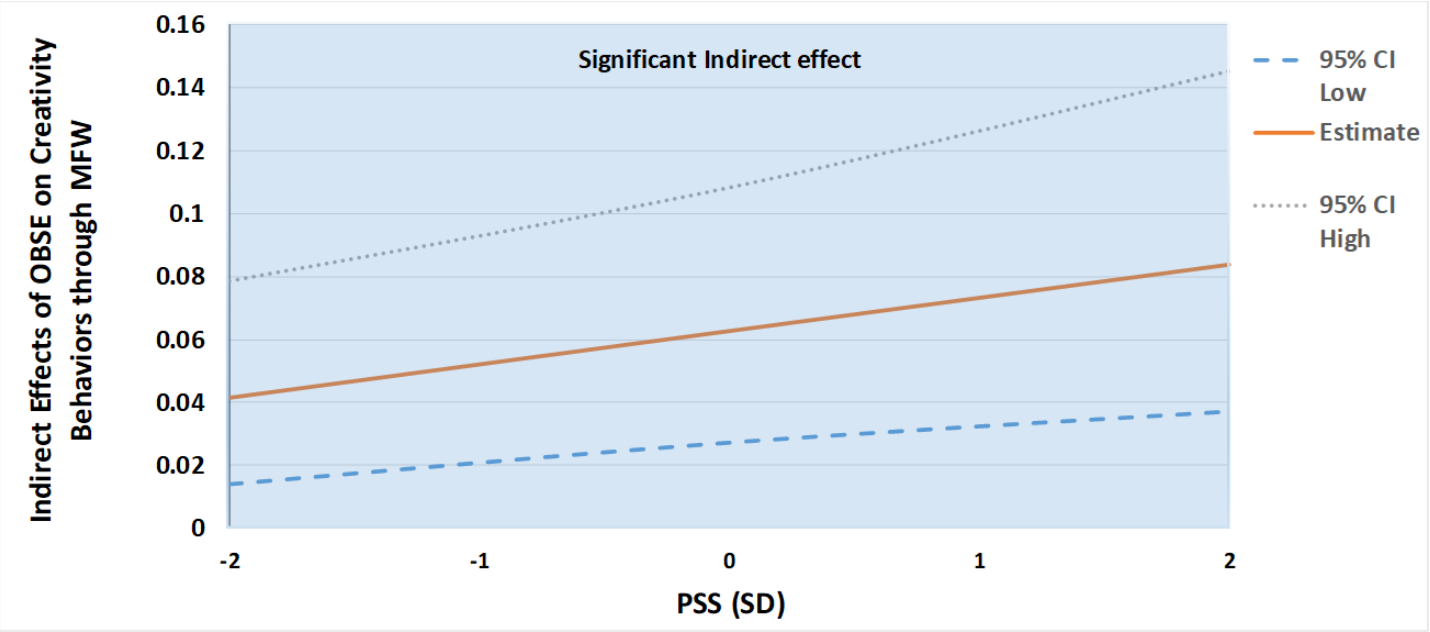
**Figure 4. Interaction of OBSE x Perceived supervisor support (PSS) with Creativity Behaviours as the Dependent Variable.**



The interactions towards meaningful work (Figure 3) and creativity behaviours (Figure 4) show similar effects: at low levels of OBSE, those with high perceived supervisor support report higher outcomes (meaningful work and creativity behaviours), albeit at a small level of difference. However, the enhancement benefits of perceived supervisor support are shown at high levels of OBSE, where the highest levels of meaningful work and creativity behaviours are reported. However, these effects are counter to the anticipated behavioural plasticity theory effects, instead showing a more traditional intensification (beneficial) effect. Hence, we find no support for Hypothesis 5.

The results of the index of moderated mediation were found to be significant (Index= .02 (.01), p= .021 [LL= .01, UL= .05]). According to Hayes (2018), this is interpreted as meaning the indirect effect of OBSE on creativity behaviours (through meaningful work) differs between respondents' perceived supervisor support. We present the graphed interactions to illustrate these effects in Figure 5.

**Figure 5. Indirect Effects of OBSE on Creativity Behaviours Through Meaningful work (MFW) conditional on Perceived supervisor support (PSS).**




We follow Wayne et al. (2017) to probe the conditional indirect effect by examining the magnitude and significance of the indirect effect of OBSE on creativity behaviours through meaningful work at various levels of perceived supervisor support. Figure 4 shows the significant indirect effect of OBSE→ meaningful work →creativity behaviours, conditional on the effects of perceived supervisor support (at -2SD, mean, and +2SD). We find, for employees reporting low levels of perceived supervisor support, the effect of OBSE on creativity behaviours, vis-à-vis meaningful work, was significant, positive and small (estimate = .037, p= .007; LLCI = .01; ULCI = .08). At the average levels of perceived supervisor support, the effects was significant, positive and stronger (estimate = .057, p= .002; LLCI = .02; ULCI = .10), and stronger still at high levels (+2SD) of perceived supervisor support (estimate = .077, p= .001; LLCI = .03; ULCI = .14). This shows that low levels of perceived supervisor support are associated with a weaker positive indirect effect from OBSE to creativity behaviours through meaningful work compared to those with higher levels of perceived supervisor support.

While the indirect effect is significant across the full 95 per cent confidence intervals, it shows that the benefits of perceived supervisor support are stronger and enhanced when perceived supervisor support is higher, which is counter to our argument and does not support Hypothesis 6.

## Discussion

The present study focussed on the resource caravan effect under conservation of resources theory to determine the combined influence of multiple factors to provide a comprehensive approach to understanding employee creativity behaviours. Research to date tends to focus on individual factors – such as personality – but fails to encompass additional factors. We found that OBSE plays an important role in shaping creativity behaviours and, thus, replicated a small number of studies (Chen & Aryee, 2007; Lee & Hyun, 2016) with a New Zealand sample. However, we extended the existing literature by finding that OBSE leads to meaningful work, which, in turn, influences creativity behaviours, and fully mediates the influence of OBSE. These OBSE effects reinforce the findings in the OBSE literature around performance in general (Haar & Brougham, 2016; Gardner et al., 2015), but specifically towards creativity behaviours, and we extended understanding by showing that meaningful work is the key. While researchers have shown that meaningful work is important towards many important employee outcomes (Spreitzer, 1995; Lips-Wiersma & Wright, 2012), our finding towards creativity behaviours also extends this literature.

In addition, the present study explored perceived supervisor support as a moderator of OBSE to better understand the interaction of supervisor support on relationships. This approach was well supported, with perceived supervisor support being found to play an important role, leading to greater meaningful work and creativity behaviours when OBSE is high. This highlights the importance of perceived supervisor support where employees develop perceptions of how their supervisors' value their contributions (Rhoades & Eisenberger, 2002), and employees reciprocate with greater attitudes and behaviours. These effects replicate the importance of perceived supervisor support on performance (Eisenberger et al., 2002), including moderating effects (Kim et al., 2015). These significant moderating effects also reinforce Anderson and colleagues' (2014) calls for testing multiple factors; and our findings reinforce the additional benefits that supervisor support might play (Kim et al., 2015). Importantly, these findings highlight the benefits of exploring moderators with OBSE, and here, we find that this leads to greater meaningful work and creativity behaviours.

Despite the positive effects found, our moderating effects do challenge the notion of behavioural plasticity theory (Brockner, 1988), where typical interaction effects of organisational factors with OBSE are expected to be influential on employees with low (but not high) OBSE (Pierce & Gardner, 2004). One explanation for this unexpected effect might be due to using perceived supervisor support as a moderator. It might be that support perceptions under organisational support theory elicits stronger and more affirmative reactions from employees, rather the typical effects under behaviour plasticity theory. Chen and Aryee (2007) suggest that, due to the potential risk taking with creativity behaviours, there may be a need for greater organisational sponsorship, and that employees with high OBSE "will be more willing to take risks and thereby will engage more in innovative behavior" (p. 229). This might explain why perceived supervisor support positively influences high OBSE, leading to greater creativity behaviours. This explanation might also hold towards the similar positive effect on meaningful work and signifies the importance of the resource caravan effect (Hobfoll, 2011).

These effects warrant further exploration of perceived supervisor support interacting with OBSE, and we encourage researchers to give this more attention.

Finally, our moderated mediation effect indicated that the greatest effect of OBSE are at high levels of perceived supervisor support, although there was still a positive effect at low perceived supervisor support, albeit with a weaker beneficial effect. We find that perceived supervisor support appears to be a key boundary condition for explaining the relationships between OBSE, meaningful work, and creativity behaviours. This boundary condition effect further highlights how powerful the effects of perceived supervisor support are on these relationships and reiterates the value of including perceived supervisor support as a moderator when testing such relationships. The finding suggests that, in combination with high OBSE, greater support perceptions might highlight an intensification effect whereby organisational support theory exerts a greater influence on outcomes than behaviour plasticity theory. It might be that, in some circumstances, the expected effects under behaviour plasticity theory might be challenged and this study provides the first evidence. Further testing of these effects is encouraged.

*Implications*

The implications for organisations involve highlighting the importance that supervisor support plays in shaping important job attitudes and behaviours, especially for workers with high self-esteem from their work. Hence, providing training for supervisors to make them more focussed and attentive to their workers – and provide constructive feedback – is likely to help trigger idea generation and innovation, which become pillars of creativity and, ultimately, organisational performance. Meta-analysis on OBSE literature (Bowling et al., 2010) highlighted the importance of job complexity, autonomy, and leadership, as well as other factors of support and pay. Thus, HR departments need to understand that a broad number of factors can positively shape OBSE and creativity behaviours, and, therefore, hiring job candidates with high OBSE may not be sufficient – additional workplace factors supporting employees and their creativity is needed.

For researchers, our findings around moderating effects of perceived supervisor support challenge behavioural plasticity theory (Brockner, 1988), where it was expected that employees with low OBSE would react more purposefully to external cues (perceived supervisor support), but this was not supported. Given our findings are counter to the expected effects, we urge researchers to examine support perceptions – both supervisor and at the organisational level (Rhoades & Eisenberger, 2002) – to determine whether these counter effects hold with other forms of support. If so, this might suggest that organisational support theory could triump the expected effects of behavioural plasticity theory, or at least highlight that different factors might trigger different effects. Importantly, our findings do challenge typical interaction effects found in the OBSE literature (e.g., Pierce et al., 1993) and might highlight the importance of reciprocity, whereby high OBSE employees react more positively to a supportive supervisor. We encourage further replication of these effects and perhaps extensions into support at the organisational-level, to capture global perception of support.

Future research might explore other factors, such as leadership (e.g., ethical leadership) to determine whether its influence on OBSE follows the expected effects under behavioural plasticity and conservation of reosurce theories. Thus, it might be that it is the immediate supportive nature of leaders – and not some other distinct form of leadership behaviour (e.g., ethical, transformational) – that triggers intensification effects for high OBSE employees.

Furthermore, greater exploration of moderated mediation effects is encouraged to provide insights around boundary conditions.

*Limitations*

Limitations of the present study include cross-sectional data although the use of higher-level statistical analysis (CFA and SEM) minimises the potential of common method variance (CMV) (Haar et al., 2014). In addition, towards CMV, Evans (1985) asserts that moderation effects are less likely to be found if CMV is an issue, which also alludes to CMV not being an issue. Finally, we acknowledge that the data was gathered via a panel, and while such approaches appear to produce findings that aligns similarly with data from conventional methods (e.g., Ng et al., 2019), some critics (e.g., Yang et al., 2010) have highlighted potential issues with panel data. In response to these issues, we followed the recommendations of Podsakoff et al., (2003), and undertook the Lindell and Whitney (2001) procedure. This involved conducting a partial correlation while controlling for a construct unrelated to the relationships studied (career planning, 3-items by Gould, 1979, sample item "My career objectives are not clear", $\alpha = .76$). This analysis showed no change on the strength of correlations, indicating CMV is not likely to be evident (as per Haar & Spell, 2009). Finally, our large sample and broad range of New Zealand respondents across industries and professions does provide confidence in the findings.

## Conclusion

The present study contributes to the understanding of how OBSE interacts with perceived supervisor support, and how these factors influence creativity behaviours through meaningful work as a mediator. Given the links between employee creativity and organisational success, we suggest these findings highlight some ways that organisations can encourage greater employee creativity behaviours. Our study also improves our understanding of the process of creativity behaviours through finding mediating effects (meaningful work) and moderating effects from perceived supervisor support. The moderated mediation effects further highlighted the value of perceived supervisor support as a boundary condition and highlights the potential complex interplay between factors to achieve superior creativity. Finally, our findings challenge an established theory around the role of external factors on OBSE, which encourages further testing of interaction effects. Overall, the present study offers insights into how we might understand the process towards realising greater creativity behaviours in organisations by considering a combination of factors.

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# Commentary: Labour market change and employee protection in New Zealand in light of the 'future of work' debate

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## Abstract

Much has been written internationally about the likely labour market impacts of the so-called 'future of work' or the 'fourth industrial revolution' (Schwab, 2016). In New Zealand, the 'future of work' has also attracted considerable academic, political and public commentary. This commentary seeks to set some of the issues around technological change and employee protections in context, by drawing on evidence from the recent past, current New Zealand data on temporary and casualised employment and on a few examples from the international literature. We argue that two separate sets of issues are often conflated in the New Zealand discussions. Both have important employment protection implications, but they differ significantly in the policy responses needed. While it is too soon to be sure, it is also likely that they differ in scale. One set of issues surrounds the way people work and, in particular, questions around casualisation, precarious employment, and the rise of the 'gig economy'. The other set of issues concerns job losses, technological redundancy and structural labour market change. Our analysis of the broad data presented in the commentary suggests that casualised employment has not yet increased significantly, although we do not rule out the possibility that it will do so in the future. Reviewing the outcomes of the large scale, structural labour market change during the 1980s and 1990s, we argue that policy needs to learn from the failings of that period to minimise the long-term negative social and economic consequences in which those changes resulted.

**Keywords:** New Zealand; Future of work; Employment relations; Employee protection; Precarious employment; Labour market casualisation; Workplace technological change.

## Introduction

It has become a commonplace notion that new technologies, especially in the form of robotics and machine learning, are developing so rapidly and substantially that a large amount of the work now done by people will soon be able to be performed by machines. The frequently cited study by Frey and Osbourne (2013) concluded that the jobs of 47 per cent of all current US employees could be carried out by machines and computers within the next 20 years. Doomsday labour market predictions are not new, of course. A slew of books and articles since the 1990s predicted some version of the 'end of work' (Rifkin, 1995) or the 'de-jobbed world of work' (Bridges, 2005). Despite those forecasts not coming to pass, many commentators argue that the situation is different this time and that the world is now entering a 'fourth industrial revolution' involving large-scale disruptions and a 'time of great promise and great peril' (Schwab, 2016, p2).

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In New Zealand, 'the future of work' has also been widely discussed (see, for example, New Zealand Labour Party, 2016). Based on a brief overview of the 'future of work' debate, we suggest that two strands of thinking and research are prominent, and tend to get conflated, despite relating to different phenomena and having different implications. The first concerns the nature of work and the way people will earn an income in the future. Drawing on writers, such as Standing (2011; 2014) and, in New Zealand, Groot et al., (2017), this strand focusses on the increase in contingent forms of employment – temporary employment, contracting, and 'platform'-based work. This leads to concerns about insecurity of income, low-income work, loss of employment (and other) protections, lack of access to training and career progression (Stewart & Stanford, 2017). Although low-skill, low-earning activities predominate, concerns about increasing employment precarity extend to other occupations, such as the tertiary education sector (Bentley et al., 2014; TEU, 2019). The impact of precarity on various groups of New Zealanders is surveyed in Groot et al., (2017).

The second strand concerns jobs and workers who may be at risk of technological redundancy. There have been no New Zealand-specific studies of the numbers of jobs likely to be affected by what Brougham and Haar (2017) call Smart Technology, Artificial Intelligence, Automation, Robotics and Algorithms (STAARA). However, Arntz et al., (2016), using an activity-based, more conservative approach than Frey and Osborne (2013), estimated that an overall figure of nine per cent of jobs across 21 OECD countries, with a range of between six and 12 percent over the next 10 to 20 years for the countries they studied. Even at the lower end of that range, technological redundancies of that magnitude, overlaid on top of the usual dynamism of the labour market, implies considerable adjustment challenges.

The commentary starts with a brief overview of the current economic and labour market situation in New Zealand where strong economic growth in the post Global Financial Crisis (GFC) has increased employment, decreased unemployment and prompted employer concerns about skill shortages. However, there are a number of embedded issues, ranging from low pay, gender and ethnicity issues, and long working hours. On that background, statistical information on casualisation is analysed and it is shown that the proportion of part-time employed and self-employed, in respect of total employed, has been fairly constant since 1990. The percentage of temporary employed in terms of total employed has also been broadly stable around 10 per cent since the start of official statistics in 2008.

In this recent historical labour market context, the commentary overviews briefly the past and recent claims about the 'future of work' (though this is clearly a part of the commentary where further literature review and research are necessary). However, we suggest that, while wholesale de-jobbing is highly unlikely, a more active government policy response is needed, in respect of both casualisation and technological unemployment.

## The current economic and labour market situation

The New Zealand economy has experienced relatively strong growth in the post Global Financial Crisis (GFC) period. Annual GDP growth has averaged close to 3.0 per cent between 2014 and 2018, compared to an OECD average growth rate of 2.3 per cent. As in many countries, price inflation has been low and was 1.5 per cent for the year to December 2018. Despite significant rises in government debt during 2008-2014, New Zealand still has a relatively low government debt to GDP ratio of around 20 per cent. (By comparison, Australia's debt to GDP ratio is around 40 per cent.)

Employment growth has also been strong with an average annual increase of 81,000 people employed (or over three per cent per annum) between 2013 and 2018. Moreover, 70 per cent of the increase is in full-time jobs. Labour force participation is higher than at any point since the Household Labour Force Survey began in 1986: 76 per cent for men aged 16 and over and 66 per cent for women in December 2018. Unemployment increased sharply at the beginning of the GFC but has since fallen back to 4.5 per cent seasonally adjusted, approximately the same rate as a decade earlier in December 2008. Thus, the current employment situation is a far cry from the massive job losses experienced between 1986 and 1991. In fact, many employers are generally concerned about skill shortages and insufficient labour supply in the immediate future (MBIE, 2018).

This generally rosy picture hides, however, a number of embedded issues that have showed little improvement over the cyclical upswing. Real wage growth, especially across the lower half of the wage distribution, has been weak (Rosenberg, 2017). Low pay remains common, with almost the same proportion of workers paid less than two-thirds of the median wage in 2015 as in 2006 (11.1 per cent compared to 12.3 per cent (Cochrane et al., 2018]). The gender pay gap (12.8 per cent) is also about the same as it was in 2003 (Pacheco et al., 2017). More broadly, there has been no improvement in income inequality, and poverty and child poverty indicators show only slight (and mixed) signs of improvement (Perry, 2017).

