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Retention of skilled migrants in the New Zealand Dairy Industry

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Abstract

The retention of skilled migrants is a key issue facing many industries. This study focusses on factors that enable and hinder retention of skilled migrants in the New Zealand dairy industry. A model was developed from existing literature containing four contexts for migrant experience and five key migrant experience process stages. From this model, a self-completion questionnaire was developed and then distributed via four dairy organisations to those migrants workers who were retained. Findings discuss the six most important retention factors identified: pride in the industry; opportunities for career advancement; skill and knowledge enhancement; commitment to the industry; enjoyment of the job; and good work relationships. Analysis of qualitative data showed where industry improvements could be made: work practices and pay; a coordinated communication strategy from the industry; more efficient government immigration processes, and coordinated policy around cultural and social integration. Two contributions – practical and theoretical – are provided.

Key Words: dairy farming; migrant workers; dairy workers, cattle workers, farm workers

Introduction

The New Zealand (NZ) dairy industry is NZ's largest exporter, earning some NZ$14,576 billion in export revenue in 2012 and contributing approximately 3 percent to NZ's gross domestic product, according to the Ministry of Primary Industries (MPI) (2014). Over the past decade, there have been significant structural changes to the industry due to an increase in corporate ownership of farms, conversion of commercial forests and sheep and beef farmland to dairying, increased herd sizes and technological advancements in production, animal health and genetics. There are now approximately 4.78 million cows in NZ in 11,891 herds, and approximately 26,577 people work in dairy farming (LIC, 2014). In NZ, there are approximately 11,798 dairy herds with the average herd size of 402. Over the last two decades, national production has increased by 77 percent (MPI, 2014). Inside these facts and figures about NZ dairy farming is a human element: the increasing reliance NZ dairy farm managers have on skilled migrant labour to sustain these levels of productivity.

Dairy farming has long been considered a challenging and dangerous occupation, with high employee turnover. An industry report in 2008 determined that a human resource crisis existed in dairy farming (Wilson & Tipples, 2008) and since then the industry has undergone a demographic transformation: skilled migrant labour is now essential to the sustainability

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and global competitiveness of the industry (Trafford & Tipples, 2012; Strack, Baier & Fahlander, 2008). This is reflected in the Dairy Industry Strategy for Sustainable Dairy Farming 2013-2020 which states the following as one of its strategic objectives: "Talented People: Attract, develop and retain highly skilled and motivated people throughout the industry" (DairyNZ, 2013).

Migrant workers have always been essential to the NZ dairy industry (Rawlinson, Tipples, Greenhalgh & Trafford, 2012). Migrants have flowed into the industry throughout its development, most notably with the influx of Dutch migrants in the 1950s. However, over the past decade this reliance has accelerated, and over the past decade migrant workers have originated from some 62 two source countries (INZ 2014a). Between 2009 and 2013, these migrants predominantly came from the Philippines, Fiji, South Africa, India and Great Britain (INZ, 2014b). Over the past five years, an average of 1900 temporary work visas have been approved annually to migrant workers for employment on dairy farms (INZ, 2014b). A number of these visas are re-issued to migrants currently working on farms in NZ due to the ongoing need to renew visas upon expiration of the initial temporary work visa. DairyNZ has estimated that 4,600 non-New Zealand born staff work on NZ dairy farms (Trafford & Tipples, 2012). This number is not an indication of the total number of Skilled Migrant Dairy Workers (SMDW) employed on farms at any one time as temporary work visas are issued for periods of up to three years.

NZ dairy farmers are competing globally in a number of areas; efficiency, product quality, and increasingly, over the past decade, for skilled migrant labour. Migrant labour is an increasing component of the labour markets of many economies (Preibisch, 2010) and global competition for migrant skilled labour has intensified (Benson-Rea & Rawlinson, 2003; Bürgelt, Morgan & Pernice, 2008, Khoo, McDonald, Voigt-Graf & Hugo, 2007). Around the globe, workforces have become increasingly diverse, more educated and more mobile and retaining human resources is one of the most pressing challenges of businesses. Considering the global nature of dairying, the decline in relative numbers of migrants compared to host nation alternatives, such as Australia and Canada, should be of concern – see Figure 2 below.

Figure 1: Visas approved for Dairy Farming Occupations 2009 – 2013, Top 20 nationalities

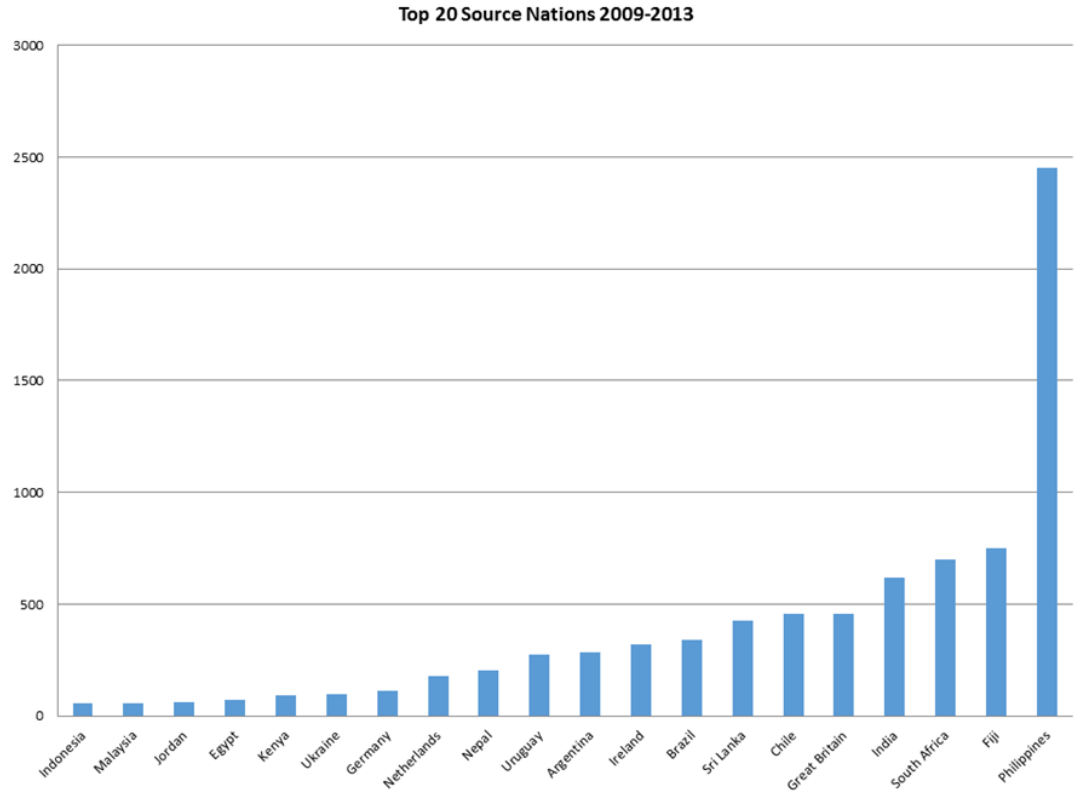
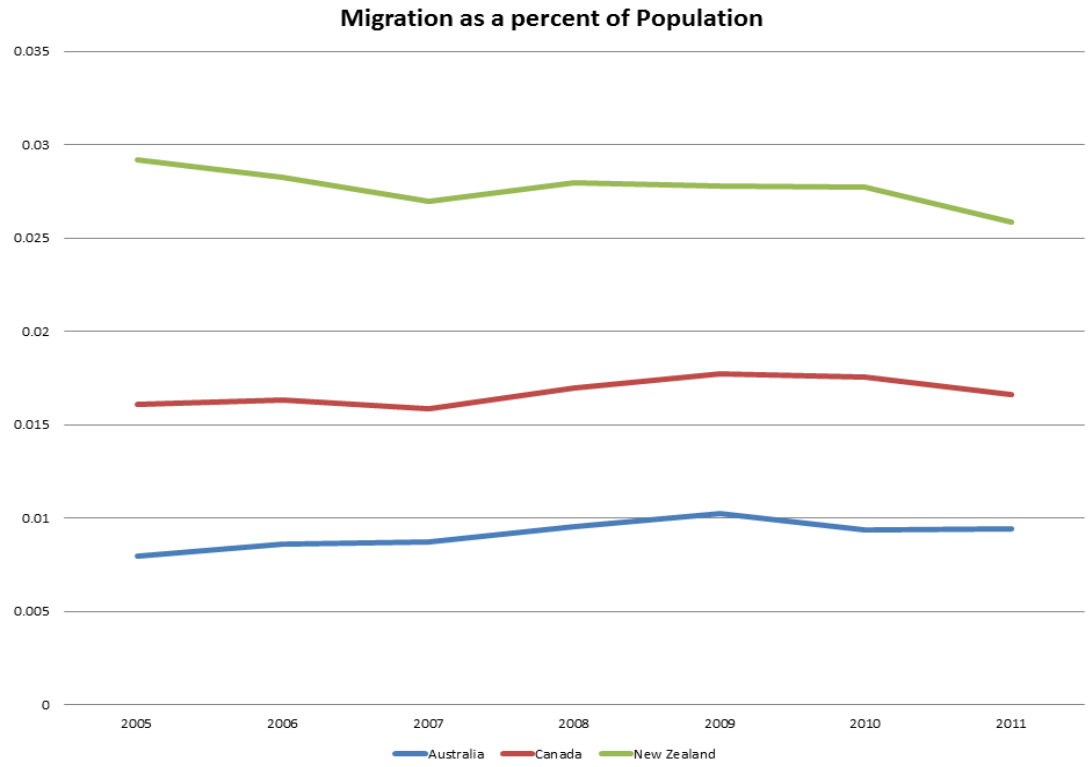