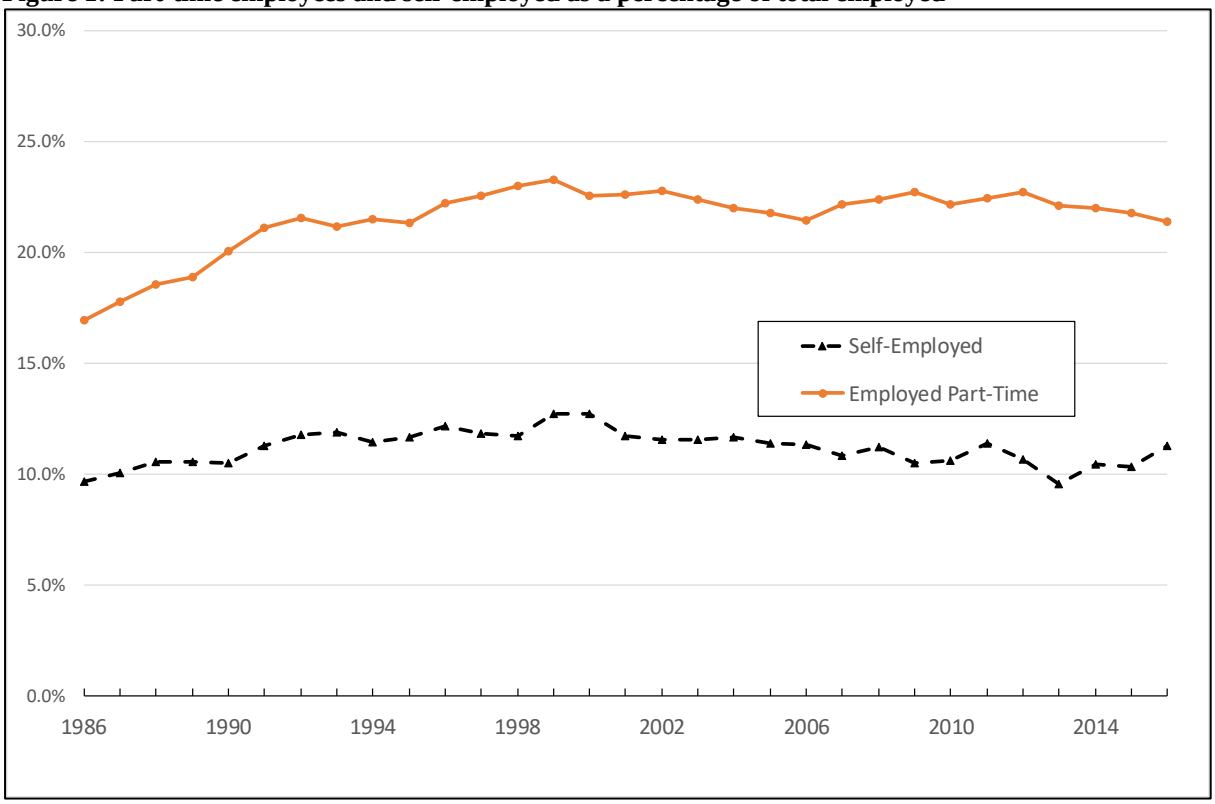
Unemployment also remains high among some groups. Most notably, unemployment among Māori and Pacific youth aged 16 - 24 remains at 21.8 per cent and 20.1 per cent, respectively. The period of strong employment growth has also done little to dent the youth NEET (young people Not in Employment, Education or Training) rate which has averaged around 12 per cent over the 2013 - 2016 period.

While many other OECD countries would envy the headline economic statistics, the embedded social, infrastructure and employment issues leave no place for complacency. Its context has been one of benign international trends in, for example, New Zealand's terms of trade. However, there have been warnings that New Zealand's foreign debt has risen to a dangerous level which makes New Zealand economic activity vulnerable to the risk of adverse global financial market trends (Fallow, 2019). This could make it harder to make progress on these pre-existing issues.

## Casualisation

Casualisation is usually described in terms of the number of workers on temporary or fixed-term contracts, in part-time employment (especially if they would prefer more hours), or a rise in self-employment (often associated with new forms of working). Despite the media and other discussions of 'the future of work', the high-level data show no evidence of any increase in these forms of work in New Zealand. Part-time employees and the self-employed represent no higher percentage of the total employed in 2017 than they did in 2000 (see Figure 1). Both these categories of employment showed some proportional increase from the mid-1980s through to the late-1990s, probably due to the decline in full-time employment during the early part of that period. However, that trend has not continued. Among the part-time employees, approximately one-in-five report wanting to work more hours.

**Figure 1: Part-time employees and self-employed as a percentage of total employed**




Similarly, there is, as yet, no sign of a growth in temporary employment relationships. New Zealand data on employment by type of employment relationship only goes back to the first Survey of Working Life in 2008. In 2008, 9.6 per cent of the workforce were employed (in their main job) in one or other form of temporary employment relationship. That figure rose to 10.9 per cent in the 2012 survey and had fallen slightly to 9.4 per cent by December 2018. The different forms of temporary employment relationships have also remained more or less stable over the same period. In December 2018, 4.1 per cent of the workforce were casual workers, 2.1 per cent were on fixed-term contracts, 2.7 per cent were in seasonal employment and 0.4 per cent were temping. Women are somewhat more likely than men to be in temporary employment relationships: 10.6 per cent compared to 8.2 per cent.

**Table 1. The main categories of 'temporary' working arrangements as percent of total employed population (main job)[1]**

| Types of employment | 2008 (Mar qtr) | 2012 (Dec qtr) | 2018 (Dec qtr) |
|---|---|---|---|
| Casual Work | 4.0 | 4.1 | 4.1 |
| Fixed-term agreements | 1.9 | 2.6 | 2.1 |
| Temping | 0.6 | 0.7 | 0.4 |
| Seasonal employment[2] | 3.2 | 3.5 | 2.7 |
| Total | 9.6 | 10.9 | 9.4 |

Source: Survey of Working Life, Statistics New Zealand.

Compared to other OECD countries, New Zealand has an above average percentage of part-time employees, an about average proportion of self-employed and a slightly below average share of workers in temporary employment relationships. A key point, though, is that, across

[1] Note the employed population includes working employers and the self-employed.
[2] Comprises 'seasonal employee' and 'seasonal worker not further defined'.

the OECD as a whole, there is no observable rise in casualised employment, at least as far as these very broad indicators are concerned (see Tables 2 to 4).

**Table 2: Part-time employment as a percentage of total employment, selected OECD and EU countries**

| | New Zealand | Australia | United Kingdom | Denmark | OECD | EU |
|---|---|---|---|---|---|---|
| 2007 | 21.9 | 23.7 | 22.9 | 17.3 | 15.4 | 15.8 |
| 2008 | 22.1 | 23.8 | 23.0 | 17.8 | 15.6 | 15.8 |
| 2009 | 22.4 | 24.6 | 23.9 | 18.8 | 16.5 | 16.3 |
| 2010 | 21.8 | 24.8 | 24.6 | 19.2 | 16.6 | 16.6 |
| 2011 | 22.1 | 24.7 | 24.7 | 19.2 | 16.8 | 16.8 |
| 2012 | 22.3 | 24.6 | 25.0 | 19.4 | 16.8 | 17.2 |
| 2013 | 21.6 | 24.9 | 24.6 | 19.2 | 17.0 | 17.4 |
| 2014 | 21.5 | 25.2 | 24.1 | 19.7 | 16.9 | 17.3 |
| 2015 | 21.3 | 25.2 | 24.0 | 20.0 | 16.8 | 17.2 |
| 2016 | 21.2 | 25.9 | 23.8 | 21.7 | 16.7 | 17.0 |

Source: OECD Labour Force Statistics, 2017

**Table 3: Self-employment as a percentage of total employment, selected OECD and EU countries**

| | New Zealand | Australia | United Kingdom | Denmark | United States | EU |
|---|---|---|---|---|---|---|
| 2007 | 17.2 | 11.7 | 13.4 | 9.0 | 7.2 | 16.9 |
| 2008 | 17.3 | 11.5 | 13.3 | 8.8 | 7.0 | 16.5 |
| 2009 | 16.4 | 11.5 | 13.6 | 9.3 | 7.1 | 16.6 |
| 2010 | 16.2 | 11.5 | 14.0 | 9.1 | 7.0 | 16.8 |
| 2011 | 16.7 | 11.1 | 14.2 | 9.1 | 6.8 | 16.7 |
| 2012 | 16.6 | 10.4 | 14.6 | 9.1 | 6.8 | 16.7 |
| 2013 | 15.4 | 10.1 | 14.6 | #N/A | 6.6 | 16.5 |
| 2014 | 15.3 | 10.2 | 15.2 | 8.9 | 6.5 | 16.4 |
| 2015 | 14.8 | 10.3 | 15.0 | 8.7 | 6.5 | 16.1 |
| 2016 | 17.9 | 10.1 | 15.4 | 9.1 | 6.4 | 15.8 |

Source: OECD Labour Force Statistics, 2017

**Table 4: Temporary employment as a percentage of total employment, selected OECD and EU countries**

| | New Zealand | Australia | Great Britain | Denmark | OECD | EU28 |
|---|---|---|---|---|---|---|
| 2007 | #N/A | 6.32 | 5.84 | 9.05 | 12.21 | 14.58 |
| 2008 | 9.6 | 5.89 | 5.41 | 8.53 | 11.94 | 14.16 |
| 2009 | #N/A | 5.94 | 5.64 | 8.71 | 11.79 | 13.61 |
| 2010 | #N/A | 5.7 | 6.11 | 8.43 | 11.84 | 13.95 |
| 2011 | #N/A | 6 | 6.17 | 8.84 | 11.95 | 14.06 |
| 2012 | 10.4 | 5.9 | 6.34 | 8.54 | 11.79 | 13.73 |
| 2013 | #N/A | 5.59 | 6.23 | 8.76 | 11.09 | 13.74 |
| 2014 | #N/A | 5.89 | 6.43 | 8.5 | 11.15 | 14.05 |
| 2015 | #N/A | 4.56 | 6.2 | 8.63 | 11.26 | 14.23 |
| 2016 | 8.6 | #N/A | 6.04 | 13.61 | 11.24 | 14.23 |

Source: OECD Labour Force Statistics, 2017

The data on casualisation does, however, need to be treated with some caution: it is also possible that the high-level data hide a more complex story. The Statistics New Zealand figures relate to people not jobs, and it is possible that an increasing number of people recorded as permanent employees are also earning part of their income from secondary work in casualised, gig-economy jobs. Others doing that type of work may not record themselves as either employees or self-employed (although the very high labour force participation rate suggests this is not likely to be a large factor).

The Ministry of Business, Innovation and Employment's (MBIE) 2014/15 National Survey of Employers included questions on 'non-standard' employment arrangements (MBIE, 2016). Their data show that, at the time of the survey, 30 per cent of businesses had at least one employee on a casual employment agreement, 18 per cent had at least one on a fixed-term agreement and 13 per cent were using dependent contractor(s). It is important to note that these

figures are not necessarily at odds with the Statistics New Zealand data from the Household Labour Force Survey or the Survey of Working Life as the MBIE figures relate to *employers* not to workers. Unsurprisingly, firms with more workers were more likely to have one or more person employed in a non-standard form of employment. Overall, though, the MBIE survey shows that 70 per cent of businesses were not using casualised employment and 82 per cent were not using fixed-term contracts. Moreover, although the survey question is imperfect, there is no evidence that those businesses that do use non-standard employment agreements do so because of technological reasons – fluctuating demand/seasonal work is the most common reason, followed by the need to cover staff absences or parental leave (MBIE, 2016).

## The 'Future of Work' in New Zealand, structural labour market change and technological redundancies in an historical context

Despite the predictions made in the 1980s and 1990s, as the data above suggest New Zealand has yet to see any significant impacts from 'future of work' changes. The country does have recent experience of large-scale economic and labour market transformation, albeit policy-induced rather than driven by technological change. During the period from 1986 to 1992, employment fell by over 100,000 or 7.2 per cent, however, as the economy recovered from those changes, full-time permanent employment grew as much as part-time and temporary employment. The employer response to the economic upswing during the 2000s was primarily one of high labour-utilisation, fuelled by high immigration, rather than one of investing in labour-displacing technologies or in changed work and employment practices, or greater use of part-time and casual staff.

One lesson that can be drawn from the 1980s restructuring period is the need for active government engagement in managing the labour market transitions and in minimising the negative impacts. The absence of such an approach during that period contributed to the size and duration of the impact on unemployment and joblessness. It took until 2004 for the unemployment rate to return to its 1986 level; the Māori and Pacifica unemployment rate are still higher than they were 30 years ago. The 'future of work' impacts on the occupational, industry and regional structure of labour demand will be different from the changes that occurred during the 1980s. However, Arntz et al., (2016) estimates of between six and 12 per cent of jobs becoming redundant within the next two decades implies the need for a concerted focus on education, vocational training and retraining policies as well as welfare, redundancy and income support policies.

## Recent employment relations and employee protection policies

Current employment relations and employee protection policies have been heavily influenced by key decisions made by the National Party since 2007. In 2007, the National Party moved from abolishing the Employment Relations Act to retaining the Act, subject to a number of specific changes. This public policy position prompted a number of changes to union and bargaining rights, individual employee rights and decision-making in the Employment Institutions (for a brief overview, see Table 2 in Foster & Rasmussen, 2017, p.102). While most of these changes had a negative impact on employee protection, there were also a number of changes with a positive impact. These positive changes ranged from stronger occupational health and safety (OHS) legislation, enhancing employment standards (including curtailing 'zero hours' agreements) to a significant pay equity settlement in the age care sector. Although

there were criticisms from the opposition parties, the changes indicated a significant shift in the National-led government's public policy position. We will briefly discuss the changes to employment standards, including the pay equity settlement in the age care sector before we overview proposed changes under the current Labour-led government.

Provisions in the Employment Standards Legislation Bill which came into force on 1 April 2016 dealt with various undesirable employer actions such as 'zero-hours agreements', unwarranted wage deductions, cancelling at short notice of shifts, and a general ban of unconscionable employer conduct (see Campbell (2018) for a detailed discussion). The term 'zero-hours agreements' is relatively new, but it gained notoriety in New Zealand following a sustained union campaign during 2013-2015. It is important to stress that 'zero-hours agreements' is normally regarded as a permanent employment situation where the employee has agreed to be on-call without being guaranteed a fixed number of hours.[3] As such working arrangements can have very detrimental earning implications for employees, the National-led government agreed to amendments suggested by the Labour Party that such agreements could only be implemented for 'genuine reasons' and should include a guarantee of minimum hours and compensation for agreeing to such an arrangement. While the 'genuine reasons' stipulation is similar to the constraints on fixed-term employment agreements, Campbell (2018) has argued that the legislation provides neither a specific level of minimum hours nor a specific level of compensation.

The Court of Appeal decision in December 2014 in the so-called Terranova case on pay equity proved to be a vital turning point in several respects. The decision upheld a previous Employment Court decision in favour of the pay equity claim of Kristine Bartlett and her union. Faced with a possible string of pay equity court cases, the National-led government instituted a tripartite working group that presented recommendations about pay equity guidelines and what negotiation process employers and employees could use to address pay equity claims in May 2016. As many employers were dependent on government funding and service contracts, the Government implemented a special $2 billion package in April 2017 that directly targeted workers in the aged-care sector. This train of events highlighted the return of tripartite negotiations in respect of dealing with low pay, pay equity and sectoral pay levels (Foster & Rasmussen, 2017; Douglas & Ravenswood, 2018).

It is too early to say with much precision about the new Labour-led government's overall employment relations policies, though, there appears to be a stronger approach to both employment relations, employee protection and preparing for the 'future of work' changes. The Employment Relations Amendment Act 2018 has reversed some of the changes made by the previous government and enhance employee protection since it came into force in May 2019 (Skilling, 2019).

The changes implemented so far have been described by the President of Council of Trade Unions (CTU), Richard Wagstaff, as being "largely focused on the margins" and restoring previous cuts to employee rights (Wagstaff, 2018, p.B4). It could also indicate the CTU's disappointment with public policy changes so far, including the continued existence of the '90-day trial period' option for small firms with less than 20 employees. Whether this will continue

[3] 'Zero-hours agreements' are quite similar to some casual employment arrangements. For example, the Government highlighted in 2006-2008 work arrangements in demand-driven industries where so-called casual employees worked irregular hours but had a permanent employment relationship with a particular employer. Thus, a stevedoring employee would work for a certain stevedoring firm but only when there were ships unloading in the harbour (see Rasmussen, 2009, pp.149-150).

to be the case will probably depend on changes associated with the response to reports from various Working Groups and the signalled increased legislative protection of contractors, including addressing the notorious 'Hobbit' legislation from 2010 (see Walker & Tipples, 2013; New Zealand Journal of Employment Relations Special Issue 36(3), 2011). The report from the Working Group on 'Fair Pay Agreements' was delivered in January 2019. While there were some critical remarks from employer associations, the report foreshadowed a limited application (as opposed to being labour-market-wide) and it is still unclear how far the Government will take these recommendations. Concerns about the protection of contractors have featured in Labour Party policies for some time (see Labour's previous legislative attempt to enhance contractor protection in Fenton, 2011). It has been suggested by the Government that this could include changes to the 'Hobbit' legislation but, again, it is unclear whether there will be any regulatory changes and, if so, when such changes would be implemented.

There are three other debates which could have significant impact on employment relations, employee protection and how to accommodate labour market changes: a stronger focus on labour market activation, the various debates of the 'future of work', and an overhaul of vocational education and training structures and approaches (VET). The stronger focus on labour market activation can be found in the current targeting of reducing young people categorised as NEET (Not in Employment, Education and Training). While there has been a decline recently, from a peak of 14.1 per cent in December 2009 to 11.9 per cent in December 2018, the numbers of 15 - 24 year old youth categorised as NEETs are still very high, considering the widespread skill shortages in many sectors. The report from the Welfare Expert Advisory Group, delivered in February 2019, also has a strong focus on labour market activation, including the recommendation of instituting a stronger employment service to align demand and supply of skilled people at a regional level (Welfare Expert Advisory Group, 2019). In particular, it highlighted how OECD reports have criticised the limited role of active labour market policies in New Zealand: "New Zealand is among the countries with the lowest spending on ALMPs in the OECD, and this spending has been falling for a long time" (Welfare Expert Advisory Group, p.134; see also OECD, 2017; 2018).

The 'future of work' debate has featured strongly, and dominated media reports and research initiatives in recent years (see for example, the literature overview by Balliester & Elsheikhi, 2018). Although it can also be argued that there are still many issues and trends which could benefit from more research. In New Zealand, the 'future of work' debate will probably benefit from the current work being undertaken by the New Zealand Productivity Commission which is trying to expand on the original research done by the Future of Work Commission (NZ Labour Party, 2016; NZ Productivity Commission, 2019). The 2018 report from the Prime Minister' Business Advisory Council also links new technology and automation with productivity and economic growth and analyses how automation can be leveraged to provide rapid and positive changes (PM's Business Advisory Council, 2018). However, a major part of the report highlights the necessity to focus on workforce implications: "How can New Zealand prepare and support displaced, continuing and future workers through the transition?" (ibid, p.5). While the report addresses the changes in skill demands, unemployment and inequality problems, there is obviously a lot of uncertainty surrounding these trends and issues. Other more critical and union-orientated views on the workforce implications can be found in Martin and Windelow (2018), though, this publication also seems to accept that there will be considerable work and workforce implications in the near future.

The overhaul of vocational education structures and approaches, announced in February 2019, addresses both labour market activation and the 'future of work' concerns (Ministry of

Education, 2019). The 'future of work' debate has clearly influenced the rationale for making changes:

> Our current vocational education system is poorly positioned to deliver on our future needs. Technology continues to change the world in which we live, learn and work, both onshore and overseas, and these changes are likely to accelerate. Automation will change the nature of work in New Zealand, with around a third of current jobs likely to be significantly affected (Ministry of Education, 2019, p.11).

The proposed changes have both a centralising and regionalising intentions. A new central body, called the New Zealand Institute of Skills and Technology, would provide oversights of VET activities across the economy and be underpinned by a "unified vocational education funding system" while most of these activities would be co-ordinated and planned to meet regional education and training needs (see Tables 1 & 2, Ministry of Education, 2019: 19 & 23). Besides stronger local co-ordination, it is also envisaged that further investments in meeting VET needs at local and industry level are necessary, including leveraging the advantages and facing the challenges of new technology.

While the positive effects of the planned changes appear to be 'over-sold', the current shortfalls and labour market issues are highlighted (for example, see the table in Ministry of Education, 2019, p.16-17). Although the current shortfalls in terms of biases across the labour market, industries, regional areas and ethnic groups are well-documented, it is unclear whether the combination of centralised and regionalised focuses will be a 'game-changer'. An increase in funding and an emphasis on effectiveness of local delivery will be a positive step, but both increases in funding and regional delivery effectiveness are still to be seen. In particular, the link between schools and VET efforts would need to be enhanced. It also appears that the proposed changes fail to grapple with the role of employers. Although a stronger employer voice in the development and implementation of regionalised delivery is emphasised in several places, the limited VET role played by many employers, especially smaller employers, in the current system is not addressed at all. What are the new, different incentives for employers to re-training and upskilling their workers to overcome general shortfalls in VET efforts associated with a well-established 'free-rider' problem?

A new VET strategy and delivery modes could be a 'game-changer' but there are several unanswered questions. Criticisms from people with vested interest in the current system have dominated the media reports and the political opposition. More broadly, recent policy discussions have highlighted a number of concerns associated with the dynamics of the current labour market which are being overlaid with various 'future of work' concerns. These pressures may coalesce to create public policy changes which will lift active labour market, VET and employment policies to overcome the current concerns and prepare the New Zealand labour market against negative impact of the 'future of work'.

Welfare policies, and Work and Income's administration of the benefit system will also need to change. Government has indicated its response to the Welfare Experts Advisory Group report is on a 'three- to five-year' work programme, and it remains unclear how far-reaching its policy changes will be. In addition to the benefit inadequacy problems highlighted by the report, and the need for great focus on active labour market programmes discussed above, 'future of work' considerations imply the need for other welfare policy changes. In particular, to the extent there is growth in the number of people whose incomes are irregular and precarious; welfare administration will need to become more nimble so that people can receive financial assistance quickly and in full. Technological unemployment (and climate-change

related transitions) will also require policy to address the problem as couple-based benefit income testing that means one-earner families are not usually entitled to core benefit support. Such a policy is not consistent with a labour market where many families with children need two incomes but where redundancy and periods of retraining and job-search will become more common.

## Discussion and conclusions: dealing with the impacts of future of work changes and moving beyond a narrow view of employment relations regulations

There is, quite rightly, some concern about the likely future impacts of technological change on employment and on workers' protections. At this stage, considerable uncertainty surrounds where 'the future of work' might lead and further analyses, beyond the brief overview of this commentary, are clearly necessary. That said, some of the more cataclysmic predictions are, in our view, overstated. Past experience does not support ideas of 'de-jobbing' or 'the end of work', and it is far from clear what effects the 'fourth industrial revolution' will have. Casualisation figures are, at present, quite low in New Zealand and we have not seen any significant evidence of increasing casualisation rates over the last decade.

At the same time, the likely labour market changes do require an active response by government. Two risks need to mitigated and/or managed. The first concerns risks around casualisation. Policy responses are needed to both control the growth of the forms of casualisation that undermine workers' protections, and to enhance the protections of vulnerable workers who are engaged in casualised work. We have already seen a number of employment regulation changes designed to better protect vulnerable workers. These include some of the provisions in the Employment Relations Amendment Act 2018; and the Government has signalled further changes down the track, including better regulation of triangular employment relationship, addressing the concerns surround contracting, and the introduction of mechanisms for negotiating industry-wide minimum conditions and wages under the proposed Fair Pay Agreements.

As we discuss above, the second area where new policy initiatives will be needed is to manage structural labour market change. There are similarities here with the 'Just Transition' policies for moving to a low-carbon economy that have been developed by the New Zealand Council of Trade Unions (NZCTU, 2017) and are incorporated in the Labour and Green Parties' confidence and supply agreement (New Zealand Parliament, 2017). Policies will be needed that cushion the impacts on workers whose skills and experience are in declining demand due to technological change, and which assist them to transition to new jobs where demand remains strong or is growing. This was signalled in the Speech from the Throne with the Government indicating it would "consider the long-term changes which need to occur to our systems of welfare and employment and education."

Work has begun in some aspects of these long-term changes with Government having announced major reform proposals in VET In welfare, however, reform is very slow and remains uncertain. With the possibility of a deterioration in global economic conditions, it would be wise to make headway on these problems while there is high labour demand and high levels of employment.

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# Living Wage Employer Status and Job Attitudes and Behaviours

JARROD HAAR*

## Abstract

New Zealand organisations have begun to respond positively to the concept of a Living Wage (LW), but the effects on job attitudes and behaviours is largely unknown. Social exchange theory would suggest employees should reciprocate with stronger attitudes and behaviours, and this is tested on a sample of 190 New Zealand employees with 57 per cent working for a LW employer. The findings indicate that employees in LW organisations are positively associated with organisational trust, which fully mediates effects towards turnover intentions and Organisational Citizenship Behaviours (OCBs), and partially mediates effects towards career satisfaction. The findings suggest that providing a LW can benefit organisations, through enhancing their employees' attitudes and behaviours.

**Keywords:** Living Wage Employer; organisational trust; career satisfaction; turnover intentions; OCBs; mediation effects.

## Introduction

The Auckland Council introduced a Living Wage (LW) to all employees from 1st September 2019. This represented a pay rate of $21.15, compared to the New Zealand minimum wage of $17.70 (at that time). The Auckland Mayor stated that: "The cost of living in Auckland was higher than the rest of New Zealand and the wage increase ensured pay reflected this" (Goff as cited in Stuff, 2019). The LW is often argued as being a counter to the growth of work that is precarious and relates to those individuals in paid employment who are still economically disadvantaged (Carr et al., 2018a). However, a Living Wage Employer (LWE), (which represents an organisation paying the LW), may not necessarily have a workforce that is predominantly paid minimum wage. Indeed, employees in organisations where they may not personally gain from a policy may still reciprocate positively because it meets a *social need* (e.g., Haar & Spell, 2003; Haar et al., 2004). Consequently, we need research to better understand the potential influence LWE status can have on employee attitudes and behaviours.

The study reported in this paper focusses on employees located in New Zealand, their experiences around the LW, and whether working for a LWE is a sufficient mechanism to influence and enhance their job attitudes and behaviours. Werner and Lim (2016) suggested that organisations adopt a LW as a result of strong ethical considerations. Carr et al., (2018a) concur, stating that working for a LWE might provide employees with "…improvements in quality of work and life" (p.901). Carr et al., (2018a) also suggest that organisations who become a LWE typically do so in response to a social responsibility around doing what is right for their workforce – which might otherwise include the lowest paid employees (i.e. those on minimum wage). Carr et al., (2018a; 2018b), Werner & Lim, (2016) and others argue, however, that there is a need for a better understanding of the outcomes of the Living Wage.

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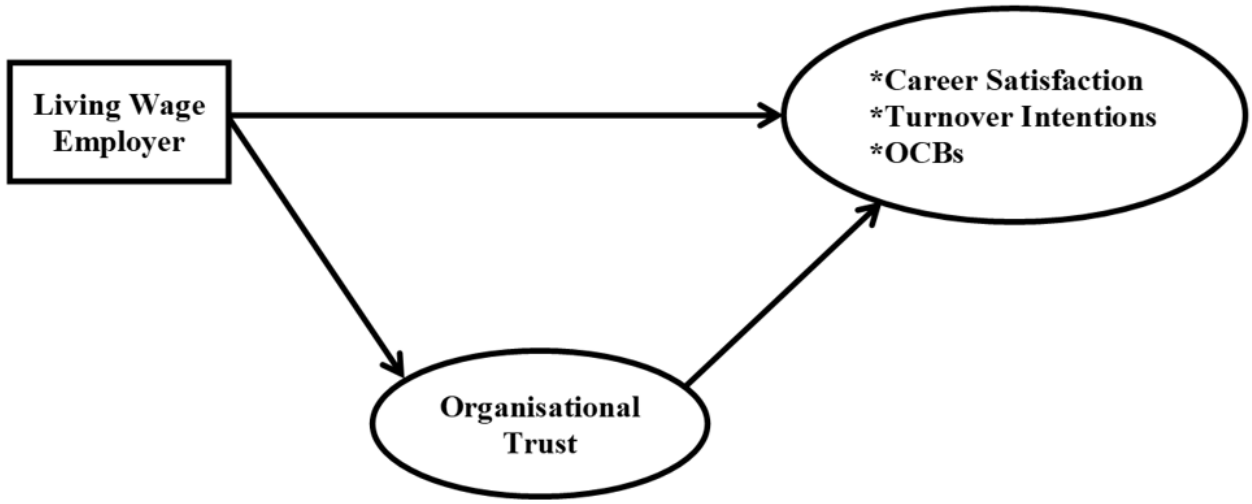
In response to the call for more research in this area, the study presented here examines LWE status and uses Social Exchange Theory (SET) to understand why providing a benefit like a LW can psychologically motivate employees to respond with stronger job attitudes and behaviours. This study models these effects through organisational trust because trust is a key ingredient in the relationships (specifically social exchange) between employer and employee. Overall, the study makes three contributions. First, it uses LWE status as a predictor of job attitudes and behaviours and seeks to understand direct effects through examining a broad range of job outcomes. Second, by including organisational trust as a mediator, it provides deeper insights into the process and psychological mechanism by which LWE status enhance their employees job attitudes and behaviours. Finally, it uses sophisticated analyses and a robust and broad sample to provide greater confidence in the findings. The study model is shown below (Figure 1).

**Figure 1. Hypothesised Study Model**




## Social Exchange Theory

Social Exchange Theory (SET) is used as the theoretical argument to understand why LWE status might influence attiudes and behaviours of employees. SET is defined by Blau (1964, p. 91) as "…voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others". Social exchanges differ considerably from economic exchanges, although the notion of pay is important in the context of LWE status. This is because such an increase via a living wage means low paid employees are paid more, but under SET this might still trigger beneficial attiudes and behaviours of employees, irrespective of actual income. SET aligns with the norm of reciprocity, within which Gouldner (1960) argues that people help those who have helped them. Further, although there are no guarantees of such reciprocation, such a behaviour is typical.

Under SET, helpful behaviour means that employees can experience a feeling of obligation and trust of their employers (Haar & Spell, 2004), where they acknowledge the actions of the employer and respond accordingly. Haar and Spell (2004) also showed this policy must be valued by the employee. With a LW, we might expect those earning below the LW threshold to respond positively because of the economic gains and, as such, there is value in a LW policy for which such employees personally gain. However, this might also extend out to other employees already paid above the LW threshold. This is because they might characterise the behaviour of their employer as positive and supportive of all employees – especially those on low pay – with such ethical behaviours being viewed positively by employees. Moreover, there is a wealth of empirical evidence (e.g. Kurtessis et al., 2017; Rhoades

& Eisenberger, 2002) that supports the SET mechanism in the workforce and, in particular, shows that, in response to positive actions by an employer, employees will reciprocate with more positive attitudes and behaviours. In the Auckland Council LW example noted above, it would be expected that LWE status triggers felt obligations. In essence, the adoption of a LW sends the signal to employees that they are valued and supported. Ultimately, Blau (1964) notes that the positive actions of employers (like a Living Wage policy) can lead to "…feelings of personal obligations, gratitude, and trust amongst employees" (p.94). Hence, LWE status might signal to employees that their employer cares about all their employees and their role in society, thus facilitating greater trust. Shore and Shore (1995) also noted that, by introducing policies such as the LW, employees can view these policies as a social exchange that go beyond an economic relationship.

## Job Attitudes and Behaviours

As stated earlier, the study reported here examines several employee job attitudes and behaviours, and has a broad focus to ensure the potential influence of LWE status is well-tested. Gattiker and Larwood (1988) and Greenhaus et al., (2000) define careers as a sequence of positions that are separate but related that individuals have over their life, and thus career satisfaction is an affective orientation of these work roles. Haar and Staniland (2016) highlight that career satisfaction is just one factor in an employee's work experience, and the present study follows the general approach in the literature by examining subjective career success, which relates to individuals making judgements about their overall career experiences (Ng et al., 2005).

Organ (1988) defines Organisational Citizenship Behaviours (OCBs) as "…discretionary behaviors that are not directly or explicitly recognized by the formal reward system and that, in the aggregate, promote the effective functioning of the organization" (p.4). Importantly, OCBs are not part of an employee's job description or contractually-rewarded job achievements (Organ & Ryan, 1995). For example, while employers would expect employees to help other co-workers and represent the company after hours, if required, then these duties are not considered as OCBs. OCBs can also help to facilitate the functioning of an organisation in a positive and productive manner (Bhargava & Rupashree, 2009; Organ & Ryan, 1995). OCBs include defending the organisation and "…interpersonally oriented behaviours that contribute to organisational accomplishment" (Roche & Haar, 2013, p. 3401). Moreover, OCBs are linked with organisational performance (Podsakoff et al., 2009).

Turnover intentions, which is defined as employees voluntarily leaving their job, is also linked to lower organisational performance as a consequence of the potentially high costs associated with turnover (Allen et al., 2010; Hancock et al., 2013). There is meta-analytic support showing turnover intentions as the strongest predictor of actual turnover (Tett & Meyer, 1993) and meta-analyses highlighting a number of associated factors including those around compensation (e.g., Griffeth et al., 2000). Given the status of turnover intentions as one of the chief employee outcomes studied, and its significance within a New Zealand context (e.g., Haar et al., 2012), testing this outcome towards LWE status is important.

## Living Wage Employer Status

Carr et al., (2016, p.3) state that "…a living wage is calculated to enable meaningful participation in society through recreation, supporting a family, and saving". Using an approach based on SET, it is argued that employees in LWE status organisations will have a direct effect on the job attitudes and behaviours of employees. LWEs are likely to understand the signal provided by their employer as one of supporting the notion of decent work (Carr et al., 2018a). Indeed, some have argued that LWE status signals a strong ethical culture by organisations (Krugman, 1998) where such employers affirm a focus on employees' quality of life, and employers acting in a decent, moral, and ethical way. Applying the Shore and Shore (1995) argument around mercantile relationships *versus* social exchange relationships, the higher compensation provided under a LW scheme and, importantly, at all levels of an organisation, means that employees are likely to interpret LWE status as positive signals of their organisation's social exchange behaviours.

Being a LWE means that the employer recognises the value of all employees in the organisation, including the lowest paid, and acknowledge that the costs of living currently require more than the present minimum wage. With the LWE status comes a LW message with value-based language (Werner & Lim, 2016) which might include fairness for all employees and respecting all employees, including the lowest paid. As noted above, this investment in employees means that employees are likely to view LWE status as a valued policy that triggers a SET relationship (as per Shore & Shore, 1995) and, thus, leads to feelings of obligation (Haar & Spell, 2004) and greater employee job attitudes and behaviours (Kurtessis et al., 2017). Indeed, Carr et al. (2016) notes that the linkages to employee outcomes from a LW need greater testing and, under SET, the links are expected to be beneficial. Thus, employees recognise the value of a LW (including beyond personal increased income) and will reciprocate with enhanced job attitudes and behaviours. This leads to the first set of hypotheses:

***Hypothesis 1: LWE status will be positively related to (a) career satisfaction and (b) OCBs.***
***Hypothesis 2: LWE status will be negatively related to turnover intentions.***

## Organisational Trust

Robinson (1996) defined trust as: "…one's expectations, assumptions, or beliefs about the likelihood that another's future actions will be beneficial, favorable, or at least not detrimental to one's interests" (p.576). Organisational trust is a valuable construct and has been extensively researched and is well studied amongst employee studies (Bunker et al., 2004), and it is fundamentally linked to SET (Guerrero & Herrbach, 2009). Indeed, while positive relationships at work have been linked to shaping organisational trust (Haar et al., 2019), the linkages have not been well explored in the LW context. In their meta-analysis around SET relationships amongst employees, Kurtessis et al. (2017) reported organisational trust was strongly supported and it is expected that LWE status will positively shape organisational trust perceptions. Indeed, the literature on LW highlights that trust is a vital part of understanding the role of LWE status (Carr et al., 2018a; Krugman, 1998; Werner & Lim, 2016). I posit the following:

***Hypothesis 3: LWE status will be positively related to organisational trust.***

Beyond a direct influence from LWE status, organisational trust is also explored as a mediator. This is because trust might play an important organisational role regarding its effective functioning (Dirks & Ferrin, 2001). Ultimately, trust between the employee and their employer builds cooperation and performance and success for both parties (Robinson, 1996). Indeed, this mutually beneficial relationship aligns well with SET. As individual outcomes, there is support from organisational trust as both predictor and mediator. Aryee et al., (2002) found organisational trust predicted turnover

intentions and mediated the effect of organisational justice. Similar effects have been found towards OCBs (e.g., Wat & Shaffer, 2005) and again towards career outcomes (e.g., Crawshaw & Brodbeck, 2011). Similarly, Podsakoff et al., (2000) suggested that OCBs are likely to be best understood as being influenced through job attitudes and, given our SET approach, organisational trust is likely to be important. This leads to the following:

***Hypothesis 4: Organisational trust will mediate the positive influence of LWE status on (a) career satisfaction and (b) OCBs.***
***Hypothesis 5: Organisational trust will mediate the negative influence of LWE status on turnover intentions.***

## Method

*Sample and Procedure*

Data from New Zealand employees was collected in 2019 via a Qualtrics survey panel, with the LW being the specific focus. A filter question removed respondents who were unsure of the LWE status of their workplace and the final sample was 190 New Zealand employees (57.4 per cent LWE status). The Qualtrics panel system removes respondents who complete the survey too fast or slow and enable only one completion per respondent. This approach to data collection has yielded robust samples (e.g. Haar et al., 2018; Haar et al., 2019) and a recent meta-analysis (Walter et al., 2019) reported that panel data and data sourced by conventional means were comparable and not significantly different.