Figure 2: Comparison of Rates of Migration with Alternative Host Nations for SMDWs



As the competition for skilled migrant labour intensifies, human resource management (HRM) practices within the NZ dairy industry will need to ensure they are of the highest standard (Khoo et al., 2007). Attraction to the industry will not continue if HRM practices are less attractive than those in alternative host nations. The dairy industry needs to retain skilled and motivated people and because of the lack of NZ originating skilled dairy workers, and competition from other nations for skilled labour. The research questions are thus:

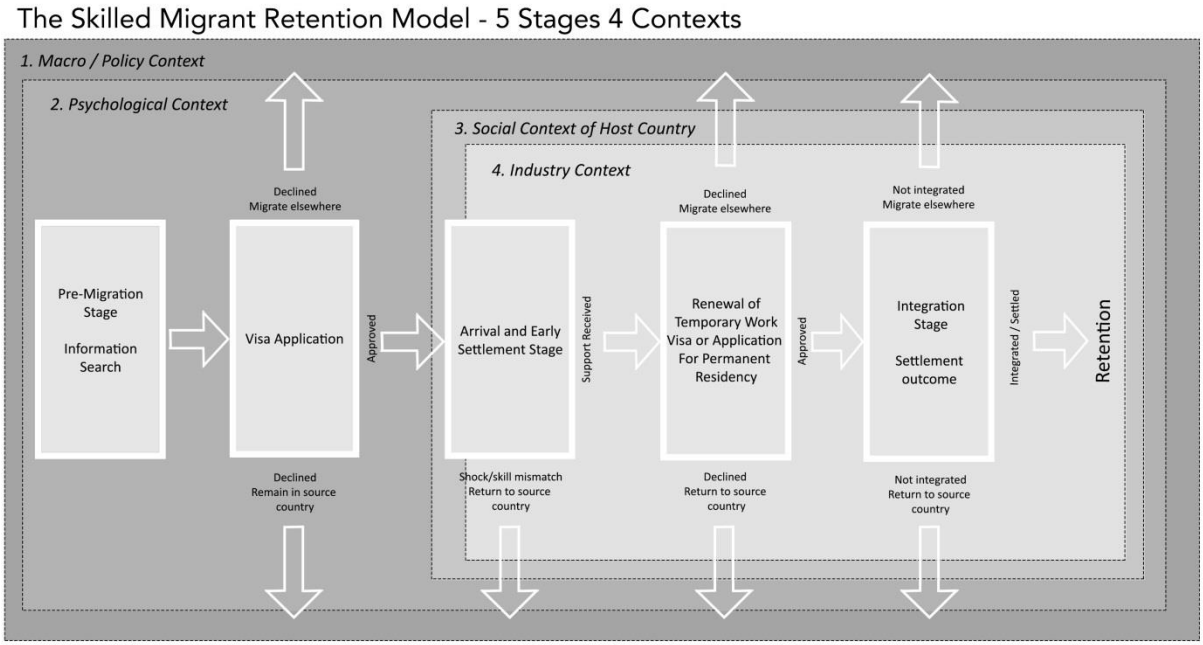
1. What are the challenges and opportunities encountered by skilled migrants who have relocated internationally to work in the NZ dairy industry?
2. What are the most important factors in enabling migrant integration, settlement and retention in the industry?

This paper is structured as follows. First, existing literature is reviewed and a comprehensive model is presented. The model discusses factors that impact on retention of migrants and illustrates four distinct but interrelated contexts and five experiential processes. Methods, findings, and contributions to practice and theory are then discussed.

Migrant retention model

This section draws upon existing research to propose a comprehensive model of migrant retention used as a basis for the development of the questionnaire used in this research. Figure 3 below shows the model developed with four contexts and five key process stages:

Figure 3: Retention of Skilled Migrants Model: Four contexts and Five Stages



This model is adapted from the Migration Process Stages Model formulated by Benson-Rea and Rawlinson (2003). They investigated and analysed the migration process at five stages; the pre-migration stage, the information search and migration decision stage, the migration and arrival stage, the post arrival and early settlement stage and the settlement outcome stage. Using a process stage model enables researchers to focus on migrant experience from the perspective of migrants themselves. Understanding the process in a holistic way as a process of retention means that the key points of tension and discomfort with cultural, social, psychological, employment and key institutions can be identified and analysed. This framework for understanding migrant experience considers migrants as valued employees of both the state and dairy industry. In Figure 3 above, two key stages have been added to the original model: two interactions with Immigration New Zealand (INZ), initially through a visa processing branch associated with the home nation and following that, at least one, and sometimes multiple encounters, with INZ in the host nation. These stages are critical in the process towards settlement and retention.

Figure 3 above shows contextual factors impacting upon migrant experience. The first context – the macro policy context – includes the external economic environment, policy and legislative environment. This context includes the economic and lifestyle relativity of the source nation and the host nation, and that of alternative destination nations as well as immigration policy. Factors specific to the NZ dairy industry include macro-economic factors, such as global dairy prices and farming income, exchange rates, the domestic unemployment rate, aging populations and structural changes in the industry. Employing migrant labour as a response to skill and labour shortages is an alternative to increasing wages to compete for scarce domestic labour. Migrant skilled labour is attracted to a location through two interrelated mechanisms; the view of labour being matched with economic opportunity and, more recently, the view of labour being attracted to a location that provides a range of lifestyle amenities (Gottlieb, 1995).

The second interrelated, contextual factor is the psychological context of the migrant prior to arrival and during settlement. To enhance the likelihood of migrants staying, it is essential to gain an understanding of the social and psychological factors that contribute to enabling them to stay (Bürgelt et al., 2008; Carr, 2004). Carr (2004) suggests that people are motivated to relocate to work in another country because of five key reasons: 1. Economic factors – including the promise of better economic opportunities; 2. political factors – including dissatisfaction with the political environment in the home nation; 3. career factors – including career development opportunities; 4. cultural factors – including migrating to countries that are culturally similar, or conversely, migrating to countries that provide opportunities for encountering diversity; and 5. family factors – including opportunities for family members. However, the literature also suggests that the majority of self-initiated skilled migrants are most concerned with accumulation of transferable skills which are valuable on the global labour market (Stahl, Miller & Tung, 2002). Skilled migrants to rural NZ, who have entered since the onset of the skills and qualifications-based immigration policies, have in general higher levels of education than their host country counterparts. This has also been found to be the case with migrants in rural Australia (Massey & Parr, 2012).

As well as accumulating human capital, skilled migrants are concerned, of course, with their own psychological wellbeing and that of their families. Mähönen, Leinone and Jasinskaja-Lahti (2013) use three indicators of psychological well-being in migrants; satisfaction with life, general well-being and general mood. They suggest that in the pre-migration phase information offered to voluntary migrants should create realistic expectations. If expectations are too positive they will lead to disappointment when expectations are not met. Host countries need to live up to the image they portray to attract migrants.