Overall, slightly more respondents were female (68 per cent), age ranging from 19 to 70 years, with an average age of 41.8 years (SD=12.6). Average hours worked were 40.1 hours/week (SD=8.0) and average tenure was 5.2 years (SD=3.6). By ethnicity, 55 per cent were New Zealand European, with the rest well spread across Maori, Pacific peoples, Asians and Indians. By sector, 44 per cent of respondents were in the private sector while 56 per cent of the respondents were employed in the public sector. Finally, by firm size, 26.3 per cent worked in small-sized firms (50 employees or less), 25.3 per cent worked in medium-sized firms (51-250 employees), 24.2 per cent were in large-sized firms (251-1000 employees) and 24.2 per cent in very large-sized firms (more than 1000 employees).

*Measures*

LW Employer was computed by asking the question "Does your employer pay the Living Wage?", with 1=LWE status and 0=non-LWE status. This was self-reported and purposefully did not seek to determine whether the employer was an accredited member of a LW movement. Rather, the focus was whether employees felt their organisation paid the LW.

Organisational Trust was measured using 3-items by Robinson (1996), coded 1=strongly disagree, 5=strongly agree. This construct has been validated in a study of New Zealand employees (e.g., Haar et al., 2019). A sample item is "In general, I believe my employer's motives and intentions are good" ($\alpha$= .87).

Career Satisfaction was measured using three items by Greenhaus et al., (1990), coded 1=strongly disagree, 5=strongly agree. A sample question was "I am satisfied with the success I have achieved in

my career" (α=.93) and this construct has been validated in New Zealand studies (e.g., Haar & Staniland, 2016).

OCBs were measured using three items from Lee and Allen (2002), coded 1= never, 5= always. A sample item is "I defend this organisation when other employees criticise it" ($\alpha$ = .75).

Turnover Intentions were measured using three items from Kelloway et al., (1999), coded 1=strongly disagree, 5=strongly agree. A sample item is "I am thinking about leaving my organisation" (α= .94).

Control Variables. We controlled for Age (years), Gender (1=females, 0=males), Education (1=high school, 2=polytechnic, 3=university degree, 4=postgraduate qualification), Tenure (years) and Hours Worked (per week), because these factors can influence job outcomes (e.g., Ten Brummelhuis et al., 2014; Haar et al., 2019) and they have meta-analytic support (Ng & Feldman, 2010; Griffeth et al., 2000).

*Measurement Model*

Following recommendations by Williams et al., (2009), a confirmatory factor analysis (CFA) was conducted in analysis of a moment structures (AMOS) (version 25) to confirm study constructs, using the following goodness-of-fit indexes: (1) the comparative fit index (CFI), (2) the root-mean-square error of approximation (RMSEA), and (3) the standardised root mean residual (SRMR), with a superior model reflected in scores of CFI ≥0.95, RMSEA ≤ 0.08 and SRMR ≤ 0.10. Overall, the hypothesised measurement model fits the data best for the expected five-factor solution: $\chi 2$(df)= 132.9 (68) p= .000, CFI=.97, RMSEA=.07, and SRMR=.05. Testing of alternative CFA models (Hair et al., 2010) indicated the alternative models were all significantly worse fit to the data (p< .001).

*Analysis*

Relationships were tested using PROCESS 3.1 (in SPSS version 25), specifically model 4 (mediation). Control variables were entered in Step 1 with LWE status entered as the independent variable, organisational trust as the mediator variable and three models were run: (1) career satisfaction, (2) OCBs, and (3) turnover intentions. The existence of mediation effects by using bootstrapping (5000 times) and the skewness and kurtosis statistics indicated that our constructs were normal and within acceptable limits (Hair et al., 2010). Furthermore, the additional model 4 aspect was used to determine the indirect effects of LWE status on job attitudes and behaviours.

## Results

Descriptive statistics for the study variables are shown in Table 1.

**Table 1. Correlations and Descriptive Statistics of Study Variables**

| Variables | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | 41.8 | 12.6 | -- | | | | | | | | |
| 2. Education | 2.2 | 1.0 | -.13 | -- | | | | | | | |
| 3. Tenure | 5.2 | 3.6 | .48** | -.09 | -- | | | | | | |
| 4. Hours Worked | 40.1 | 8.0 | .26** | .29** | .25** | -- | | | | | |
| 5. LWE Status | 0.57 | .50 | .09 | -.06 | .12 | .10 | -- | | | | |
| 6. Organisational Trust | 3.3 | .98 | -.05 | -.13 | .02 | -.09 | .27** | -- | | | |
| 7. Career Satisfaction | 3.4 | 1.1 | .09 | -.03 | .20** | .04 | .34** | .50** | -- | | |
| 8. OCBs | 3.0 | .99 | .04 | .03 | .01 | -.02 | .16* | .32** | .39** | -- | |
| 9. Turnover Intentions | 2.8 | 1.2 | -.29** | .16* | -.18* | -.03 | -.22** | -.46** | -.43** | -.11 | -- |

N= 190. *p<.05. **p<.01

Table 1 shows that LWE status is significantly correlated with organisational trust (r= .27, p< .01), career satisfaction (r= .34, p< .01), OCBs (r= .16, p< .05), and turnover intentions (r= -.22, p< .01). Organisational trust is significantly correlated with career satisfaction (r= .50, p< .01), OCBs (r= .32, p< .01), and turnover intentions (r= -.46, p< .01). Career satisfaction is significantly correlated with OCBs (r= .39, p< .01), turnover intentions (r= -.43, p< .01) and tenure (r= .20, p< .01). Finally, turnover intentions are significantly correlated with age (r= -.29, p< .01), education (r= .16, p< .05) and tenure (r= -.18, p< .05). The results of the mediation regression analyses are presented in Table 2.

**Table 2. Unstandardized Regression Coefficients with Confidence Intervals Estimating Job Attitudes and Behaviours.**

| **Variables** | **Organisational Trust** | | **Career Satisfaction** | | **OCBs** | | **Turnover Intentions** | |
|---|---|---|---|---|---|---|---|---|
| | Coeff. | 95% CI | Coeff. | 95% CI | Coeff. | 95% CI | Coeff. | 95% CI |
| Age | -.01 | -.01, .01 | .00 | -.01, .01 | .01 | -.01, .02 | -.03** | -.04, -.01 |
| Gender | -.13 | -.43, .17 | -.02 | -.31, .26 | -.13 | -.43, .17 | .02 | -.29, .34 |
| Education | -.09 | -.23, .05 | .06 | -.07, .20 | .09 | -.05, .24 | .07 | -.08, .22 |
| Tenure | .01 | -.02, -.00 | .05* | .01, .09 | -.01 | -.05, .03 | -.00 | -.05, .04 |
| Hours Worked | -.01 | -.03, .01 | -.00 | -.02, .02 | -.01 | -.03, .01 | .00 | -.02, .02 |
| *Predictor:* | | | | | | | | |
| LWE Status | .53*** | .24, .80 | .71*** | .41, 1.0 | .32* | .03, .61 | -.45** | -.78, -.12 |
| *Predictor with Mediator:* | | | | | | | | |
| LWE Status | | | .45*** | .17, .72 | .16 | -.13, .44 | -.16 | -.47, .14 |
| Organisational Trust | | | .50*** | .36, .64 | .31*** | .16, .46 | -.54*** | -.70, -.39 |
| Indirect Effect of LWE Status: | | | .26*** | .12, .43 | .16** | .06, .29 | -.29** | -.50, -.12 |
| | $R^2$ = .10 | | $R^2$ = .33 | | $R^2$ = .12 | | $R^2$ = .32 | |
| | $F$(6.000) = 3.4** | | $F$(7.000) = 12.7*** | | $F$(8.000) = 3.6** | | $F$(8.000) = 12.2*** | |

Note: Number of bootstrap samples for bias corrected interval = 5,000.
Standard errors are in parentheses.
*p < .05, **p < .01, ***p < .001. CI = Confidence Intervals

The results show that LWE status is significant and directly related to career satisfaction (β= .71(.15), p= .0000 [LL= .41, UL= 1.0]), OCBs (β= .32(.15), p= .0295 [LL= .03, UL= .61]), and turnover intentions (β= -.45(.17), p= .0081 [LL= -.78, UL= -.12]), supporting Hypotheses 1a, 1b and 2. Furthermore, LWE status is significantly related to organisational trust (β= .53(.14), p= .0002 [LL= .25, UL= .80]), supporting Hypothesis 3. Further, organisational trust is significant and directly related to career satisfaction (β= .50(.07), p= .0000 [LL= .36, UL= .64]), OCBs (β= .31(.07), p= .0000 [LL= .16, UL= .46]), and turnover intentions (β= -.54(.08), p= .0000 [LL= -.70, UL= -.39]), and, when included in the model, it partially mediates the effect of LWE status on career satisfaction, which effect drops to (β= .45(.14), p= .0017 [LL= .17, UL= .72]), and fully mediates the effect of LWE status on OCBs, which effect drops to (β= .16(.15), p= .2777 [LL= -.13, UL= .45]) and turnover intentions, which effect drops to (β= -.16(.15), p= .2993 [LL= -.47, UL= .14]). These findings support Hypotheses 4 and 5. Finally, these mediating effects were further explored by examining the total indirect effects of LWE status on job outcomes and these effects were statistically different from zero with 95 per cent confidence for career satisfaction (.12 to .43), OCBs (.06 to .29) and turnover intentions (-.50 to -.12). Thus, while partial and full mediation effects are found when organisational trust is included in the models, the indirect effect from LWE status is still significant for all job outcomes. This highlights the important role that LWE status plays on job attitudes and behaviours through organisational trust.

Overall, across the control variables, only age was significantly related to turnover intentions (β= -.03(.01), p= .0001 [LL= -.04, UL= -.01]) only, with all other controls non-significant. Finally, the models accounted for a small amount of variance towards organisational trust (10 per cent) and OCBs (12 per cent), but larger and more robust amounts of variance towards career satisfaction (33%) and turnover intentions (32 per cent).

## Discussion

The goal of the current study was to determine whether LWE status was directly related to the job attitudes and behaviours of New Zealand employees when we compared respondents working in LWE status versus non-LWE status organisations. Using SET, it was expected that, when employers in LWE status organisations paid all their employees well above the minimum wage (an additional 19.5 per cent), the employees would respond positively to the employers' support and confidence. Shore and Shore (1995) noted that when the employers' policies and actions are interpreted by employees as acknowledging their workforce efforts and showing some form of investment in the workforce, employees are likely to react under a social exchange rather than economic exchange. In the present study, policies like paying a LW make a significant contribution to the lowest paid employees in an organisation and, thus, signals that the employer has a social conscience, which, in turn, can facilitate felt obligations under SET (Haar & Spell, 2004) and, thus, lead to higher job attitudes and behaviours.

Overall, these effects were supported, with LWE status employees reporting significantly higher organisational trust, career satisfaction and OCBs, and significantly lower turnover intentions. These effects mirror meta-analyses around SET in employees (Kurtessis et al., 2017). Indeed, the direct effect of LWE status was significant and moderate in strength across all attitudes and behaviours. Further, we sought to test organisational trust as a mediator because trust is viewed as an important organisational factor (Robinson, 1996; Bunker et al., 2004) and heavily linked to SET. Guerrero and Herrbach (2009) highlighted that SET is predicated on trust – the employer *trusts* that employees will do the right thing and reciprocate – because this is not promised or established as a 'given' (Gouldner,

1960). Overall, the empirical evidence found here supports the notion that LWE status is positively related to organisational trust and, in turn, organisational trust predicts job attitudes and behaviours, and mediates the influence of LWE status on these job outcomes. This supports meta-analysis around SET relationships and trust (Kurtessis et al., 2017) and reiterates the value of trust when examining SET relationships.

Beyond the direct and mediating effects found here, the analysis also allows us to understand the indirect effects that LWE status plays on the job outcomes examined here. The analysis conducted in PROCESS shows that the indirect effects of LWE status on job attitudes and behaviours remains significant and moderate in strength (albeit weaker towards OCBs). This highlights that, while organisational trust plays an important role in shaping these job attitudes and behaviours, LWE status continues to play a valuable role in shaping these attitudes and behaviours, even when organisational trust proceeds to play mediation (partial and full) effects. Consequently, this provides evidence that LWE status plays a valuable role, not least through shaping trust perceptions which are also significant predictors of career satisfaction, OCBs and turnover intentions in the present study.

*Implications*

The present study provides important implications for organisations, especially those considering adopting a LW. The findings highlight that employees do react positively to having an employer who pays the LW, likely because this signals to employees that their employers have a social conscience and cares about the wellbeing of their employees, which aligns well with the theoretical mechanism used (SET). Hence, employers adopting a LW might expect employees across all positions in an organisation to respond positively to LWE status. This might include attitudes and behaviours that have additional organisational benefits. For example, Podsakoff et al. (2009) in their meta-analysis, found OCBs were positively related to organisational performance, while lowering employee turnover reduces costs (Allen et al., 2010) and improves organisational performance (Hancock et al., 2013). Consequently, LWE status is likely to have flow-on effects towards shaping the overall performance of organisations. Adopting a LW may make employees more trusting and, subsequently, more likely to stay and also engage in more helpful behaviours, which all help shape the performance of the organisation.

While the present study responds to calls for research on the LW (e.g., Carr et al., 2018a, 2018b; Werner & Lim, 2016), more work is needed to understand the potential breadth of job attitudes and behaviours influenced by LWE status. Future research might seek to determine the influence high performance work systems might play in combination with LWE status, as these might further enhance the positive influences on job attitudes and behaviours under SET. Researchers should seek to test a wider range of job attitudes (e.g., job satisfaction) and behaviours (e.g., creativity) to gain a greater understanding of the LW. Beyond job attitudes and behaviours, the wellbeing of the employee is also of paramount interest to researchers, and meta-analysis shows that SET relationships also effect wellbeing (e.g., Kurtessis et al., 2017). Whether this holds within the LWE status needs to be determined (e.g., employee mental health).

*Limitations*

Podsakoff et al., (2003) highlight a potential limitation in the majority of employee studies is the issue of common method variance (CMV) when data is cross-sectional in nature. Accordingly, recommendations by Podsakoff et al. (2003) were followed and separated the constructs used in our study throughout the survey and these were not in the linear order of independent, mediator and dependent variables. Beyond this, the study constructs were subject to advanced statistical analysis

(CFA in AMOS) and, following recommendations from Podsakoff et al. (2003), the Harman's One Factor Test was used as a post hoc test of CMV. The unrotated factor analysis resulted in no single factor dominating, which indicates that CMV is not an issue (e.g., Brougham & Haar, 2018). Overall, the sample was moderate in size but well spread across age, ethnicity, and sector, and provides useful confidence in the results.

## Conclusion

The current study tested the influence of LWE status on employee job attitudes and behaviours and found strong and consistent support for these effects. While the influence was found to be partially mediated by organisational trust, the analysis showed the indirect effect of LWE status was significant and, thus, while these effects towards employee behaviours (OCBs and turnover intentions) were fully mediated by organisational trust, LWE status does play a significant and important indirect effect. Overall, the present study provides some concrete evidence around the important role that employers offering a LW can have on their employees. Consequently, organisations unsure of the potential effects beyond higher labour costs might consider adopting a LW because, through such a policy, they are likely to stimulate and enhance their employees job attitudes and behaviours. Given the recent attention to the LW in New Zealand (e.g., Auckland Council), this study highlights the potential benefits that may be on offer for organisations. Further study and analysis are encouraged.

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# Awards and collective bargaining in Australia: what do they do, and are they relevant to New Zealand?

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## Abstract

This paper explains, in some depth, how the system of awards, collective agreements and individual contracts works in Australia. It also describes how many people are covered by these arrangements, how much they are paid and how awards and agreements interact. It discusses the effects of the award system, which are probably greater on equity (compressing wage relativities, providing some opportunities for action on gender pay equity) than on productivity (though skill-based wage structures may have some effect). The issues raised by it are relevant to debates in New Zealand about fair pay agreements, wage levels and pay equity.

**Keywords:** awards, collective bargaining, collective agreements, Australia, New Zealand

## Introduction

The wage fixing system in Australia was, for a long time, unique amongst developed countries other than New Zealand. Minimum wages were set for large numbers of occupations and industries and varied according to the skill level of the job. These minimum wages were set by industrial tribunals through compulsorily arbitrated decisions that led to 'awards', and these awards contained provisions for minimum employment conditions and minimum wages for different jobs (in effect, for different skill levels).

While that system has persisted in Australia (it was abolished in New Zealand in 1991), there have been very substantial modifications since 2006 that limit its scope and impact, reduce geographic variation and emphasise horizontal consistency based on skill level. In addition, collective agreements set wages and conditions for many workers. In theory, these cannot provide lesser benefits, on average, for employees than the award.

The operation of the Australian system, particularly at present, is relevant to New Zealand, as policy makers seek to deal with both equity and efficiency objective in industrial legislation. Some, for example, see something like awards as providing a model for multi-employer bargaining or for introducing some form of skill-based, industry-level regulation.

This paper, therefore, seeks to investigate the following questions: how does the system of awards, collective agreements and individual contracts work in Australia? How many people are covered by these arrangements? What do we know about their effects? What is the relevance for New Zealand? The focus is mainly on awards because they are something not seen in New Zealand any more, but are relevant to the issue of 'fair pay agreements' that has been considered in New Zealand.

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## Awards and legislative minimums

The relationship between actual wages, awards and collective agreements in Australia is best illustrated by Figure 1, for three workers covered by the same award. Worker A is paid only the award rate, which is W1. They are entitled to the legislatively determined National Employment Standards (NES), which cover a number of employment conditions but not wages. Worker B is covered by the same award but they also receive an individual 'over award' payment, so their pay is W2, which may be set out in a written or unwritten employment contract. Worker C is covered by a collective agreement, and so is paid W3 which, in this case, is above W3, but can be anything not less than the award wage W1.

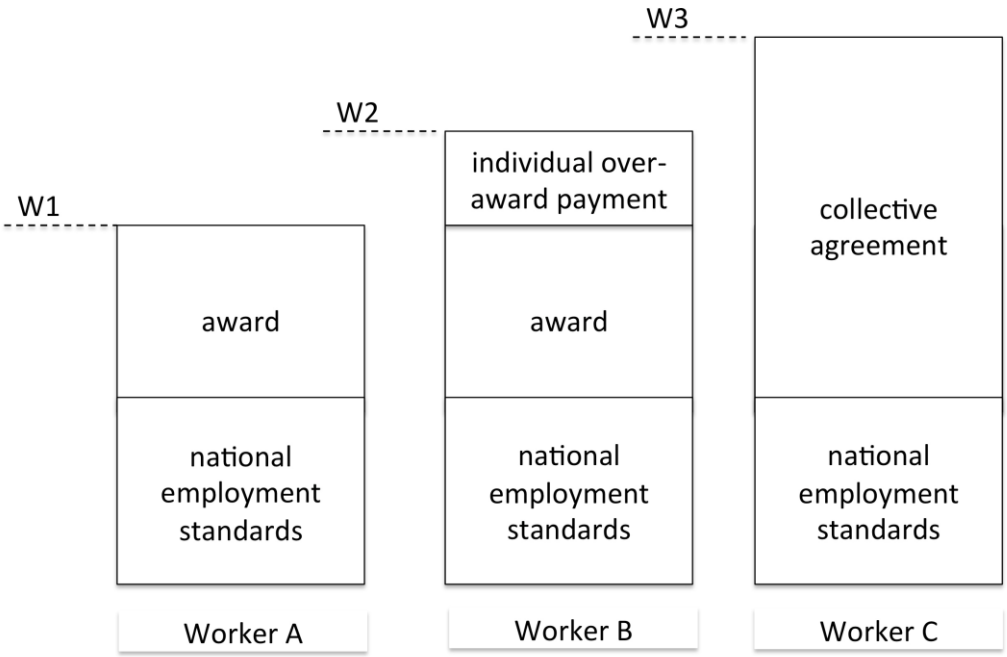


**Figure 1: Awards, agreements and pay in Australia**

Not just pay but also conditions of employment are set out in awards and collective agreements. A judgement is made by the tribunal as to whether, *overall*, workers are better off under a collective agreement than under an award, taking account of all pay and conditions provisions. This is referred to as the 'better off overall test' (BOOT). Collective agreements (CAs) are approved by a tribunal (presently called the Fair Work Commission), in a process that is usually very quick and perfunctory, especially for union CAs.

A simple timeline summarising key moments in the development of the award system is in Figure 2 below. While awards co-exist with collective bargaining, there have been major changes in that interaction over time.

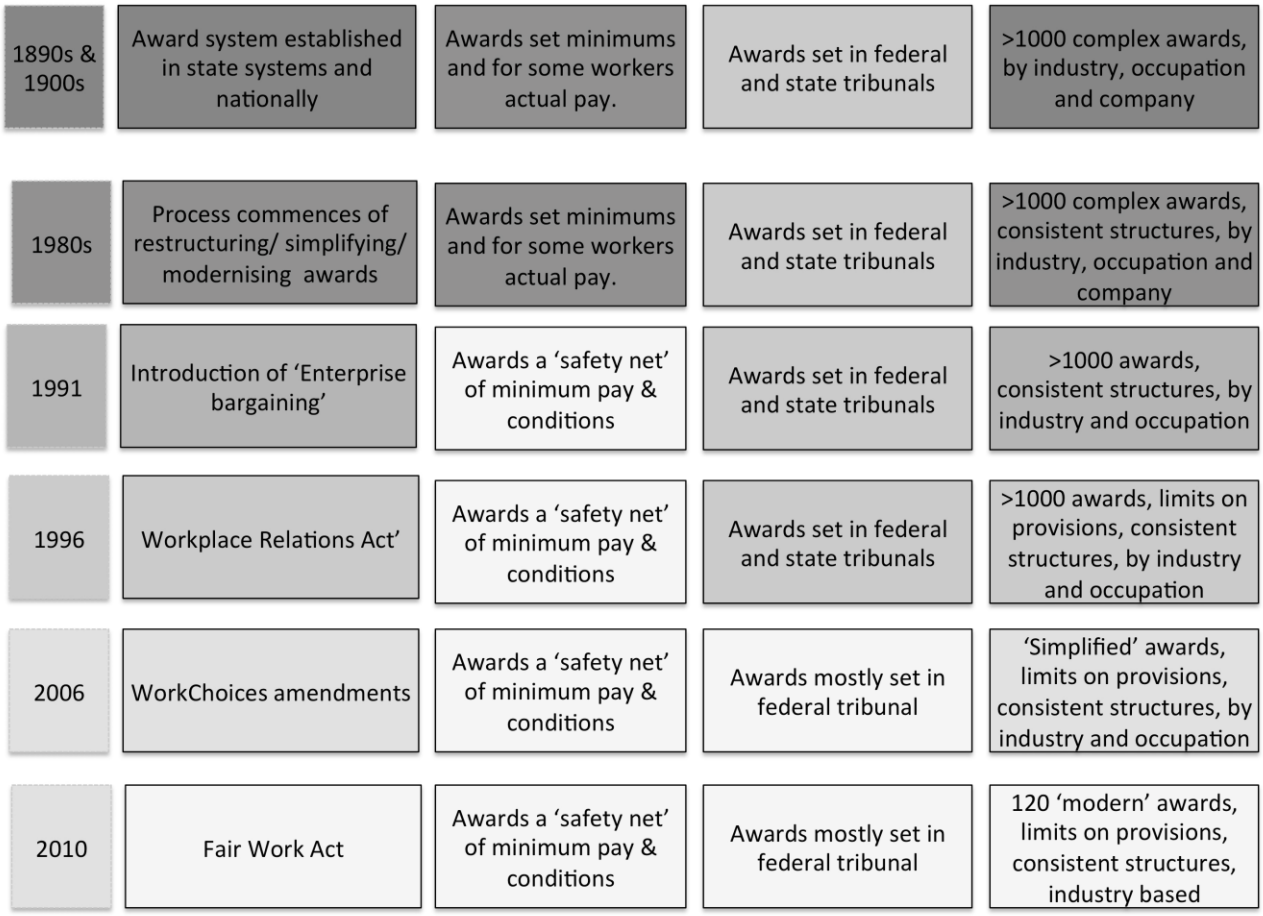


**Figure 2: Key moments in development of awards in Australia**

*Awards and the move to enterprise bargaining*

Awards became part of the Australian industrial relations system before and through the beginning of the 20th century, first in various colonial or state jurisdictions and then in the federal (national) jurisdiction, where, constitutionally, they existed for the 'prevention or settlement' of interstate industrial disputes. Awards were established by tribunals through a process of compulsory arbitration (if one party wanted arbitration, the other could not avoid it). An award could cover an occupation, an industry or some combination. Some awards were quite extensive: the federal Metals Industry Award, often the 'pacesetter' for other awards, contained over 300 job classifications, each with its own wage.

Collective bargaining existed alongside awards. Sometimes this led to a separate award for a particular firm (an 'enterprise award'), other times it led to 'over-award payments', that is wages above the minimums specified in awards. Over-award payments could also result from individual negotiation or from unilateral management decision. Over-award payments were rare in the public sector but in 1989, around 77 per cent of private sector workplaces provided at least some workers over-award payments (Callus, Morehead, Cully, & Buchanan, 1991). Overall, though, award variations were the formal mechanism by which the majority of employees gained wage increases.

For differing reasons, peak unions and employers and the government came to support moving to a system of 'enterprise bargaining' in the late 1980s (Briggs, 2001; Business Council of Australia, 1989). In October 1991, the federal tribunal (by then called the Australian Industrial Relations Commission, AIRC) introduced a new wage system with a formal mechanism for progressing single-

employer bargaining, through the creation of a new wage principle (the 'Enterprise Bargaining Principle'). Dissatisfied with the slow spread of single-employer bargaining, the Labor Government in mid-1992 amended the *Industrial Relations Act 1988* to remove the tribunal's role in scrutinising proposed single-employer certified agreements by reference to the public interest, requiring it instead to ensure that agreements did not disadvantage employees, and satisfied some other more technical requirements. More substantial amendments in late 1993 made the encouragement of single-employer bargaining an explicit object of the Act, strengthened protections for some employees under single-employer agreements and clarified the distinction between the single-employer bargaining stream and the award system.

The impact of these changes was to dramatically change arbitration's role. Arbitration over interest disputes (Spielmans, 1939) was minimised by the primacy given to bargaining between the parties. The main role for arbitration became deciding safety net adjustments. However, these arbitrated safety net adjustments initially accounted for only a small proportion (about 10 per cent) of overall wage increases as reflected in average weekly earnings in the mid-1990s. The remainder of wage increases, set by bargaining or by unilateral determination by management, were not subject to arbitration.

Thus at broadly similar times, Australia and New Zealand shifted from emphasising awards to enterprise-level bargaining. But while New Zealand's radical shift, through the *Employment Contracts Act 1991* (ECA), abolished the award system altogether and any formal recognition of unions (Deakin, 2019; Deeks & Rasmussen, 2002), Australia retained awards as setting a safety net of minimum conditions, and prioritised collective over individual bargaining.

The *Workplace Relations Act 1996* (WRA), under a Coalition government in Australia, further restricted the scope for arbitration. Awards were limited to 20 'allowable matters'. Beyond these, the Commission could not arbitrate, except in more limited circumstances. The short-lived 'WorkChoices' amendments to the legislation, taking effect in 2006 and repealed between 2008 and 2010, sought to limit awards further. They took the wage fixing function in awards away from the AIRC, giving it to a newly created Fair Pay Commission. The lasting impact of the WorkChoices legislation was to largely abolish state jurisdictions, by making novel use of the federal Parliament's constitutional ability to legislate with respect to corporations. Most states referred their law-making powers over the remaining 'non-corporate' entities to the federal Parliament.

Through this period, collective agreements (CAs), known as 'enterprise agreements', became the main source of wage increases, particularly for unionised employees. The gap between pay rates in CAs and awards widened. Pay and classification structures for many employees were determined through CAs, not awards.

In 2010, the terminology was changed – 'awards' became 'Modern Awards' (but for the purposes of this paper, the term 'awards' covers either). The constitutional basis for the process was also changed. Up until 2006, awards were created in the settlement of industrial disputes (see figure 3). Since then, awards have been administratively created by tribunals in a process that is, in a formal sense, simpler (see figure 4). For example, in April 2020, award changes in response to Covid-19 were initiated by the tribunal, not requested by any party. (Other Covid-19-driven changes to worker entitlements resulted from legislation.) In all periods, however, awards set the floor for pay and conditions.

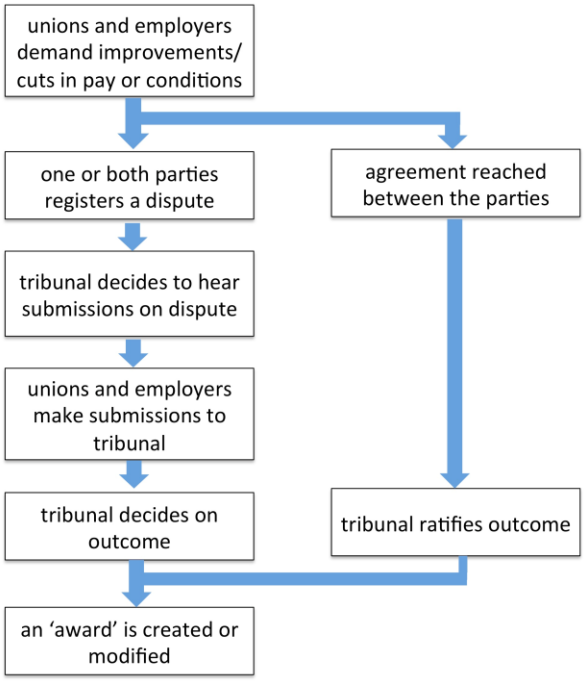


**Figure 3: How Australian awards were created before 2006**

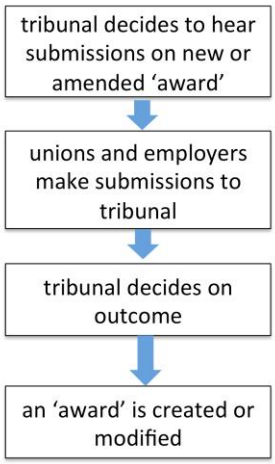


**Figure 4: How Australian awards have been created since 2006**

While these changes in award creation processes were significant, the shift towards single-employer bargaining in the 1990s was more momentous for the role of awards.

*Core concepts in the 'Fair Work' system*

In 2010, the Fair Work Act established minimum legislative standards in a range of areas previously covered by awards (the 'National Employment Standards'), but minimum wages and most aspects of working time remained covered by awards, renamed 'Modern Awards'. The coverage of awards was restructured by the tribunal (renamed 'Fair Work Australia' and later the 'Fair Work Commission'), to more closely coincide with orthodox definitions of industry, and their number was reduced 120. Pay rates in awards were restructured to remove inconsistencies, including between states, now that a single national system was largely in place.

There were less extensive changes to the WorkChoices provisions on industrial action and collective agreements. Despite amendments, these remained more favourable to employers than many of the provisions of the 1996 or especially the 1993 legislation, particularly in the context of subsequent decisions by the tribunal and federal court.

*How the modern award system operates*

Modern Awards should be seen as part of an overall mechanism for determining the minimum pay and conditions of employees.

The first element, outside of Modern Awards but crucial to understanding them, is the legislated National Employment Standards (NES). These include maximum hours per week, recreation leave, long service leave entitlements (additional leave that employees could access after a defined period with the same employer), rights to redundancy pay, and a right to request flexibility in working hours in certain circumstances or extensions of parental leave. The NES are not without problems, for example, some aspects still provide very wide discretion to employers (Peetz & Murray, 2015). Still, there were no legislated minimum standards before 2006. The NES can only be varied by Parliament and, so far, proposed amendments have only focussed on extending eligibility to the right to request flexibility. There is some limited similarity between Australia's NES and the various legislatively determined minimum standards in New Zealand, but the NES do not specify an adult or junior minimum wage, and cover some matters not encompassed by New Zealand legislation.

The second element is the minimum standards set out in awards. In addition to minimum wages, these include provisions on night and weekend premiums ('penalty rates' in Australian parlance), overtime pay, the ordinary span of hours, and other provisions relating to working time and several other issues. Almost all employees are now subject to the minimum standards set out in awards and the NES, and there is a Miscellaneous Award for employees not covered by one of the industry-specific awards. Modern Awards have fewer provisions than previous awards.

There is also a 'national minimum wage' (NMW) in Australia. It has for several years been set at the lowest rate in any award, and since the completion of award restructuring in the 1980s many awards have identical bottom rates. It is varied every year at the same time as the rest of the award pay. In Figure 1, for workers paid the lowest classification in an award, the NMW will normally be the same as the award rate, W1. Only one per cent of employers pay one or more employees according to the 'National Minimum Wage Order' (the mechanism by which the NMW is set and applied) and 0.2 per cent of employees are thereby paid the NMW (Fair Work Commission, 2017a).

By contrast, the minimum wage in New Zealand is set in legislation, and amended not by an independent tribunal, but by the government of the day (also annually, since 2000). In the absence of awards, it is significant for many workers.

Australian awards are now, broadly speaking, horizontally consistent (a basic trade-level job in one award will have the same minimum wage as a basic trade-level job in another award). Geographic differences are now essentially removed through the creation of the national system in which a Modern Award covers a whole industry regardless of state. So awards now, in effect, produce a set of minimum wages that vary according to the skill level of the job in a consistent manner. Employers who are not profitable enough to pay award wages are not generally permitted to pay sub-award wages – presuming those who do so get caught. (There are mechanisms for adjusting to temporary, special circumstances but these are not widely used in holding down award rates.) This system provides a contrast to some other countries where minimum wages vary geographically but not by skill level.

Awards are varied by the federal tribunal. Unions and employers make submissions. On matters where they agree, the tribunal would rarely come up with a different position, but there are many matters on which there is no agreement.

On top of awards and the NES sit collectively-determined CAs, and individual contracts. Employees guaranteed an income above a certain threshold (around $120,000 in 2013) are not subject to the 'better off overall' test (Munro, 2013).

## Collective bargaining

*Levels, scope, parties and processes of bargaining*

In Australia, collective bargaining is overwhelmingly at the single-employer level. This can be either a whole enterprise, a workplace, or some other part of an enterprise, such as an operational division or class of employees (for example, many universities have a CA for academic staff and another CA for general or professional staff). Multi-employer bargaining is made deliberately difficult – in contrast to the pre-enterprise bargaining system, where much negotiation took place at the industry level (for example, staff across all universities were covered by a single award). This is mainly because of the different laws regarding industrial action for single- and multi-employer agreements.

The taking of industrial action in Australia is illegal unless carried out in a prescribed manner. Amongst other things, it can only be done in the negotiation of a new CA while there is no valid CA still in place (that is, any pre-existing CA covering those employees must be expired, though it need not have been terminated), and after extensive procedural rules regarding prior bargaining in good faith, the holding of a secret ballot in a prescribed manner and the giving of notice as to the exact form of the industrial action are followed. These exemptions to the general illegality of industrial action are not available to unions seeking a multi-employer agreement, so in practice, the taking of multi-employer industrial action is illegal. This distinction between the legal treatment of single- and multi-employer bargaining – a feature of Australian law since 1993 – is not common in industrialised countries. These rules have not prevented all illegal industrial action, though, in very recent years, only a minority of disputes have been illegal (Peetz, 2016).

The scope of collective bargaining in Australia is restricted to matters defined as being within the employment relationship. Initially, this was for constitutional reasons but, more recently, this has been due to legislative restriction and judicial interpretation.

*Non-union collective agreements*

In Australia, CAs can be negotiated without a union. Technically, a CA is negotiated between an employer and employees, and is only validated after a majority of employees have voted in favour. The WRA had made non-union CAs considerably easier than previously. They had been originally enabled by the 1993 legislation, but initially showed little growth.