The third interrelated context is social and cultural context of the host country. Long term acculturation requires both psychological and sociological adaptation (Ward, Fox, Wilson, Stuart & Kurs, 2010; Berry, Phinney, Sam & Vedder, 2006). Psychological adaption affects a person's sense of well-being and sense of life satisfaction within a new culture (Ward et al., 2010). Social adaptation involves a person's ability to successfully participate in cross-cultural encounters (Ward et al., 2010). In order for that brain gain to be retained, there needs to be a fit between the level of talent and the surrounding social and cultural environment (Jackson et al., 2005). Non-alignment between these two factors can cause mental health problems in the migrant worker (Pernice, Trlin, Henderson, North & Skinner, 2009). There can also be negative social and economic consequences to not utilising talent because of locally held prejudices or parochialisms (Coates & Carr, 2005). Bürgelt, Morgan and Pernice (2008) determined that migrants need resource structures before they embark on their self-initiated relocation. Resources structures can include: realistic expectations of the host nation, language competency, knowledge of the migration process, cultural awareness, and adaptation strategies. Individual skilled migrants select their destination location and firm based on these and other conditions (Weng & McElroy, 2010). These resource structures enable migrants to mitigate the social/cultural challenges they will inevitably encounter in their host country. Migrants can experience significant challenges relating to changes in their socioeconomic status when they first migrate (Pumariega, Rothe & Pumariega, 2005). They often experience dips in their standards of living, especially relating to relationships with supervisors, co-workers and the community. Community infrastructure to support migrants is critically important. Khoo et al. (2007) found that social networks were particularly important for those migrants planning residency.

From migrant workers' perspectives integration (not assimilation) is the ideal aim; workers should feel 'at home' in their host country but they should be able to express their own cultural rituals and relate to people with similar cultural values. From the host country's perspective, diversity brings many benefits (Berry, 1997; D'Netto & Sohal, 1999), as it has positive economic implications (Florida, 2002), access to different knowledge bases and knowledge networks (Collings, Doherty, Luethy & Osborn, 2011) and diversity enhances society's adaptability (Berry, 1997). New Zealanders are generally strongly supportive of diversity with a positive attitude towards migrants and multi-culturalism (Ward & Masgoret, 2008; Zimmermann, Bauer & Lofstrom, 2000). However, qualitative research tells us that the NZ rural community is not so accepting of migrants (Rawlinson et al., 2012). Employers play a vital role in the integration and thus retention processes (Chen, Ward & Coulon, 2013).

The fourth contextual factor, of most direct significance in the current research, is industry contexts, which includes issues around about employment and employers as well as the industry more generally. The macro policy context, psychological and social/cultural contexts are all still relevant but the focus is more on direct consequences arising from the employment relationship itself. Hausknecht, Rodda and Howard (2009) derived a set of 12 factors regarding employees' reasons for staying within an employment setting. Job satisfaction – the degree to which employees liked their job – was the primary retention factor. People enjoy the intrinsic attributes of their work and thus are more likely to be retained by their employer, a factor borne out in other NZ-based research (Boxall, Macky & Rasmussen, 2003). Following job satisfaction, extrinsic rewards such as pay and benefits, was the secondary retention factor (Hausknecht et al., 2009). Organisational prestige or the degree to which an organisation was perceived to be well regarded and reputable also affected an individual's desire to stay. Having good relationships with supervisors and co-workers is also an important factor in retention, a factor which is also found relevant to NZ employees (Boxall et al., 2003).

In the case of migrant dairy workers, the most relevant research on job satisfaction conducted in the United States measured four dimensions; feedback, autonomy, variety and task identity (Fogleman, Milligan, Maloney, Knoblaunch 1999). Poor feedback from employers had the greatest impact on job satisfaction. This is especially relevant because feedback is something employers can control. Dairy farm workers are usually aware of the requirements of demanding dairy farm work: there are often high workloads, time pressures, long hours and seasonal fluctuations. Good employer communication and feedback helps employees remain motivated throughout the challenging circumstances of the work. These contextual factors impact on migrants seriously considering returning to their source nation; episodic desires to return are interspersed often through the first five years of settlement and peaks occur at about one and two years (Hartog & Winkelmann, 2003).

Employers have a direct impact on the experience of employment; but the industry also needs to set standards in a responsible way. For instance, there should be opportunities to acquire and enhance skills. The primary reasons Australian employees stayed with their dairy farm employers included opportunities to increase skills and knowledge and good working conditions (Nettle, Semmelroth, Ford & Zheng, 2011) . Also, a sense of ownership, which is important to work's meaningfulness, can be fostered. Most importantly, conditions of work and pay need to be monitored and managed. Another factor relevant to the industry as a whole is the importance of the industry reputation. Reputation depends on word-of-mouth from migrants which emerge from general feelings migrant workers have about their work,

how valued their contributions are, and the extent to which they feel the industry cares about their well-being (Boxall et al., 2003; Hausknecht et al., 2009). Other factors included extrinsic rewards, feedback received for a job well done, and the availability of a mentor.

Employers can have a significant role in the retention and settlement of migrants (Chen et al., 2013). Examples of employer initiated support include inductions, cultural and diversity awareness for domestic staff, settlement support, language support programmes, mentorship schemes and ongoing training (Chen et al., 2013). However, Wuffl, Carter, Vineberg and Ward (2008) contend that long-term retention of migrants to rural communities depends as much on non-work related factors as job related factors. Rural communities needing to retain skilled migrants need well-planned and developed social support infrastructure to enable migrants to build social connections to the community. Such infrastructure can provide opportunities for individuals to participate in learning activities, join sports and religious organisations, socialise and develop trust with neighbours. It is through these activities that skilled migrants can be integrated with their communities and retained for the long term. Wulff and Dharmalingam (2008) also found that the settlement assistance migrants received from their employers had an effect on their retention. Such assistance can include settlement counselling, accommodation, information about the area, putting the migrant in contact with community groups and general assistance with integration, not assimilation (Chen et al., 2013; Pernice et al., 2009). In NZ, Tipples, Rawlinson and Greenhalgh (2012)) have discussed how the Filipino Dairy Workers New Zealand (Inc.) have responded to this need to facilitate social integration in their community.

Favourable HRM environments for talent growth lead to increased attractiveness of a region. The key to attracting and retaining self-selected migrant talent is based on providing and sustaining a conducive HRM environment. The HRM environment can be influenced at the national government level, by local government, by industry associations and/or the firm level. An attractive HRM environment is essential to ensuring the retention of globally mobile skilled labour (Weng & McElroy, 2010) .

Research design

The purpose of this research was to identify the factors that enable integration and retention of skilled migrants who have moved to NZ to work in the dairy industry. A literature review revealed the most likely factors impacting on integration and retention of SMDW, and these factors are represented in Figure 3. The survey was designed to gather information across a broad range of possible factors that impact on migrant dairy workers' experiences. Textual fields were added to the survey to gain information from participants about their experiences with migration and integration at key process stages. Collecting both quantitative and qualitative information enabled a comprehensive picture to be gained about the overall experiences of retained migrants, as well as more specific information about where improvements could be made.

The sample of skilled migrants was obtained from foreign born individuals who had been working in the NZ dairy industry for more than three years. Beine, Docquier and Rapoport (2007) define skilled migrants as foreign-born workers with university or post-secondary training. For the purposes of this research, retained skilled migrants were defined as foreign born workers who migrated to NZ to work in the dairy industry, who hold a relevant

qualification or who had undertaken two years of work experience in a related job prior to coming to NZ, and who had spent three years or more working on dairy farms in NZ. This research did not identity migrant source countries and so cultural differences were not investigated. This is a possible area for further research.

Migrant dairy workers are a diverse and geographically distributed population. There is currently no unified professional body representing their interests. Consequently, the questionnaire was delivered through social networks most likely to reach the target population. The self-completion questionnaire was distributed through the following four supportive organisations:

1. Federated Farmers of New Zealand via a direct email to members
2. The Primary Industry Training Organisation (ITO) via a link within their online newsletter
3. The Filipino Dairy Workers of NZ incorporated society via Facebook
4. Settlement Services, a division of INZ, via a survey link within their online newsletter.

Participants were asked to forward the survey if they knew of migrant dairy workers who might be interested in participating in the research. The survey was distributed in February 2014. In total, 98 responses were collected over three weeks. Seventy-three fit the criteria of retained skilled migrant workers. The number of responses received enabled the data to be significant; $F(20, 1495) = 12.72$, $p<0.01$.