In unionised workplaces, unions represent employees in negotiations but in non-union workplaces there may occasionally be an elected or employer-selected negotiating committee, or an employer may simply put its proposal to a vote. Sometimes, when negotiations between an employer and union break down, the employer may put their version of the proposed agreement to a ballot of employees, often to be voted down by employees. CAs that do not involve a union are referred to commonly as 'non-union' collective agreements.

As a result, Australian CAs are analogous to New Zealand's former (ECA) system of 'collective contracts', though the similarity is stronger between non-union CAs and 'collective contracts', as there are institutional mechanisms by which unions can get involved in negotiating Australian CAs that never existed under New Zealand's 'collective contracts'. In 2000, the New Zealand law was changed so that only unions could make collective agreements, and these unions had to be registered for that purpose.

The threat of a non-union agreement is sometimes used in Australia to reduce the bargaining power of unions, or to pre-emptively thwart union organising or bargaining campaigns (as industrial action is illegal while even a non-union CA is in place). Occasionally, an employer extends an agreement originally agreed to be a handful of employees to cover a whole new function with hundreds of staff, though this can be the subject of litigation.

*Complexity*

Perhaps the main other distinctive feature of the Australian CA system is its legal complexity. The provisions on CAs in the Fair Work Act occupy over 75 pages (90 sections), and those on industrial action (which can only legally be taken in negotiation of a CA) occupy another 46 pages, not counting those relating to remedies and enforcement. Even the provisions on secret ballots (ss 435-469), while not quite as extensive as those under Work Choices, occupy 24 pages of the statute book – far more than in, say, the comparable UK statute. The CA provisions contains twice the number of pages of those in New Zealand's Employment Relations Act. The legislation seeks to impose requirements that are both complex and not common in other collective bargaining systems. For example, unions are prohibited from engaging in pattern bargaining (specifically, the terms of a proposed CA may not be the same as those in another CA), though no comparable prohibitions are placed on employer behaviour. Over time, development of these provisions has come to be seen as increasing restrictions on the right to strike (McCrystal, 2019). Outside the Anglophone countries this is unusual. Although a majority of countries have seen a movement towards greater decentralisation, this generally has not been accompanied by widespread reductions of the right to strike; overall, the international trend has been to maintain stability in the right to strike or even liberalise it (Peetz, 2016).

*The interaction between bargaining and awards*

The interactions between bargaining and the underpinning modern awards and bargaining vary by sector, as discussed later.

One general interaction, though, warrants consideration now. In most countries, the terms of agreements continue until a new one is negotiated, and this was typically the case in Australia until recently. However, changes in employer behaviour and tribunal decisions took advantage of a change introduced in WorkChoices, later amended slightly, allowing employers in most circumstances (and following a tribunal hearing) to terminate an agreement after its expiry (that is, once it exceeds its formal duration). Consequently, minimum employee conditions fall back to the those in the award. In most industries, the effect can be quite substantial. In 2015, a privatised railway corporation used termination of the CA to remove redundancy entitlements that were higher than those applying elsewhere. Since then, they have been used in major cases in coal, university education and confectionary manufacturing to enhance the power of employers. Rarely, however, do employers actually reduce pay to the rates applying in the award; the greater significance is in the impact of the threat to do so and the opportunity for unilateral flexibility that it provides.

## Individual contracts

Employers have mostly been entitled to pay employees above minima specified in awards and agreements, but until the mid 1990s, any such individual contracts could not be in conflict with awards or agreements in any respect. This changed after the Liberal-led coalition government won national office in 1996. Its new WRA imposed limitations on union actions, and enabled statutory individual contracts ('Australian Workplace Agreements' or AWAs) that could be inconsistent with awards or CAs.

In early 2006, the 'WorkChoices' legislation abolished the 'no disadvantage' test by which registered individual and collective agreements had been assessed and approved, replacing it with five minimum standards, and privileging AWAs over CAs, for example, by enabling them to override CAs at any time. Although many comparisons had correctly been made with New Zealand's ECA, there were also fundamental differences: while the ECA was radically deregulatory, WorkChoices was radically interventionist and detailed, with over 2,600 pages of legislation, regulation and explanatory memoranda. The Liberal-Nationals coalition lost the 2007 election, with WorkChoices possibly the key issue (Spies-Butcher & Wilson, 2008). Labor's Fair Work Act replaced it, and though Labor was defeated in 2013, the lingering political effects of the 2007 election defeat, and difficulties in passing legislation through the Senate, meant the incoming Liberal-Nationals coalition made few subsequent amendments.

As a result, individual contracts again must be consistent with (i.e. no worse to the employee than) the relevant awards, CAs (if applicable) and the NES. It has been possible, since the Fair Work Act was passed, to have working time arrangements that differ from the award if certain requirements for 'individual flexibility arrangements' are in place, but it is not possible to pay hourly wages below those specified in the award.

## Coverage of various instruments

The main source of data on coverage of instruments in Australia is the ABS employee earnings and hours publication (EEH), based on data collected through a survey of employers. It showed that, in 2018, just under 23 per cent of non-managerial employees had their pay determined by awards, with 40 per cent covered by collective agreements and 37 per cent on 'individual arrangements' (Australian Bureau of Statistics, 2018). Some of those on individual arrangements would be on pay rates only slightly above the award (over-award payments), with most of the rest of their conditions determined by the underpinning award.

*Award and collective agreement coverage*

The incidence of reliance on awards (and other instruments) for pay setting by industry for non-managerial employees is shown in Figure 5. Award reliance (that is, payment of wages equal exactly to the award wage) varied by industry, with the highest reliance in accommodation and food services (45 per cent), administrative and support services (41 per cent), health care and social assistance (38 per cent) retail trade (30 per cent), and 'other services' (38 per cent).

The highest rates of CA coverage were in public administration and safety (83 per cent), education and training (79 per cent), electricity, gas, water and waste (63 per cent), health care and social assistance (52 per cent), and transport, postal and warehousing (48 per cent) (Australian Bureau of Statistics, 2018). Econometric analysis showed that the major factors associated with higher CA coverage in 2016 were public sector employment, union density, and employer size (Peetz & Yu, 2018). While these factors helped explain industry variations in coverage by instruments, employer agency also made a difference.

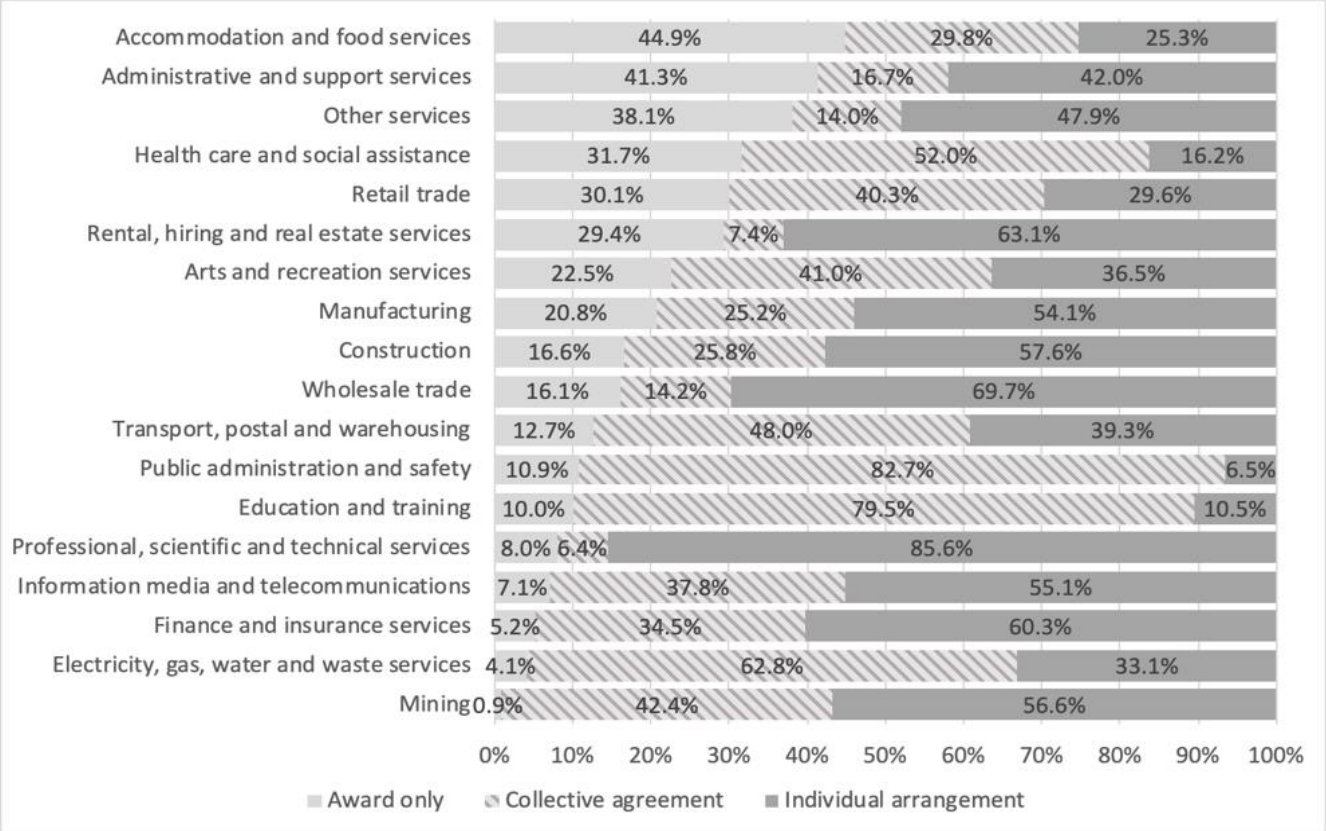


**Figure 5: Method of setting pay by industry, Non-managerial employees, Australia, 2018.**
Source: Australian Bureau of Statistics, 2018

Non-union agreements have never covered a large number of employees. From 1998 to 2006, a fairly stable one tenth of agreement-covered employees had been on non-union agreements under the Workplace Relations Act (Peetz & Yu, 2017; White et al., 2001). Before WorkChoices, they were rarely offered in well organised union workplaces, and were often used to easily effect changes to hours, but sometimes to exclude unions (Briggs & Cooper, 2006). WorkChoices made non-union agreements more attractive to employers while making it more difficult for unions to negotiate agreements, particularly to undertake industrial action in support of union demands, and non-union CAs rose to as much as a quarter of CA coverage by 2009, before declining thereafter. As a proportion of the total workforce, non-union CAs covered approximately two per cent from 2000 to 2006, growing to six per cent by 2009 (after many employers had sought to gain coverage by non-union agreements before the WorkChoices provisions were repealed). Coverage by non-union agreements then fell to 2.5 per cent of employees by 2016 – some 11 per cent of CA-covered employees (Peetz & Yu, 2017).

*Wages and instruments*

The relationship between awards and CAs also varies between industries, partly reflecting employer agency. Figure 6 shows average hourly earnings for workers on awards and CAs by industry (industries are ranked from low to high average wage). In most industries, CAs paid well above the award, with average hourly wages in CAs across all industries 43 per cent higher than hourly award wages. In retail trade, however, the average under CAs were only five per cent above those under awards while in accommodation and food services, average CA hourly wages were 12 per cent below average award wages. This reflected particular strategies by the parties in those industries. In retail trade, large employers negotiated CAs with the major retail union that paid quite close on average to

the award, such that some major CAs were challenged for failing the 'better off overall test' (BOOT) (Schneiders et al., 2016). In hospitality, many employers have used non-union CAs covering low-wage employees in place of awards: from 2014 through to mid-2016, 47 per cent of employees under CAs in accommodation and food services were on non-union CAs, compared to an all-industry average of 11 per cent over that period (Department of Employment, 2017). In health care and social assistance, CA wages were only 16 per cent above award wages, reflecting the constraints of government financing, while the almost equality of awards and CA wages in public administration reflected the fungibility of these instruments there (some state public administration agreements get labelled as awards).

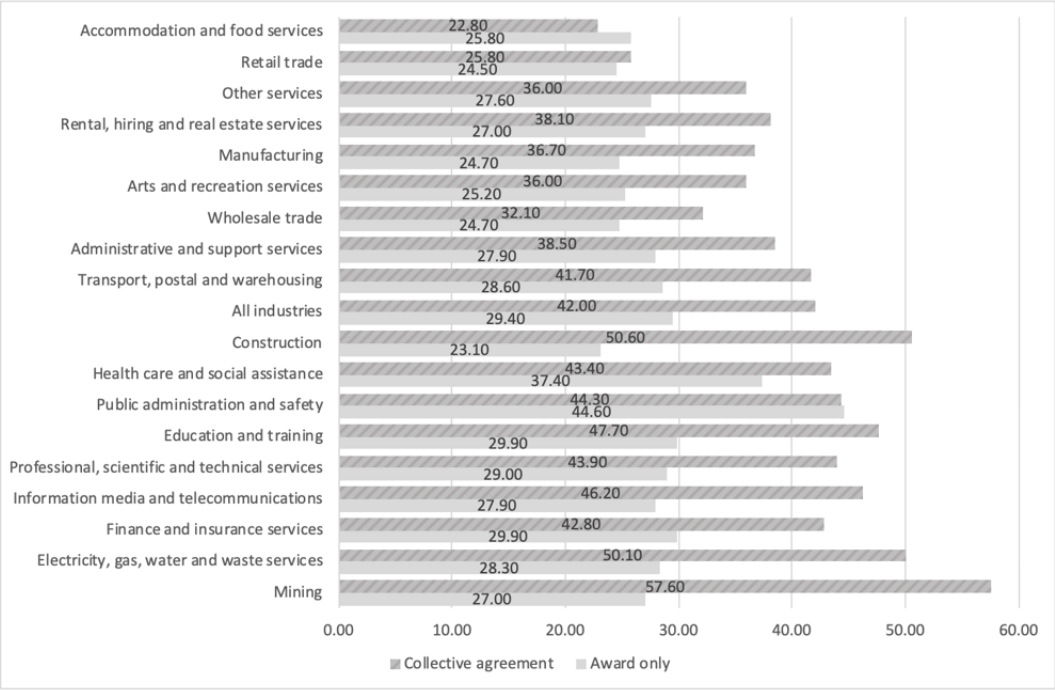


**Figure 6: Average hourly wages by industry and method of seting pay, Australia, 2018**
Source: Australian Bureau of Statistics, 2018

The incidence of awards reported by EEH is likely to underestimate the influence of awards, as those employees whose pay is above the award, but is set by reference to it, are treated as covered by 'individual arrangements'. The FWC undertook its own major survey in 2014. It also surveyed employers about their *main* method of setting pay. It implied that 37 per cent of employees were on enterprise agreements (close to the EEH figure), 28 per cent on individual arrangements excluding over-awards, and 36 per cent on award-based arrangements; of the latter group (or at least those about which data could be obtained), almost three quarters appeared to be award-reliant (employees were paid exactly the award) and a quarter on over-awards (that is, roughly nine per cent of all employees were on over-awards, if such extrapolations are valid) (Fair Work Commission, 2015).

*Awards as industry extension mechanisms*

Are awards like industry-wide CA extension mechanisms seen in other countries? This was arguably the case up until the early 1990s. Before then, union-driven wage increases were reflected in awards, and awards were used to then spread those union-driven wage increases across the rest of the (award-covered) workforce. The typical strategy of a union would be to focus on what were called 'hot spots' (e.g. in an oil refinery, or a large metals manufacturing company), obtain an increase in wages (or an improvement in other conditions) through collective bargaining there (or an arbitrated outcome), and

then persuade the tribunal to increase the award to spread the benefit to the rest of the workers covered by that award. It, or other unions, would then seek to have other awards increased to match the increase in the initial award, and the tribunal would usually be persuaded to agree. The Metals Industry Award was usually seen as the 'pacesetter' award, though sometimes other awards would perform that function.

That all changed from 1991, and further changes since then have reinforced the distinction. With the shift to 'enterprise bargaining', those increases obtained in 'hot spots' have been manifested as enterprise agreements, and never directly translated into awards. If the same union or other unions wanted to spread the union gain in wages achieved in a 'hot spot', they had to negotiate other enterprise agreements.

Awards do not play a role in that process. Instead, while award rates are increased (or at least examined) once a year in the annual wage reviews (referred to for a time as 'safety net' cases), there are many factors taken into account by the tribunal in determining the level of wage increases, including inflation, unemployment, the rate of wage increases in the rest of the economy and the needs of the low paid. The idea that going rates in Enterprising Bargaining Agreements (EBAs) should form any benchmark for awards is eschewed.

## Effects

There has been substantial controversy over the effects of the award system, and a full consideration of its effects would be too extensive to be encompassed in this article. However, the following points can be made from various studies over the decades.

Generally, it seems that ***wage relativities*** have historically been more compressed in Australia than in several other countries (Brown et al., 1978; Norris, 1980; 1983; Rowe, 1982). Arbitration has ranged, at varying times, from being 'accommodative' of market forces (Romeyn, 1980) to producing quite different outcomes (Dabscheck, 1983). At a given balance of power between labour and capital, the award system probably had only a small impact on that balance of power between labour and capital, and hence on the overall wages share, but it probably produced a more compressed wage rate structure than the market (which included collective bargaining) would have created.

In general, closer proximity to regulation enhances ***gender pay equity***, provided the content of the regulation differs from (is less sexist than) the norms of those in power (Peetz & Murray, 2017), and the award system appears to have enabled the relatively rapid introduction of equal pay for work of equal value, following two major decisions by the Australian Conciliation and Arbitration Commission (ACAC) in 1969 and 1972. Australia's rank on gender pay equity improved substantially with their implementation (Gregory et al., 1986). With the move to single-employer bargaining, the gender gap in hourly wages paid has not reduced further. This is also consistent with the international pattern whereby more decentralised wage systems tend to be associated with wider gender pay gaps (Whitehouse, 1990; 1992). The gender pay gap amongst award-reliant workers is close to zero in EEH data; the gap is larger amongst workers on CAs and substantial amongst workers under individual arrangements (Australian Bureau of Statistics, 2018; Peetz, 2007). That said, the award system has not always acted to promote gender equity. For the first half of the 20$^{th}$ century, it simply institutionalised the undervaluation of female-dominated occupations (Charlesworth & Macdonald, 2017). The more recent problem for tribunals has been that, with wage fixing dominated by CAs or individual arrangements, the tribunals have only limited influence, especially within organisations already paying above the award. Where tribunals have had an influence (such as in health and social care), substantial gains in women's relative pay have also relied on government financing, such as

two billion AUD announced in 2011 to fund pay equity increases in social and community services (Baird et al., 2012).