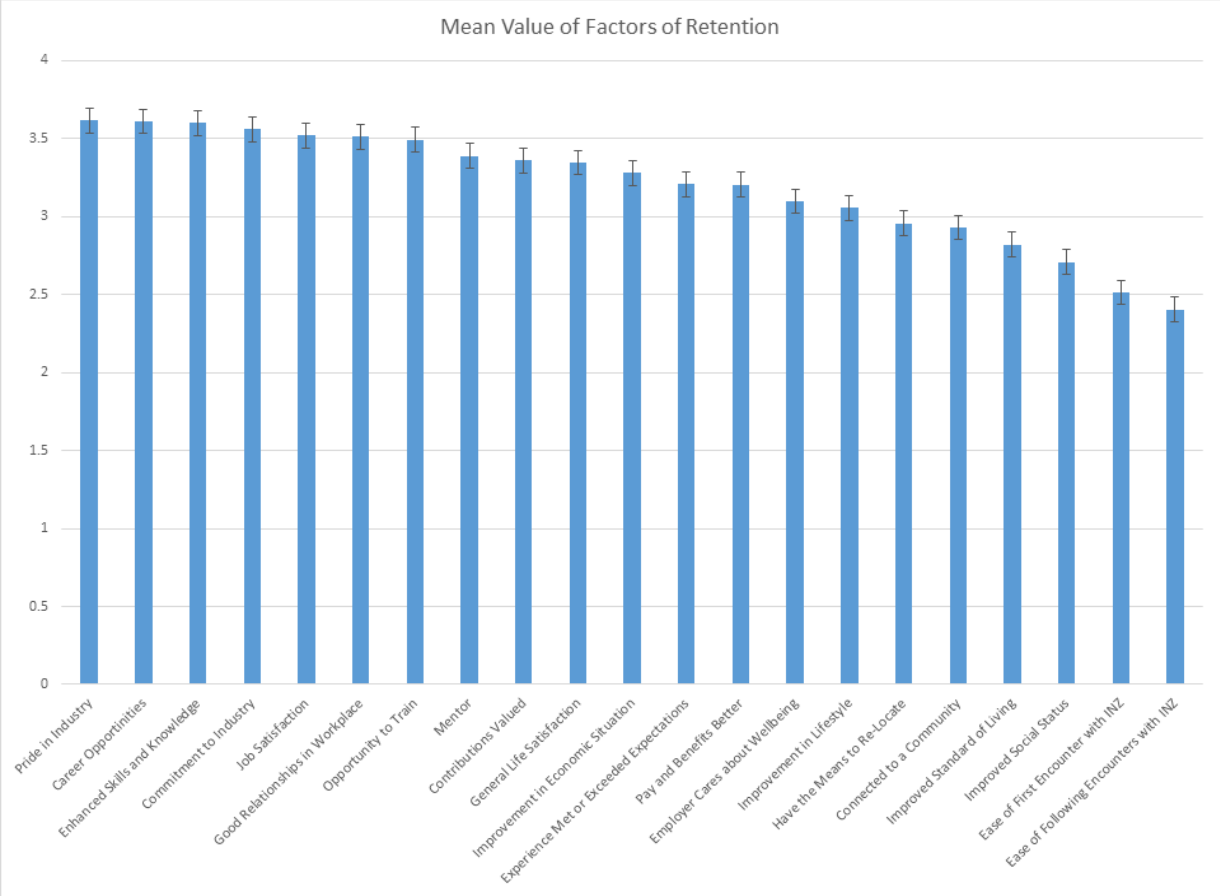
The questionnaire comprised of 27 questions relating to integration and retention of SMDW. Questions 1 and 2 determined the participants met the criteria of retained SMDW. Question 3 asked about motivation for migrating to NZ. Questions 4 to 26 related to the four contexts. The final question 27 asked about season of arrival as previous research suggests this might affect retention success at the arrival stage. The greatest demand for labour on NZ dairy farms is during the months of July, August and September when work hours are longest and stress levels are highest amongst employers and employees. The majority of the questions on the survey, questions 5-25 were answered on a Likert scale.

Qualitative data was thematically analysed in relation to five key process stages. In the following discussion, we confine discussion to the six most important factors that impact on retention revealed by the study. We use comments from the qualitative data to illustrate dairy workers' opinions about these factors. We then discuss suggestions for improvements using comments where migrants note dissatisfaction or mixed feelings about their experiences.

Results and Discussion

Figure 4 below combines all 21 factors of retention identified from the literature and asked about in the survey. The most important factor has the highest value mean and the least important factor the lowest value mean.

Figure 4: Mean Value of Factors of Retention for Retained SMDWs



The results identify that the six most important factors to SMDW in the NZ dairy industry are, in order of importance:

1. Having pride in the industry
2. Having career advancement opportunities
3. Having the opportunity to enhance skills and knowledge
4. Having commitment to the industry
5. Enjoyment of the job
6. Having good relationships with supervisors and co-workers.

Migrant farm workers in NZ indicate that the strongest factor impacting on their retention is the pride that they feel as part of the NZ dairy industry. Ninety six percent of retained migrants strongly agreed or agreed that they were proud to be working in the dairy industry. The degree to which an industry is perceived to be well regarded and reputable is a significant factor in retention (Hausknecht et al., 2009).

The second most important factor, which is also related to the third factor, is opportunities for advancement. Eighty two percent strongly agreed or agreed that their economic status had improved compared to that in their source country. Many respondents commented on the economic opportunities they had realised working in the dairy industry, progressing from waged migrants to farm ownership.

> *I came [...] to NZ in 2002. Worked myself from the bottom up as farm worker up to 2005, being farm manager. Now I am farm owner in NZ and permanent residence since 2005. We think it is very hard work here (with working in the early hours and growing numbers of cows) but very rewarding.*
>
> *I have started at the bottom of the chain and worked myself up to become a land owner which would have been hard in the country I was born.*
>
> *Huge opportunity to manage/control/supervise/involvement in NZ dairy farming.*
>
> *I am lucky enough to find nice employers in my 5 years farming in Canterbury. I am currently a 2IC [second in charge] and I would say I have fair opportunity to up-skill and advance on the farm.*

The third factor is opportunities to enhance skills and knowledge. This factor is closely related to the second factor of opportunities for advancement. Ninety six percent of all respondents strongly agreed or agreed that they had the opportunity to undertake training. Respondents commented;

> *… going to the ITO, helps to meet people on our industry plus making friends. I just finished Ag ITO course level 3 supplied by my employer and he is permanently training me. I am being paid very well.*
>
> *New Zealand dairy industry help me to improve my career and other related organisation help me by their helpful training.*
>
> *Wonderful opportunities. Have already undertaken Level 3 ITO and am now doing level 4.*

An industry which promotes growth and enhancement of skills and knowledge will in turn attract further talent (Weng & McElroy, 2010) and workers are more productive when they are working with others who possess a high level of skill (ibid).

The fourth factor is commitment to the industry. The level of commitment to the NZ dairy industry as an important factor in retention indicates that the high level of intrinsic motivation that migrants bring to the dairy industry and the need for similar commitment from the dairy industry to the migrants. Comments that indicate this commitment include:

> *Employees effective, efficient and with a serious work commitment seems to be a surprise for kiwi employers.*
>
> *I really enjoyed working on a farm here in NZ although DAIRY FARMING is a hard work that requires dedication but there's a lot of rewards. At the end of a long day, we take great pride, we are happy knowing the worked we DO matters to so many families. This dairy farm experiences are the key to follow our dreams, to survive and to succeed in LIFE.*

A more ambivalent comment about commitment was:

> *My employers have been supportive to me but they still trust local kiwi as managers which unfortunately have always been unreliable and disappointed them.*

The fifth ranked factor was job satisfaction. Even though job satisfaction was ranked fifth, it was still at the 90 percent level. Shea (2009) argues that a dairy business' successes are directly related to their HRM practices. Personal relationships within the business, intrinsic and extrinsic rewards, training and camaraderie all result in retention. Comments included:

> *I am very satisfied with my job experience with my employer here in NZ. They are very supportive to us and very sensitive with our well-being, we are very grateful for them.*

> *Dairy farming in NZ is much more advanced than in my home country, more focused, and very particular to health and safety which actually is very good. I have learned a lot and I am still willing to learn more.*

The sixth ranked factor was having good relationships with supervisors and co-workers. Positive relationships create support which leads to commitment and retention. Mentoring programmes and "buddies" significantly enhance the likelihood of success (Collings et al., 2011; Nettle et al., 2011; Chen et al., 2013). Relationships with employers are very important to dairy workers because the employer acts as the primary gate keeper (Wulff et al., 2008). In addition, the employee is often living on and in the employer's property. Isolation also intensifies the importance of the employer and co-workers. Many comments were made regarding the assistance received from employers, and dairy workers were grateful and touched by the efforts made by individual dairy managers to make them feel 'at home'.

> *I am very satisfied with my job experience with my employer here in NZ. They are very supportive to us and very sensitive with our well-being, we are very grateful for them.*

> *Our employer provided us a fully furnished home.*

> *Awesome and great employment experience.*

This initial positive experience on arrival significantly increases the likelihood of retention of skilled migrants.

Other factors of significance to our discussion include the issue of lifestyle. Studies investigating migrant motivations for migrating to NZ have showed lifestyle as the primary motivator (Malinen & Johnston, 2011). Our results indicate that although lifestyle is still a factor for general immigration to NZ, for dairy workers other factors like career opportunities are more important.

Another issue relates to extrinsic rewards. Hausknecht et al. (2009) determined that the second most important determinant for employees staying in their job was extrinsic rewards, such as pay and benefits. However, the retained respondents of this study indicate that pay and benefits was the 13th highest determinant for retention. Comments that express how the

benefits of pay and compensation were weighed up against the benefits of advancement and lifestyle include:

> *Even if I can relocate internationally, I'd rather not think about it. I am very satisfied with my job, my compensation, my family and life in NZ.*
>
> *When we left […] in 2002 it wasn't a very popular occupation to be a farmer. In the meantime it has changed quite dramatically and now we see the opposite. Still we like to stay in NZ.*

Despite this seeming satisfaction, only 80 percent strongly agreed or agreed that their pay and benefits received were better than in their home country. This does not necessarily mean that respondents were happy with their pay and conditions as they were currently experiencing them. When looking at the actual comments there was considerable dissatisfaction and ambivalence evident about working conditions in the dairy industry.

> *I am not that satisfied with my career opportunity at the moment and if a better opportunity comes along even outside NZ, I will grab it.*
>
> *I heard that Australia and Canada are stricter about their labour hours.*
>
> *They need to look into dairy […] workers future here because at the moment residency visa is quite hard to have It's not long from now when majority of us decide move to Australia or Canada for a much more chance having security for their family having residency.*

These comments indicate that although the experience of SMDW in the dairy industry is largely positive in terms of comparison with their country of origin, there is some mixed feelings and dissatisfaction evident amongst this population. Considering the competitive nature of skilled migrant labour and the choices available to skilled dairy workers, these comments require further analysis in order to provide guidance for the NZ dairy industry as to what they can do to improve their labour force's experiences.

Areas for improvement

In this section, we discuss five areas of improvement suggested by our results. The first area to which attention should be given is working conditions and pay. Rural migrant workers sometimes exist in poverty despite being skilled, for example in the USA (Jensen, 2006). In NZ, only 54 percent of retained respondents strongly agreed or agreed that their social status had improved through migrating to NZ. Migrants often experience an initial decrease in social status upon migration, but they should recover from this. Comments were made about the long hours worked, poor working conditions and pay rates.

> *I think my employer treat us like machines, and just change it when it is broken.*
>
> *We worked about 16 to 17 hours a day, and sometimes more hours if there was a problem on the cows (this always happens during calving time). We thought that it was normal working time in dairy farming. Then we had found out that the other*

farms had lesser hours. NZ dairy industry has no strict monitoring on their labour hours.

We have had experience of the best and the worst of boss' [sic] but we have always taken the positive lessons from these experiences and learnt from them.

Though the pay is certainly better in dairy industry but when compared to what the farmer/sharemilker/manager earns its relatively modest.

Long working hours (14-15), long roster days, less staff numbers, safety issues, weather conditions does not justify the salary. I have worked in an urban distribution workplace in New Zealand and right now working on a dairy farm and can compare and say that working conditions are way better/safer/fair/ in urban centres than on a dairy farm.

There should be more staff employed as the work involved is too much plus better roster applied.

The working roster or hours in a day and number of staff (very less) on a farm in the dairy industry needs desperate attention.

One has to wake up at 3.30 am for milking then breakfast for 30 mins at 8.30 am then lunch at 12 noon for 1 hour then again milking and end the day at 6 pm. It's a lot of physical work and should be treated/compensated fairly in accordance. Wages need to raise.

My first job was terrible. I was treated in an unfair way in a lot of aspects. I was yelled, hosed, psychologically stressed out etc. I used to be in a professional environment as a teacher in my country. Then I started farming there for a while. Now I am in a good place. The relationship with my supervisor and workmates is good.

Evidence that employment conditions on dairy farms are becoming tougher is brought into stark light when looking at recent dairying practices (Morrison, 2013). Technological improvements mean increased efficiency due to introduction of automated drafting systems, automated washers and cup removers, and other technological advancements. These efficiencies have enabled an increase in the number of cows per dairy person working on dairy farms between 1991 and 2013. Herd size increase accompanied by more staff should improve rosters and work environments according to DairyNZ, but evidence for this is anecdotal. Work intensification is usually accompanied by decreases in employee well-being. Figure 5 gives an indication of the trajectory of the cow to dairy farmer/worker ratio and Figure 6 demonstrates the increasing number of herds since 2008 in conjunction with the increasing average number of cows per herd.