The ***employment*** effects of the award system are highly contested, though debate has mainly relied of the very extensive international literature on the effects of minimum wages – a literature that is too extensive to go into here (the few Australian award studies include Belchamber (1996). In its 2017 wage case decision, the tribunal concluded, on the basis of that research, that modest and regular wage increases do not result in disemployment effects and observed that its own "past assessment of what constitutes a "modest" increase may have been overly cautious, in terms of its assessed disemployment effects" (Fair Work Commission, 2017b, p. 2)

On ***productivity***, while most studies have concerned collective representation (such as through CAs) compared to some other benchmark (e.g. Hancock, 2012; Hull & Read, 2003; Quiggin, 2006) periods of Australian policy dominated by individual contracting have had no better, and in all likelihood have had worse, productivity outcomes than periods dominated by collective bargaining or even by awards (Peetz, 2012). This is consistent with evidence suggesting that the quality of employment relations, rather than the existence of a particular workplace regime, has a bigger impact on workplace level productivity (Black & Lynch, 2001). The wages policy regime appears to have a larger impact on equity than on productivity, though the indirect impact on productivity is relevant. Despite the expressed views of many employers and their representatives (Rasmussen et al., 2016), productivity is driven more by technology, innovation, skills, and education (Engelbrecht, 1997; Greenwood et al., 1997; Jorgenson & Vu, 2010) – and in Australia's and New Zealand's case, even geographical isolation (Battersby, 2006; McCann, 2009) – than by industrial relations arrangements in themselves. Evidence, including from New Zealand, suggests that upskilling workers helps stimulate productivity (Maré & Fabling, 2013).

Recent controversies in Australia regarding Modern Awards have focussed around several issues. One is reductions in weekend premiums ('penalty rates') and the effects on unsociable work, pay and employment in the retail and hospitality sector. Another has been the low rate of wages growth (something not restricted to Australia). Perhaps the most media exposure has been achieved through publicity about non-compliance with award wages and other forms of labour exploitation (Ferguson, 2017; Ferguson & Toft, 2015). Equally notable has been the complexity of the system – not due to awards themselves, but to the requirements for bargaining and industrial action, and the internationally unusual legal impediments to the use of multi-employer bargaining. The Australian system contains a lot of detailed statutory restrictions and requirement on parties engaged in industrial action. For example, prohibitions on 'pattern bargaining', as occurring under current legislation, are both asymmetric and inconsistent with approaches in most other OECD countries. It is an oddity that, while awards have been simplified, the process of collective bargaining has been made remarkably complex in Australia. There is no requirement that simplification of one should be linked to intensification of complexity in the other.

## Some recent relevance to New Zealand

From the 1990s, the relevance of the award system to New Zealand seemed very limited. However, recent events regarding multi-employer wage setting have changed that. Since the change of government in 2017, interest in Fair Pay Agreements (FPAs) has emerged, and the Labour government indicated its interest in pursuing their development. Although, at the time of writing, the fate and details of any such policy was unclear, the broad idea of FPAs has been to create a form of multi-employer (mostly industry-wide) wage determination, through some agreement between unions and employer bodies, that would set the floor for wage rates that could be contained in agreements, and encourage such things as skills development and training. A working group,

comprising of union, employer and government representatives and chaired by a former conservative politician, recommended an implementation model; the government released a discussion paper; and the Council of Trade Unions proposed a refined model. The final shape FPAs take, if any, including such matters as the role of arbitration if agreement is not reached, is yet to be determined (Fair Pay Agreement Working Group, 2018; Ministry of Business Innovation and Employment, 2019; New Zealand Council of Trade Unions, 2019). The Australian system of awards does not provide much in the way of guidance as to how a system of FPAs should be administered, but it does show that multi-employer wage minimums can be established, operate quite smoothly, co-exist with enterprise-level bargaining, and indeed allow for skill-based relativities.

More generally, the low median wage in New Zealand (typically around a quarter lower than in Australia) has been a source of concern. A seemingly generous minimum wage (presently around 65 per cent of median wages, making it higher than in most OECD countries) has not pushed up the median wage. Here, the skill-based relativities in Australian awards are relevant, in that they set minimums for a range of workers, not just those at the bottom. Even though awards set actual rates for declining proportions of workers as hourly wages rise, they still set a floor for many middle and low income workers who are not adjacent to the minimum wage.

While, from 2008 onwards, conservative New Zealand governments amended legislation to, among other things, constrain collective bargaining (Rasmussen et al., 2016), probably the most important changes concerned gender inequity in pay for some female-dominated occupations. These occurred in response to the Court of Appeal's *Terranova* decision, concerning equal pay for a group of aged care workers in 2014. The government legislated, in 2017, to raise minimum wages for such workers. This was linked to its provision of major financial support to employers in the industry, without which most would have been unable to afford the higher rates of pay. It was reminiscent of cases in Australia in which tribunals' ability to raise the award rates for some female-dominated occupations has depended on government willingness to fund them. Many ostensibly private sector activities are ultimately financed by, and dependent upon, the state, and governments have saved money by being able to pay female workers low rates based on undervalued work. Remedying the undervaluation of female-dominated work has required coordinated action in both the budgetary and industrial arenas – the latter occurring, in Australia, through awards and, in New Zealand, though legislation.

## Concluding remarks

Overall, it appears that there are equity benefits from the system of multiple minimum wage rates in Australia. They, in effect, protect workers of varying skill levels who lack individual or collective bargaining power, but usually give no special reprieve to inefficient employers and so enable a more efficient allocation of capital than if wages had no floors underpinning them. The system has also allowed some progress on pay equity, though it allowed much more in the past when awards were more important. To the extent that parties experience costs through state interference in their activities, in recent times, these appear more associated with the processes surrounding collective bargaining than the award system itself, especially now that the award 'modernisation' process seems complete and to have, at some cost to the representatives of the parties, exhausted itself.

In New Zealand, awards are now a distant memory and often the term itself is used negatively. Having been abolished, there is little prospect of the tribunal-based award system being reintroduced in New Zealand; it would be too institutionally disruptive. However, the idea of a series of skill-based minimum wages (or minimum wages based on the qualifications required for a job) is not so far-fetched for any country with a minimum wage and a system of collective bargaining. Since a consistent skill-based relativities structure on awards was mostly established in the late 1980s in Australia, it has been quite stable. As collective bargaining and unionism weakens in many countries,

and the question of protection of wages for lower- and middle-income earners (not just the lowest paid) becomes politically more salient, policy-makers could consider the potential relevance of skill-based relativities to national minimum wage systems. Moreover, the introduction of a system of skill-based relativities could assist productivity in two ways. First, tying wage progression to skill acquisition could enhance the skill base of the workforce and hence its capacity for working more productively. Second, skill-based relativities could prevent low-productivity employers from paying low wages to skilled workers and force them to improve productivity to remain competitive. While other factors are heavily influential, we still would expect skill-based minimum wages to have a positive impact on productivity.

Skill-based, industry-level regulation would be unlikely to provide a new means of extending the benefits of collective bargaining to workers elsewhere in an industry. This is because of the likely gap between 'award' wages and CA wages in any system in which CAs coexisted with, but were considered superior to minimum protections established through skill-based, industry-level regulation. That said, the effects of skill-based, industry-level regulation on other objectives, such as improving equity, might make such mechanisms attractive.

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# Managers' Perceptions of Artificial Intelligence and Automation: Insights into the Future of Work

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## Abstract

The impact of Artificial Intelligence and Automation (AIA) on the future of work has been the subject of significant amounts of discussion from scholars, business people, governments, and scientists. The purpose of this research was to explore managers' perceptions of AIA, and how they think it will impact the future of employment. Semi-structured interviews were conducted with 11 high-level managers, six from the private sector and five from the public sector, all of whom are responsible for the recruitment and management of staff. All 11 managers predicted AIA would cause considerable disruption across the employment relations landscape and that the number of workers performing certain tasks would decrease through replacement with AIA. One of the key concerns raised by the managers was the level of uncertainty around the type of new jobs that may emerge as a result of AIA. The participants recognised employees may build up greater job responsibility as a result of AIA, including overseeing the automation of processes. The managers further discussed the importance of valuing employees through developing reskilling initiatives in expectation of AIA impact. This report adds a much needed insight into AIA from the perspective of managers as this view is very limited to date.

**Keywords:** Artificial Intelligence, Automation, Future of Work, Managerial Perceptions

## Introduction

Many commentators have suggested that we are on the cusp of a new industrial revolution, situated within a transformational era where we are becoming capable of incorporating more automated processes into business operations. Research to date has primarily focussed on the impacts Artificial Intelligence and Automation (AIA) is likely to have on the future of employment (Frey & Osborne, 2017; Walsh, 2018), and whether the up-and-coming automation capabilities will remove human employees from the labour process. The capabilities of AIA are still in the developmental stages, with the Gartner Hype Cycle (Panetta, 2018) outlining several currently hyped technologies that are five to 10 years away from production, including Blockchain, Biochips, Autonomous Driving, and Artificial General Intelligence. However, with hype building around AIA, it is critical to start addressing the impact it may have on employment so we can better prepare for the ways in which it will impact the workforce.

Much of the discussion and research around what the future will look like comes from futurists. This study, however, looks at managers who have a direct relationship with the staff they manage, and focusses on addressing the question: What are managers' perceptions on the impacts of AIA and how is this relevant to employment relations in the future? Understanding managers' perceptions is based on the premise that we cannot predict the impact of AIA on employment without understanding how

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the end users, such as organisations and managers, will potentially incorporate and adopt AIA into business operations. This research is fundamental towards recognising the influence AIA will have on businesses and employees, and what this ultimately means for employment relations at the workplace and organisational levels. As there is a limited amount of research literature on managers' perceptions of AIA impacting employment, this study goes some way towards addressing this need.

## Background

*Historical Impact of Technology on Employment*

The impact of technology on employment has been a reoccurring phenomenon throughout history. Ashton (1948) and Toynbee (1969) identify the mid-1700s as the first prominent period of technological disruption on both the workforce and the social landscape, causing this period to be defined as an 'industrial revolution. To date, it is widely accepted that an industrial revolution has occurred in three instances (Schwab, 2017): firstly, with the introduction of steam power in the mid-1700s; secondly, with the introduction of electricity in the mid-1800s (Craft, 1996), and – most recently – in the mid-1900s, with the emergence of computerisation. Subsequently, these disruptions caused widespread distortion across both the employment and social landscape, with workers' lifelong skills, experiences, and way of life made redundant in favour of reducing labour cost while boosting productivity and output capabilities throughout agriculture, factories, and the service sector (Outman & Outman, 2003; Shah & Mehta, 1998).

At the time of the first and second industrial revolutions, it was perceived that factories were taking over workers' jobs. However, this began to shift when factories started to introduce new jobs and skills (Rumberger, 1981), which contributed to a social shift from rural to urban areas of living (Outman & Outman, 2003) with the prospect of finding work as a result of the new incoming technological capabilities (Goldin & Katz, 1998). Despite the negative impact on employment at the time, each industrial revolution also introduced momentous social changes across the employment relations spectrum, including new policies to protect workers, the establishment of unions (Outman & Outman, 2003), and the securing of rights to the eight-hour workday (Gunton, 1889). Technological changes dramatically changed the nature of work and the social landscape: in earlier revolutions, large proportions of the working population moved from farms to factories; and the service sector became a prominent industry amidst the development of computerisation in the 1950s (Autor et al., 1998).

Despite the emergence of computerisation in the 1950s, it was not until the 1970s that computerisation caused significant disruption throughout the workforce (Shah & Mehta, 1998). According to Cortada (2006), management initially adopted the use of computers to improve business operations, reduce operating costs through labour saving initiatives and improve customer services. Management was by no means immune to the impact of technological disruption which largely saw middle management positions disestablished (Shah & Mehta, 1998) due to the significant organisational restructuring designed to accommodate the capabilities of computerisation (Drucker, 1993; Shah & Mehta, 1998). The process of re-engineering the organisational structure in the 1980s witnessed the streamlining of organisational processes which saw a shift from paper-based processing to computer-based processing (Autor et al., 1998).

The rise of computing also had a substantial social impact through streamlining customer services, such as changing the way people access money through ATMs (Cortada, 2006), and introducing customer capability to buy airline tickets over the internet without having to go into see an agent or over the phone (Shah & Mehta, 1998). Subsequently, the shift to computer-based processing gave rise

to new jobs such as computer programmer, website creator, and computer technician. At the same time, this shift saw the loss of jobs in typing pools and assembly lines, alongside jobs involving secretarial tasks and switchboard operation (Volst & Wagner, 1988). Volst and Wagner (1988) also indicate that employees with wider skill sets were preferred: the job of specialised typist, for example, has transitioned in the modern-day position of personal/executive assistant or office manager (Onifade, 2009).

The impact of computerisation and automation within the manufacturing and agricultural industries saw a further shift of workers to the service sector which represented three quarters of all jobs by the 1980s (Plunkert, 1990). With the emergence of AIA, we are now witnessing another transition which may have a profound effect on many aspects of the way we currently work, with research to date having taken steps to estimate the impact AIA may have on the workforce (Frey & Osborne, 2017).

### *Predictions on the arrival of Artificial Intelligence and Automation*

There is a general consensus that employment is going to be impacted through the introduction of AIA. Frey and Osborne (2017) estimate that around 47 per cent of employment will be affected by automation in the United States alone within the next two decades. The arrival of functional AIA has been the object of speculation, with Walsh (2018), for example separating expert and non-expert expectations. Experts predicted a 50 per cent chance of having fully functional AIA by 2065, while non-experts anticipated that AIA would be available much sooner, with a 50 per cent chance of its being fully functional by 2039. The relevance of understanding such predictions goes a long way towards preparing businesses and employees for the potential impact that AIA will have on employment relations. However, we do not need advanced technology, such as artificial intelligence, to displace workers from jobs. Global management consulting firm McKinsey & Company found that "50% of current work activities are currently automatable by adapting currently demonstrated technologies" (as cited in Manyika et al., p. 2). Manyika et al., (2017) indicated that automating specific tasks within certain occupations is currently achievable, but fully automating an entire occupation is less than five per cent achievable with current technology. For example, mainstream technologies such as self-checkouts, online forms, and smart phone apps are already having an impact but are still some time away from replacing an entire occupation. Despite this, a continued lack of social acceptance of technology is a barrier to its full integration into the workforce (Perakslis & Wolk, 2006).

Fraedrich and Lenz (2016) define the process of social acceptance as something which can vary dramatically over time as social expectations and norms change. When Walmart introduced radio-frequency identification (RFID) in the early 2000s, it was not accepted by the public. Perakslis and Wolk (2006) have associated lack of social acceptance around RFID with low consumer awareness and concerns pertaining to privacy and personal rights protection. Since then, Amazon has introduced Amazon Go, which is a transaction-less supermarket (Golden, 2020), which uses computer vision, sensor fusion, and deep learning to automatically detect when a shopper enters the supermarket, takes an item off the shelf and walks out to pay without the need of a checkout (Amazon, 2020). Although the technology in Amazon Go differs to RFID, the similarity indicates how social acceptance has shifted from monitoring in the early 2000s to present day.

Reflecting on the Industrial Revolution and the gradual influence it had on employment (Outman & Outman, 2003), similarities can be established with the introduction of AIA, which is predicted to be a gradual process (Panetta, 2018). Warwick (2015) further alludes to the progressive impact AIA will have on employment relations, with the expectation that AIA will initially be dependent on human support and supervision to function. Whether or not AIA will ever be capable of performing without

human supervision is yet to be seen; even so, we are already beginning to see the impacts of basic AIA and smart technology on the workforce, with real concern rising around what this means for the future of employment.

### *Industry Susceptibility to Artificial Intelligence and Automation*

The rise of organisational investment in technological development has resulted in an unprecedented level of uncertainty around the overall effect this development will have on the workforce and the social environment (Virgillito, 2017).

Frey and Osborne (2017) address lines of employment within the transportation and logistics industries as being highly susceptible to the introduction of AIA. We are already witnessing the significance of AIA in transportation and logistics, with driverless trains operating in South Korea and other parts of the world (Railway Technology, 2012) and autonomous driving level 2 already in the distribution phase. Harner (2017) outlines autonomous driving level 2 as a vehicle with assisted steering and acceleration functions, which still requires a driver to be alert and take control of the vehicle if necessary. It is estimated that autonomous driving will progress to level 5 after 2028 (Pollard, 2019). This level means that all driving tasks will be controlled by the vehicle system, with no human interaction required at all – not even a steering wheel (Harner, 2017). Autonomous driving level 5 is expected to have a significant impact on employment across the transportation industry.

Dolata (2008) characterises the technological impact of AIA into two distinct groups: anticipative and smooth adjustments; and reactive and crisis-ridden patterns of change. The current situation of AIA within the transportation sector represents a clear illustration of the technological and social divide. On one hand, workers in the industry such as taxi drivers are reactive to autonomous driving, while society is anticipative of the technology (Maurer et al., 2016). Since the introduction of smartphone applications, such as Uber, which use ride-hailing technology to pre-calculate taxi fares (Dudley et al., 2017), taxi drivers of the standard metering system have taken a reactive approach, protesting throughout the United States, Europe, United Kingdom, and Asia (Mulholland, 2014) and calling to ban Uber (Burry & Gordon, 2016). Despite resistance from taxi drivers, there has been regular social approval of ride-hailing technology. Subsequently, Dudley et al. (2017) have labelled ride-hailing technology as a successful disruptive innovator as a result of the conflict between workers in the industry and social acceptance of the technology (Fraedrich & Lenz). The introduction of autonomous driving has seen a continuation of a reactive approach towards sectoral adoption of autonomous driving, with the Licenced Taxi Drivers Association (LTDA) organising large demonstrations in protest against autonomous driving and ride-hailing applications (Tovey, 2016). In addition to social barriers, incidents such as the death of a pedestrian involving a self-driving Uber car (Rudgard, 2019) raise further barriers to autonomous driving. These barriers are related to the attribution of ethical liability if an autonomous car is involved in an incident, and have the potential to slow down adoption/development of autonomous driving (Taylor & Bouazzaoui, 2018).

Other than transportation and logistics, Davies (2017) identifies the service sector as one of the most likely employment industries to be impacted by AIA due to routine tasks being highly susceptible to automation. This has already become apparent in retail with self-checkouts, government departments with automated call centre operators, banks with smart ATMs, automated accountancy platforms, and general back office automated tasks. Social acceptance of AIA has already had a profound impact on the employment landscape, where technology has enabled greater convenience for customers in areas, such as online shopping and banking. Online banking can be considered basic technology, yet it has already had a widespread effect on employment, with bank branches across New Zealand closing and

reducing hours (Parker, 2017) due to customers having greater accessibility through mobile apps, online banking, and smart ATMs.

Prior to improved technological capabilities of the last decade, this would not have been possible. The nature of business is changing; what this means for employment relations is changing along with it. Even so, there is still limited clarity on managers' perceptions around the impact of AIA on the future of employment. Much of the knowledge regarding the future of work has been produced by scientists and technologists without addressing how businesses and managers intend to incorporate and use AIA in business operations.