Figure 5: Increase in Number of Cows per Dairy Farmer/Worker

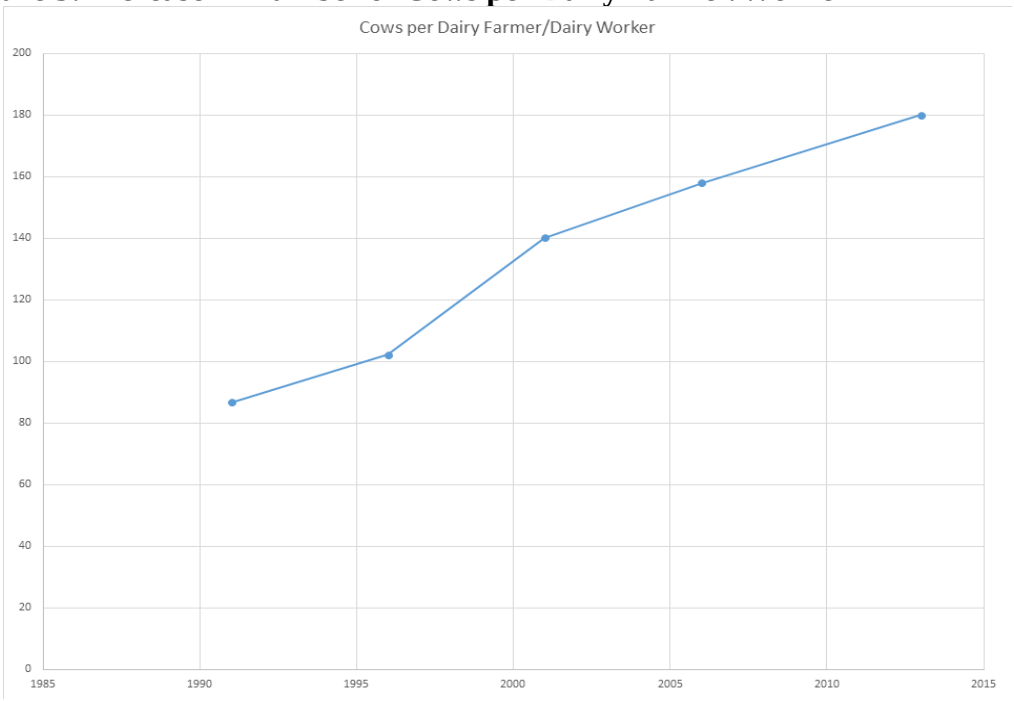
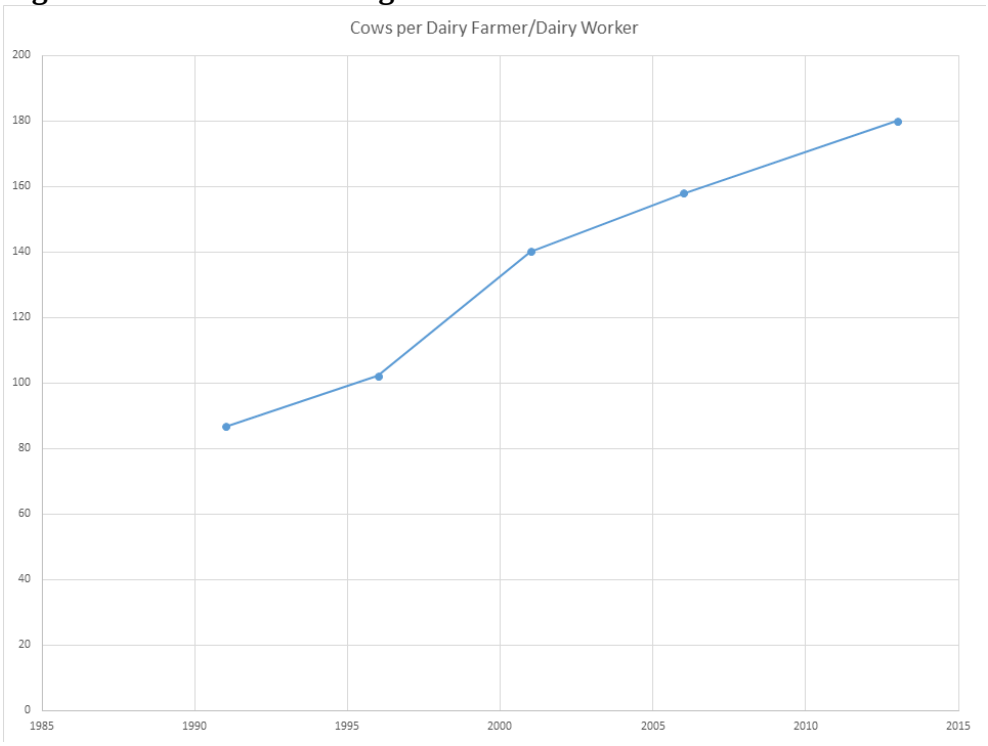
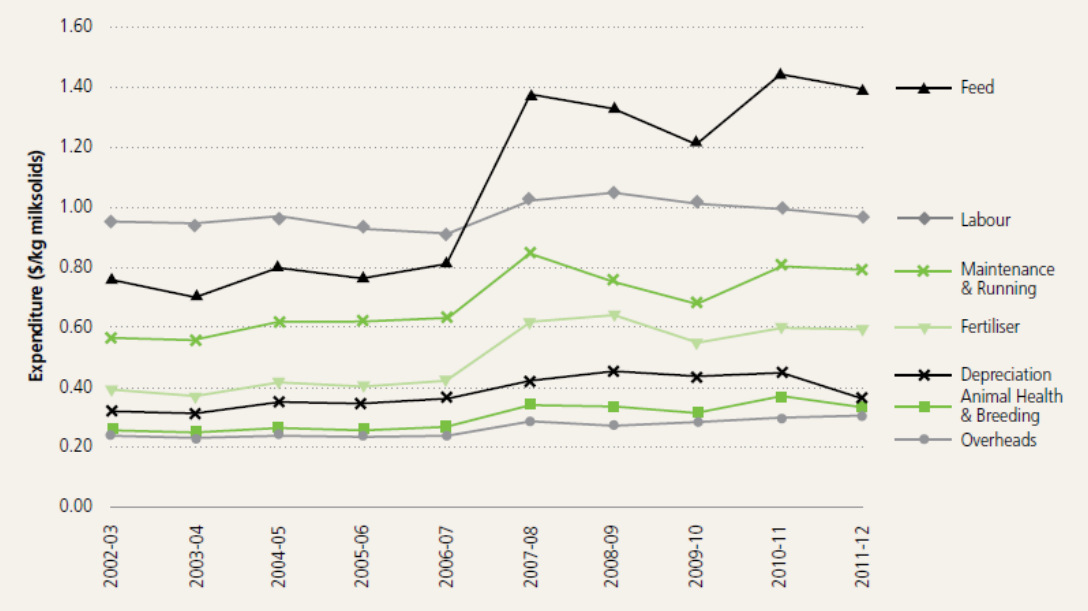


Figure 6: Increase in Average Herd Size and Herd Numbers since 2008



Another indication of a problem is that, over the past decade, labour expenditure per kilogram of milk solids (unit of output) has not increased in the dairy industry. Labour expenditure was at its highest in 2008 when the crisis in HRM was first identified by Wilson and Tipples (2008) and since then it has declined (DairyNZ, 2013) in relation to other 'expenses' such as fertiliser and feed (ibid). These figures are represented in Figure 7 below.

Figure 7: Operating Expenses per Kilogram of Milk-solids (Unit of Output)



The price per milk solid received over that same period has increased by 75 percent in nominal, and 38 percent in real terms (LIC, 2014). These figures indicate the HRM crisis identified in 2008 (Wilson & Tipples, 2008) has not yet been addressed. Industry data suggests dairy farm employees are getting progressively less of the benefits from the dairy industry, a point also noticed by DairyNZ (Morrison, 2013). It is important that the effects of the HRM crisis described by Wilson and Tipples in 2008 – isolation, burnout and low remuneration for hours worked – are not merely transferred to the migrant dairy population.

The second related area where this research suggests practice improvements could be made relates to the pride that dairy workers have in the industry as well as their strong motivations to advance themselves. Dairy worker migrants are clearly highly motivated to do well in NZ and very proud of their affiliation with the dairy industry. Sharing this pride would assist the industry to communicate and share its best practices, but this strategy needs to be authentic. Issues of work conditions and rewards need to be addressed at the same time. Migrants are highly motivated to achieve (Pfeffer & Veiga, 1999), but the industry and employers need to be careful not to take advantage of higher motivation. As has already been discussed, it is well-known that the hours of work in dairy farming are challenging (Wilson & Tipples, 2008; Rawlinson et al., 2012; Tipples, Trafford & Callister, 2010; Trafford & Tipples, 2012). Hours worked on the job have implications for both the employee's well-being and economic outcomes. It directly effects the remuneration from the job and a number of respondents commented on this.

A third area for improvement relates to key stages in the migration settlement process which is the INZ stages, which occur prior to arrival, but also at significant points during the employment relationship. Some very positive responses were received in relation to dealings with INZ.

> *Immigration NZ is very supportive and understanding. Their decisions, so far, for my family with regards to processing our living here as well as to the granting of visitor to my eldest son were for me just and fair. They also process applications quickly.*
>
> *I had a good experience during renewal of my visa. 3 days to 2 weeks, my visa was approved.*

However, 38 percent of the retained migrants in the survey did not experience a smooth process in their first encounter with INZ and 49 percent did not encounter a smooth process with their following encounters. Migrant employees and migrants that had become employers commented that INZ needs to make the immigration process more straightforward. Respondents commented on the insecurity they felt through the process.

> *It was a horrible experience with lots of mistakes being made, (they even lost my passport) changed officers all the time…*
>
> *In my particular case, as the years tick along, when you get more experience at work, more knowledge and more integrated with the society while receiving a very positive feedback not only from employers but also from the community, it seems to be harder to deal with immigration when I would have thought it would get more simple.*
>
> *There is lack of clarity about the roles, positions and what an applicant needs to have. There is confusion among employers as well as employees. Frankly speaking there's real pressure dealing with immigration and justifying our position and status.*

In general, SMCW initially receive temporary work visas. Those with farm management experience can apply for residency in conjunction with their visa application. Assistant Herd Manager is a job title listed on the INZ Immediate Skills Shortage List (ISSL). A position listed on the ISSL is deemed to be experiencing severe skill shortages, enabling the work visa issuance process to be simplified. There are four dairy farming job titles currently listed on the ISSL. These are the positions of Assistant Herd Manager, Assistant Farm Manager, Dairy Herd Manager and Dairy Farm Manager. Most migrant dairy workers entering NZ for the first time using the ISSL enter under the title Assistant Herd Manger. This is because they need to adapt their skills to the NZ dairying system before they can progress to higher positions of responsibility. In 2012/13, only some 26 percent of migrants entering to work in the industry received visas as Dairy Farm Cattle Workers (INZ, 2014a).

Poor experiences with INZ have also been indicated in previous research; difficulties with immigration processing have been an ongoing theme (Wilson & Tipples, 2008; Rawlinson et al., 2012; Trafford & Tipples, 2012). There does seem to be some evidence that dairy workers may not be being equally treated: 10 percent of all visa applications for migrant dairy workers are declined (INZ, 2014a) whereas six percent of visa applications for the role of *Chef* were declined, 0.2 percent for the role of *Tour Operator*, and seven percent of applications for the role of *Café/Restaurant Manager* were declined. *Dairy Cattle Farmer* is the fourth largest occupation to be issued visas.

A fourth suggestion for improvement involves the implementation of communication strategies to inform potential migrant dairy farmers, while still in their home country, of the challenges and rewards of working in the NZ dairy industry. Ninety percent of the retained

migrants in the present study strongly agreed or agreed that their experience had met or exceeded their expectation. Although this figure appears high, host countries should always seek to continuously improve skilled migrants' experiences. Understanding migrant's expectations is an important determinant in enabling retention (Malinen & Johnston, 2011) and in ensuring that employers create conditions where both employer and employee expectations are met (Trafford & Tipples, 2012). Migrants need resource structures such as realistic information about the host nation prior to migrating (Bürgelt et al., 2008; Watts & Trlin, 2000). This is also related to issues with INZ. Several respondents commented on their lack of success in terms of their progression towards residency. Defining the pathway to residency through dairying, and making it more accessible to the migrant in the pre-migration phase, would be beneficial to both migrant workers and employers. In this way, realistic expectations can be set, which will improve the experiences of migrants and, therefore, the reputation of the NZ dairy industry.

A fifth and final suggestion for improvement includes developing industry-coordinated social integration assistance. Creating support networks and having access to support structures is crucial in the settlement process. Only 27 percent of retained migrants migrated to NZ with their families. Consequently, policy development needs to be cognisant of both migrants with families and those without. It is common practice for the primary migrant to come alone, establish themselves in the job and then bring their family to NZ. Being accompanied by children positively impacts on the socialisation process:

> *My family are warmly welcomed in NZ, my kids are doing well in school and they love it very much here.*
>
> *Kids have a great time. I lack time to get involved in community due to work time schedule. Being on rosters and milking times it's hard to commit to club activities.*

Respondents find NZ quieter than their home countries and commented on how they integrated and the challenges they had with integration.

> *I became active with the Filipino community in the last 2 years where I have an opportunity to work with my community and the local government agency that helps migrant. We adjusted our activity time and make it farmer friendly so everyone can come after work.*
>
> *Every day off I joined the Filipino society for social gatherings. People in New Zealand are very friendly that's why I've got a lot friends.*
>
> *Getting connected to the local community is really important joining a Young Farmers Club and going to the ITO, helps to meet people on our industry plus making friends.*
>
> *Social life is harder to build up as where we are it is very transient. But church life helps us to connect. Being in the same area and winning [dairy] prizes several times helped us to gain recognition.*

A number of respondents commented on the inability to become involved in community activities due to the lack of available time, or energy.

> *Long working hours, fatigue and geographic isolation makes really difficult to build a social life.*
>
> *Working in the dairy and living on the farm house is not good from improving social life point of view [...] being so tired on the farm after the job it is also very hard to think about social activities itself, especially if you live far from towns.*
>
> *There are more career advancement/training on a dairy farm but the lack of time for enjoying life socially with family and friends sometimes demotivates of remaining in the dairy long term.*

A community with a limited sense of social cohesion will struggle to retain a workforce (McKenzie, 2011). As many migrants come from more densely populated source nations than NZ particular attention needs to be paid to the social structures available to SMDWs. A number of respondents referred to churches and community groups as a source of social integration and support. Although employers can help to an extent, the nature and extent of the problem indicates that a coordinated strategy from the dairy industry would assist integration and, therefore, retention.

Contributions and Conclusions

The present study is the first to investigate retention of skilled migrant workers in the NZ dairy farming industry. There are too few studies on the HRM factors on farms and thus the present research provides an important study in this area. Two areas for future research are indicated. The first is to find out why migrants not retained leave. The results of the present research indicate areas of concern, but as we surveyed only retained migrants, our research is limited to migrants with more positive outcomes. Migrants that arrive, experience the dairy industry and then leave again are obviously less likely to have such positive experiences. A second area of research would be to investigate cultural differences that arise from country of origin vis-à-vis working experiences on farms.

Tarique and Schuler (2010) suggest that an industry should develop a unique migrant value proposition. They suggest implementing HRM practices and talent management policies that facilitate the industry becoming an "employer of global choice". This is particularly important for the NZ dairy industry with the forthcoming abolishment of European milk production quotas in 2015 which will result in additional competition for globally mobile dairy labour. With the increasing global need for a migrant labour force, there is a need for increased employer accountability and monitoring of employment practices in dairying. Sub-standard employers are not only hurting migrants and their own reputations as dairy farmers but they are also a serious threat to the reputation and subsequently competitiveness of the industry. Boxall et al. (2003) suggests that regular measurement of employee attitudes towards employment practices and policies and towards an organisation can be highly beneficial to employers. NZ Dairy should routinely measure employee attitudes as part of their health and safety concerns as good employers and to minimise potential reputational damage due to poor word-of-mouth stories.

In an increasingly competitive global environment, an industry's success is dependent on its ability to attract and retain talent. This research has investigated the experiences of migrant dairy workers in the NZ dairy industry and the factors leading to their retention. It was determined that 'pride' in the industry is the primary retention factor. Other factors were career advancement opportunities, opportunity to enhance skills and knowledge, commitment to the industry, job satisfaction and good relationships within the industry. The importance and uniqueness of these factors indicates that the dairy industry could develop concerted and tailored policies and practices to affirm and develop these positive associations. The key 'take-away' from this research, however, is that communication messages will need to be authentic and simultaneously developed alongside policies to assist farmers to ensure they are doing their best to facilitate integration, fair pay, and safe working practices.

The majority of the respondents offered highly complementary data about their migration experience, especially in relation to individual employers' assistance and support with the settling process. However, we have argued complacency should not be an outcome of the present research. Through discussing migrant experiences that are less than optimal we aim to help the NZ dairy industry work on developing better quality relationships with SMDWs that are now so intrinsic and important to an industry of iconic importance to all New Zealanders. Best practice is currently largely practised in an ad-hoc way within the industry with the development of good-will and reputation of the industry left largely to individual dairy farm managers. However, issues facing the industry need to be addressed at the industry level and these include: attempting to mitigate negative immigration process experiences, having a communications strategy for the whole industry vis-à-vis migrant employment, overcoming isolation and facilitating integration and social life; and finally and most importantly addressing issues to do with safety and migrant well-being because of practices such as extraordinary long hours of work.

As well as directly contributing to practice in terms of assisting the development of HRM practice on dairy farms the present study also makes a theoretical contribution. This article has developed a theoretical framework which can be adapted to other contexts to investigate migrant experiences of farms, and in other countries. Considering recent events in NZ regarding collapsing dairy prices and the general vulnerability of the national economy to dairy practices, NZ needs to extend best practice in dairy management to include the people that work on the farms.

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Injury rates and psychological wellbeing in temporary work: A study of seasonal workers in the New Zealand food processing industry

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Abstract

A growing body of research has examined the effects of job insecurity or different forms of precarious work, such as temporary employment, on occupational health and safety (OHS). A number of reasons have been proposed to explain the more mixed results with regard to studies of temporary employment, including the diversity of these work arrangements, the health indices used, and a number of other complicating factors. There have been very few studies of seasonal work, as a specific form of temporary employment. In addition to addressing this gap, this study provides evidence with regard to two other explanations of 'mixed results', namely the importance of controlling for exposure and the possibility that associations differ depending on the particular health indices/outcome measures selected. Findings highlight the importance of controlling for exposure when comparing OHS outcomes for permanent and temporary workers, using multiple health indices and the need for systematic research into different types of temporary work. Several factors that may explain why seasonal workers experience higher rates of injury but appear to have adapted positively to intermittent employment are identified. The study reinforces the need for a more nuanced explanation of how temporary work can affect health and safety.

Key Words*:* temporary employment; injury; frequency rates; seasonal employment; job insecurity; psychological well-being; occupational health and safety.

Introduction

Since the mid-1990s a growing body of research has been undertaken into the health and safety effects of precarious employment (also known as contingent work), particularly the effects of job insecurity/organisational restructuring (like downsizing) and temporary employment. Using an array of methods and health indices, the vast majority of studies have found that precarious employment is associated with adverse health outcomes (for reviews of this research Quinlan et al 2001; Virtanen et al., 2005; Cheng and Chan, 2007; Quinlan and Bohle, 2008, 2009).