### *Managing Employee Skill Sets Through Industrial Change*

The development of AIA for market availability is far from an instantaneous process, with both the creation and adoption of AIA expected to take several years (Agrawal et al., 2018). The relevance this has on employment relations corresponds to organisational strategy to prepare both management and employees for any potential change in skill sets that AIA is likely to cause as a result. One of the more recent historical comparisons is the introduction of computer-based technology in the 1980s (Ben-Ner & Urtasun, 2013). While the use of computer-based technology dates back to the 1980s, the most substantial change happened between 1970 and 1998. This period of change was characterised by an accelerated adoption of computerisation in conjunction with a rise in worker skill set (Autor et al.,1998). In this skill-based technological change, computer technology changed both the nature of work and the skill sets required to perform the work (Ben-Ner & Urtasun, 2013). Skill-based technological changes shifted the nature of work from paper-based processing to computer processing in the late 1980s, introducing an increased use of computers which – in turn – required an increase in worker skill set to perform nonroutine cognitive tasks (Autor et al., 2003). The ability to predict the impact that AIA is likely to have on employee skill sets is no simple task (Agrawal et al., 2018), but it should not act as a barrier, discouraging organisations from preparing for what it could mean for their organisation and for the potential impact on employment relationships, working conditions, and work prospects.

Autor et al., (2003) encourage the adaption of AIA, which they argue presents an opportunity to lessen the demands on employees by automating less cognitive, time-consuming tasks, and an opportunity to open the door for employees to develop deeper processing skills. Organisational strategy is consequential in that it measures the consequences of business decisions in future employment relations (Warwick, 2015). For example, if organisational strategy calls for cost reduction by reducing human capital through introducing AIA, one can expect to see staff reductions. However, if the strategy is to focus on burden reduction or process efficiency, one could expect to see AIA taking over several tasks and freeing up employee time to work in different areas of business operations (Habakkuk, 1962; Warwick, 2015).

Ultimately, automation is close to taking over some tasks, but we are years away from AIA replacing large proportions of the workforce, with both human integration and supervision still required to make AIA functionable (Michalski et al., 2013). There are certain applications where new occupations will be created to offset new technological capabilities introduced by AIA (Walsh, 2018). The concern this raises, however, is whether the skills that workers have today will be relevant for the future. Decisions made by organisations to adopt AIA should be as transparent as possible to provide employees with ample time to reskill if such training is required to expand their employment opportunities, rather than using redundancy as the primary solution (Agrawal et al., 2018). Lavigna (2014) addresses one of the issues businesses might face around reskilling employees, where employees' lack of motivation has the potential to form barriers to upskilling, especially in occupations that already require a low skill

set. Experts identify individual skills as one of the key indicators linking employees to job loss susceptibility where repetitive and less complex jobs (Frey & Osborne, 2017) increase the likelihood of exposure to AIA taking over some form of task. Research on employee insights into the future of work (Brougham et al., 2019) provide a much needed perspective into how staff perceive technology (i.e., AIA) impacting their future career prospects. Managers' perceptions offer the other side to the spectrum which is currently unaccounted for in the literature.

### *What AIA means for the future of employment relations*

Research to date has predominantly focussed around acknowledging the general impact of AIA on employment (Frey & Osborne, 2017), with limited explanation or research into how managers intend to incorporate AIA or further address employment relations issues that will arise as a result. The method managers and businesses use to implement AIA can be expected to have diverse consequences in employment relations, subject to the organisational strategy behind incorporating such technology. Managers' perceptions hold immense value towards understanding and evaluating the purpose of incorporating AIA. Whether it is to reduce tedious tasks, develop employee skill sets, promote a healthier work-life balance, or achieve cost reduction, we can expect to see some form of impact across the employment relations landscape in the future. The present study aims to give insights into how managers view the future of work in relation to employment so we can better understand how the relationship between the organisation and workers may develop as AIA continues to develop. This is important because, in 2018, 66 per cent of directors across New Zealand discussed how AIA could impact their organisation (Patterson, 2019), this is an increase from 2016 where over 40 per cent of New Zealand organisations were "considering investment in robotics or automation over the next year" (Smylie, 2016, p.1).

## Methodology

Eleven semi-structured interviews were used in this study to explore managers' perceptions of AIA and its impact on the future of work. Participants in this research were identified through purposive sampling (Bryman & Bell, 2015). The criteria for participation required participants to be responsible for the hiring and management of staff, with a general understanding and knowledge of employment relations. No prior knowledge of AIA was required to participate in this research.

The interviews were conducted in New Zealand between December 2018 and January 2019. Out of the 11 managers in this research, two worked for a small to medium-sized organisation with 20-49 employees, three worked for a medium-sized organisation ranging between 50 and 99 employees, and six worked for a large organisation with over 100 employees. No participants identified themselves as working in a micro or small business with fewer than 20 employees. Managers in this research represented a total of seven different industries; five managers were from the public sector; and six managers from the private sector.

An overview of participant information is provided in table 1 below.

| Participant | Industry | Sector | Organisation Size |
|---|---|---|---|
| MP1 | Business and Finance | Private | Large |
| MP2 | Education | Public | Large |
| MP3 | Business and Finance | Public | Large |
| MP4 | Energy | Private | Medium |
| MP5 | Transportation | Public | Medium |
| MP6 | Architecture | Private | Small |
| MP7 | Healthcare | Private | Small |
| MP8 | Business and Finance | Private | Large |
| MP9 | Transportation | Public | Large |
| MP10 | Information Technology | Public | Large |
| MP11 | Healthcare | Private | Medium |

Table 1: Participant Information

***Interview Questions***

The present study used semi-structured interviews to collect insight into managers' perceptions of AIA and what this means for the future of work. The interview structure consisted of follow-up and probing questions.

A sample of the interview questions included: (1) *What is the likelihood AIA will be integrated into your organisation or department once it is available?* (2) *Out of the employees you currently manage, how do you perceive your capabilities of hiring and retaining staff will be impacted through the introduction of AIA?* (3) *How do you envision the future of the workforce is likely to look like IF AIA is fully integrated into business operations?*

***Procedure***

The data were collected and analysed using thematic analysis with an inductive approach. The emergence of themes was constantly being monitored throughout the interviews, and data saturation was recognised to have been achieved within the 11 interviews included in this research (Guest et al., 2016). All audio recordings were transcribed by the lead author, and the participants were provided with a copy of the final transcript to validate it. The evidence of data saturation and interpretations of themes are presented in the results section of this research to clearly distinguish between participants' responses and our interpretations of them (Shank & Brown, 2007; McGregor, 2018).

## Results and Discussion

The results of this research introduced managers' perceptions of AIA and what this ultimately means for the future of work. Managers addressed how AIA could be used to enhance business operations while at the same time recognising what AIA could mean for employees' job prospects in the future. The managers' insights were distilled into six themes through thematic analysis outlined below.

***Theme 1: Cost-effective solutions through integrating AIA***

The managers identified cost savings as one of the initiatives for incorporating AIA into business operations. This presents a serious challenge for employment relations in the future where we can expect to see jobs made obsolete because of AIA capabilities. Some of the managers' comments include:

*"The speed of being able to do complex tasks and the cost as well. There is a lot less cost, so it's faster, more accurate, and costs less than human employees."* - MP11

*"The initial cost is massive, but you don't have to pay people to do things, you don't have to pay wages."* - MP4

*"If you've got five staff on one hundred thousand, and robotic process automation costs you a quarter of a million, you can save money."* - MP2

*"It takes 1,500 or 2,000 medical coders to transcribe all the records... if we can get the transcription done by machine... there goes 1,800 of those people."* - MP10

The correlation between technology and cost saving has been a continuing trend throughout history. Cortada (2006), for example, reiterates how managers in the 1980s introduced computing technology into organisational operations to reduce operating costs and to enhance efficiencies.

***Theme 2: Enhancing Organisational Efficiency***

Respondents emphasised organisational efficiency as one of the driving forces behind exploring the capabilities of AIA. This was primarily due to managers perceiving AIA to be capable of performing at a much higher rate than humans, and with fewer errors:

*"I see it as more useful and about efficiencies. The number of efficiencies gained would be where you make your wins."* - MP1

*"It just helps do things a lot faster. Efficiency is probably the main thing for us."* - MP11

*"In terms of what drives an organisation to explore or introduce and adopt new technology, fundamentally it's about efficiencies."* - MP3

Manager MP3 also felt that AIA would change the nature of work for employees as well:

*"With machine learning and advanced AI, you could reduce a lot of the burden such as paperwork."* - MP3

Managers in this study indicated that AIA is likely to be used for efficiency gains, and this observation corresponds with other prominent periods of technological disruption. The 1970s to 1980s saw a shift from paper- to computer-based processing which enhanced efficiencies for business and customers (Autor et al., 1998). This shift ultimately also saw the loss of several sectors such as assembly line, secretarial tasks and switchboard operators. With managers identifying efficiency gains as one of the primary incentives for adopting AIA, there is an increased likelihood of significant technological disruption across the workforce. Frey and Osborne (2017) predict that as many as 47 per cent of jobs will be impacted as a result of AIA.

***Theme 3: AIA Is Not the Solution for Every Scenario***

Research to date predominantly focusses on industries that will be impacted through the integration of AIA into the workforce without understanding the organisational agenda behind incorporating AIA and what this will mean for employment relations. The managers alluded to this saying that simply because a technology is available does not guarantee it will be incorporated into business operations:

*"That client service element …there is lots of client bots. I can't ever imagine us using them. I think there is always that client service element that will be required."* - MP8

*"[… whether] efficiency is a problem for that organisation or not. Now that will vary from one organisation to the next, one business to the next. If you look at a more commercial private sector lens, it varies between industry to industry as well."* - MP3

*"You cannot substitute [a human] and send a robot and tell somebody who's got brain tumour they only have three days to live... you can free up a lot of the roles of nurses and doctors from their administrative burden."* - MP3

*"There is so much manual stuff you have to do to see if they are eligible. I can't really see how you would gain a huge amount of efficiencies with automating."* - MP2

MP11 further indicated how certain industries, such as those where creativity is involved, are less susceptible to AIA due to the difficulty of AIA performing creative tasks:

*"I feel like a lot of creative fields won't get as heavily impacted as the logic-based ones because computers are not good at getting things wrong; they are good at getting things right. A lot of creativity goes around getting things wrong and trying new things." - MP11*

Levy (2018) addresses the importance of understanding organisational agenda rather than simply assuming AIA is going to have an industry-wide impact.

> The current debate on 'the future of work' or 'jobs at risk of automation' seems to implicitly adopt a pure science-push view, which assumes a path for technology driven by what science makes achievable, rather than what is needed by firms (p. 394).

To understand what impact AIA may have in organisations, we must first identify the reasons for organisations to adopt AIA rather than assuming every organisation or business will do so simply because it is available.

***Theme 4: Managers' Predictions of Industry Susceptibility to AIA***

One of the leading themes that emerged in this research is managers' predictions of industry susceptibility to AIA and what this means for the future of employment relations. Automotive and front-line customer service sectors were at the forefront of managers' expectations as to AIA influence. Additionally, managers expect that businesses will develop relevant employee skill sets if business is impacted by AIA, as opposed to resorting to redundancy.

*Automotive*

The managers identified employment within the automotive industry as very likely to be affected due to the rising capabilities of autonomous driving:

*"It doesn't take one person to manage one automated taxi. One person might be able to manage a fleet of 2000 automated taxis."* - MP10

*"Bus drivers potentially…they would be all on a designated self-piloted route to time."* - MP5

*"Self-driving cars and taxis… you can share cars and send them, and they will come pick you up and drop you off, and you don't even need to have a driver."* - MP1

It is anticipated that this will be one of the most AIA-susceptible industries, with the automotive industry regularly featuring in the media in relation to self-driving cars and the expected capabilities of autonomous driving level 5 which enables the vehicle system to drive completely autonomously without any human interaction (Harner, 2017).

*Frontline customer service*

The managers identified customer service positions as another industry/occupation susceptible to the impact of AIA implementation in business operations:

*"In the call centres and branches where actually people do not need as many staff."* - MP1

*"Because the checkouts and all this sort of stuff, you don't need as many people."* - MP4

*"The service stuff like the way that you see, we no longer have to deal with someone at the gas station or McDonald's counter if we don't want to."* - MP10

*"You've got to kind of find that fine balance where customers can do their own stuff, but where they can also have human support if they need."* - MP1

*"We will have a system that people can log in, and they can answer questions themselves, and it does it for them…Because at the moment, we have people that do that."* - MP10

Kim et al., (2014) outline the impact that self-service and customer independence has on employment where "the customers can actually perform the work that an employee might otherwise perform, and thus the customers actually replace an employee" (p. 256). Given the prevalence of these types of jobs within the New Zealand context, it is reasonable to expect to see a continual impact on employment towards more customer-integrated services, leading to a reduction in the workforce within the industry.

***Theme 5: Organisational Initiatives to Enhance Employee Skill Sets***

Responses from the managers outlined solutions to minimise the impact of AIA on employment. One of the key themes that emerged was the importance of organisations taking responsibility to develop employee skill sets in other areas of business operations as a method of minimising the impact on employment relations:

*"If you are suddenly saving one million dollars because you have a robot that can do a job of ten people and in half the time with zero errors, I would expect most companies will put five hundred thousand dollars of that into training people doing things we still need them to do."* -MP1

*"What it will mean is that actually people in those roles will be able to re-train, and I think a lot of people want to do that… you will have people who will want to specialise in something or move into a different department."* – MP3

*"… potentially having a programme where you can identify a cohort of people in your business who might want to retrain in another department."* - MP9

The managers did not consider themselves immune from the impact of AIA; they identified the importance of continuously adapting their own skills sets as AIA continues to develop:

*"What it means for me is my skills will need to constantly evolve and adapt."* - MP9

*"Adapting. If I look back to when I was your age, thinking about how the career design has changed for two decades, it's made me keep catching up."* - MP5

Given the strong indication from the managers that adopting AIA for cost-saving and efficiency purposes would be a good idea, we think that investing in employee skill sets goes some way towards minimising the impact of AIA on employment relations. It is also likely that new jobs will be created as the introduction of AIA creates a need to develop new skills (Manyika et al., 2017). However, this poses certain challenges, for example, employees may be resistant to the idea of reskilling into different areas of business operations, especially when moving from a non-technical role into a technical one as required or imposed by managers:

*"Job descriptions will probably evolve to reflect the changes that have happened as a result of adopting new technology."* - MP3

*"We are going to need people who are more savvy in terms of being able to look behind the technology."* - MP8

***Theme 6: Reduction in the Working Populace***

The managers also raised concerns over AIA resulting in the displacement of workers and leading to large-scale unemployment.

*"The obvious picture is that eventually there are too many people and not enough work because of what AI can do… because you don't need as many people."*- MP4

*"They are talking in certain areas of a fixed wage or a living wage being given to the populace."* - MP4

*"We need to work through with the greater society, I think there is going to be a massive breakdown with things that we don't have."* - MP5

*"I don't think we can create as many new jobs as we can remove."* - MP10

*"It is going to be different from what we ever expected because of how quick we are moving; we are not going to be able to guess what that is accurately. I think a lot of jobs we have now won't exist in ten, twenty years."* - MP11

Not all managers predicted mass unemployment, with MP11 addressing it as a period of adjustment that will be required to develop the necessary skills which the marketplace demands:

*"I don't see it as suddenly there will be a mass of unemployed. There will be a period of adjustment for all of us where we have to reskill and move into different areas and into different careers."* - MP11

*"It is just a question of when these things will be accessible to us. It could just be around the corner and overnight."* - MP9

This raises a large level of uncertainty pertaining to the future of employment, with managers predicting large-scale unemployment. If this does eventuate, it will be paramount that we continue to conduct further research to understand whether this will be a long-term or temporary phenomenon as the labour market acclimatises to the impacts of AIA, with reskilling to meet changes in work as well as the potential creation of new work.

MP11 addressed the complexity of predicting the future, citing previous industrial revolutions leading towards new and unimaginable outcomes.

*"I don't think it's easy to guess what future jobs there will be. At the moment it's kind of guessing. Before the Industrial Revolution, everyone is basically farmers, then they suddenly start mass-producing things. Then we became office workers; I don't think anyone predicted that we would be sitting in front of computers all day, not going outside at all."* - MP11

Our experience of previous industrial revolutions indicates that technological developments have largely contributed to wide-scale disruption across the employment relations landscape. However, as new jobs emerged, labour laws and regulations were developed to match the changes. To what extent is this the case with AIA is yet to be seen. It will depend on our evolving understanding of AIA capabilities as well as how managers and businesses intend to develop initiatives to minimise AIA's impact on work and employment relations.

## Conclusion

The results from this research indicate that managers expect AIA to result in instability across the employment landscape. The interviewed managers identified cost-saving and efficiency as primary incentives for investing in AIA, which they predicted would result in a substantial reduction in employment numbers in the future. One of the methods the participants identified to offset the expected impact on employment is to reskill employees in other areas or tasks within business operations. This presents an opportunity for both employers and employees to collaboratively develop interesting work (Burchell et al., 2014) in addition to reducing burdensome aspects of work for employees. The results of this research indicate that, if the organisation's primary objective of introducing AIA is to reduce cost and ultimately employee numbers, we can expect to see a breakdown in employment relations. However, as managers have indicated, technological adaptability is important: simply because a form of AIA exists does not guarantee it will fit within business operations. From this aspect, it is imperative to develop effective solutions for incorporating AIA into business operations, such as the capability of AIA improving work for employees as opposed to strictly reducing staff numbers.

The significance of this pertains to managers and businesses achieving and maintaining good faith in the employment relationship through effective social dialogue with the workforce concerning the introduction of AIA. From this point, discussions can be formulated between the manager and employee to develop initiatives utilising employees' skill sets within business operations if employment is expected to be impacted as a result of AIA.

Concerns raised by the managers involved in this research identified the susceptibility of certain industries and what this ultimately means for employment relations in the future. Managers addressed specific concerns regarding the automotive industry where we can expect to see a large shift towards autonomous driving services in the future. There are high expectations regarding the capabilities of AIA, and it is likely that employees will ultimately be automated out of work once the technology becomes available and ubiquitous.

This research aimed to understand managers' perceptions around AIA and what this means for the future of employment. While this research might not offer conclusive decisions on how to minimise the impact of AIA on employment, it introduces the importance of social dialogue to collaboratively manage the impact of AIA on work and employment relations. The results signal the need to further explore how this collaborative process will occur and the role of all stakeholders in ensuring the transition to AIA-based work is a smooth one.

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