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Nonetheless, even in areas that have been the subject of comparatively more research, the findings have identified inconsistent outcomes and issues requiring further investigation. This includes understanding the mechanisms by which precarious employment affects health (the stress associated with insecurity, irregular working hours, work intensity and vulnerability) and if these effects are uniform across a range of health indices such as injury, disease, mental health (Underhill and Quinlan, 2011). For example, there appear to be differences in the results for research into temporary work depending on the indices used. Adverse effects have most often been found by studies using objective physical health measures (Benevides et al., 2000; Benach et al., 2004; Virtanen et al., 2005) while studies measuring psychosocial conditions and work-related injuries have been more mixed (Artazcoz et al., 2005; Saloniemi et al., 2004; Virtanen et al, 2005). This difference may be a reflection of the diversity of temporary employment or differences in exposure (discussed below), or that temporary employment may have differentiated effects on particular health indices (or do so in particular circumstances).

Other complicating issues to emerge include spillover effects. For example, the presence of precariously employed workers (like temporary agency workers or subcontractors) and the associated reorganization of work can have impacts on the health and safety of non-precarious workers in the same workplace or industry (Mayhew and Quinlan, 2006; Saksvik and Gustafsson, 2004). Another dimension of spillover effects is that the low wages or poverty associated with many precarious jobs can impact on living conditions like diet, drug use and accommodation (see for example Lewchuk et al., 2008; and Muntaner et al., 2006).

Another complexity is the diversity of work arrangements that have been labeled precarious. For example, temporary employment can take a range of different forms from short-term casual or day labour to people engaged for months and years in the same job (but still hired essentially on a short term basis without job security), those employed directly or via a temporary employment agency, those engaged under fixed term contracts, those working seasonally or continuously throughout the year, those working part-time and those working full-time, including multiple job holders (Louie et al., 2006; Saloniemi et al., 2004; Silla et al., 2005; Virtanen et al., 2003). Labour laws governing temporary employment and particular subcategories of this or overlapping categories like part-time work, can vary substantially between countries as can the degree of enforcement, particularly with regard to vulnerable groups like young workers in small business, undocumented immigrants or foreign workers (like students) working contrary to their visa conditions (Kalleberg, 2000; Olsen and Kalleberg, 2004; Sargeant and Tucker, 2009; Toh and Quinlan, 2009). In short, treating temporary workers as a single group may mask important differences between say immigrant day labourers, agency workers, temporary workers with longer average tenure, part or full-time temporary workers and seasonal workers (see Arulampalam and Booth, 1998; Benavides et al., 2006; Dupre, 2001; Fabiano et al., 2008; Guadalupe, 2003; Saloniemi et al., 2004; Seixas et al., 2008; Smith et al., 2010).

This paper seeks to help address three of the complexities just mentioned. First, it is a study of seasonal temporary workers. Seasonality is an important aspect of work in industries where weather precludes or influences activities (like construction, harvesting, slaughtering and related food processing), or because there are seasonal shifts in consumer demand (eg manufacturing peaks prior to major holidays or seasonal work in tourism).

Seasonal temporary work is episodic, but in many cases fairly predictable, enabling workers to plan their activities outside the seasonal work cycle or to travel for it. Depending on the level of predictability of work (including recurrent hiring of the same groups of workers), the earnings derived from it and the ability to dovetail it with other activities, seasonal work may not entail the same level of job insecurity as temporary employment in some other industries, but nor will it provide the possibility of working throughout the year, without changing jobs. This is very different to temporary work where seasonality is insignificant, and work is relatively continuous across the year, or where workers must deal with periods of employment and unemployment that are unpredictable. Unfortunately, there have been few studies of health and safety amongst temporary workers in seasonal industries like fishing, agriculture or food processing (see Dolan et al., 2005, Neis et al., 2001; Parejo-Moscoso et al., 2013). Our study adds to this small body of research on the OHS experiences of seasonal workers.

Second, another complicating factor this paper addresses is the variability in hazard exposure that can be associated with temporary employment. In measuring the health and safety effects of temporary employment it is critical to take account of the number of hours actually worked or time at work because this can often differ significantly from permanent/ongoing workers undertaking the same tasks. Daily, weekly, or annual differences in working hours can produce substantial variation in exposure to hazards even where permanent and temporary workers undertake essentially the same tasks (Johnson and Lipscomb, 2006; Vegso et al., 2007). In this context, comparison of the raw prevalence of injuries is likely to be misleading (Folkard and Lombardi, 2006). While a number of studies comparing health and safety indices for temporary and permanent workers do control for working hours, this has not been the case with all studies. Smith et al., (2010) for example, acknowledged this as a limitation in reviewing claims data extracted from the Washington State Workers Compensation Fund where working hours for temporary workers were not recorded. A study of day labourers by Seixas et al., (2008), on the other hand, attempted to quantify day laborers' exposures by estimating annual hours and used the median to estimate full-time equivalent (FTE) numbers so as to draw industry comparisons. Many temporary workers are engaged on a part-time basis and therefore are more likely to work irregular hours or engage in multiple-jobholding (Louie et al., 2006). Seasonal work represents another dimension of this because it means temporary workers are exposed to the hazards of work only part of the year, while their permanent counterparts are exposed throughout the year. Therefore, the exposure issue can be critical when comparing injury rates or indeed other OHS indices like instances of bullying (Keuskamp et al., 2012). Our study provides an indication of the importance this can make in the context of seasonal work, as well as highlighting the importance of this issue more generally.

The third complexity addressed is the possibility that comparisons of the health, safety or psychological wellbeing of permanent and temporary workers undertaking the same jobs may yield different results depending on the OHS indices selected. In this study we are comparing both self-reported injuries and psychological wellbeing as measured by the 12 item GHQ. Using multiple OHS indices may provide a more nuanced insight into how temporary employment can affect health and how specific circumstances or characteristics like seasonal work may shape this. It may also assist in isolating those specific features of temporary employment that are most health-damaging.

This exploratory study examines differences in injury frequencies and GHQ scores between seasonal temporary workers and permanent workers in three New Zealand food processing plants: meat, dairy, and produce (fruit and vegetables). Agriculture is New Zealand's main export earner, accounting for approximately 18% of Gross Domestic Product (GDP) (Statistics New Zealand, 2007) and employs around 15% of New Zealand's workforce with agricultural products comprising over half of all merchandise exports (Ministry of Agriculture and Forestry, 2005). It is therefore a critical part of the New Zealand economy.

Seasonality associated with agriculture requires fluctuating labour levels. These are reflected in marked differences between the annual working hours of permanent and seasonal workers. This flows through to the agricultural processing industries which are characterized by seasonal labor fluctuations and where extensive use is made of temporary workers during periods of peak processing demand. Additionally, according to the British Health and Safety Executive (HSE), the agricultural processing industries have amongst the worst injury rates in the manufacturing sector. The dairy industry was ranked second, meat processing third, and fruit and produce eighth (HSE, 1996, 1997, 1998). More recent rankings based on 2008/09 reports have the dairy industry first, meat and poultry second, and fruit and vegetable processing eighteenth. Putting this in perspective, the food and drink processing industry has an injury rate 1.8 times higher than the United Kingdom manufacturing average (HSE, 2011).

All participants in our study were involved in manual processing activities at speeds dictated by conveyors or automated machine cycles. Work in Dairy Co generally involved less labour intensive activities although some areas involved continuous lifting in a hot and humid environment and others in chilled areas. Meat Co activities in contrast were carried out in a cold, wet refrigerated plant and involved continuous use of knives to process a carcass into various cuts. Produce Co activities were a combination of those observed at the other two companies with fruit and vegetables being cooked or blanched before being blast frozen or canned.

This study's primary aim was to compare seasonal temporary and permanent workers in New Zealand's food processing industry in terms of raw injury frequencies, frequency rates based on exposure to workplace hazards, and psychological wellbeing as measured by GHQ scores. Considering research on temporary status is a risk factor, we hypothesized:

- *Hypothesis 1: There is a difference between seasonal and permanent employees in terms of injury and psychological wellbeing.*

Methods used

Sampling Frame

This study was conducted in New Zealand at three food processing companies located in two separate urban regions that are surrounded by rural areas. The companies were multinational, multi-site employers but only the main site in each region was visited. Each worksite had been operated by the respective company for over 20 years with each employing more than 100 process workers. The permanent workforce is annually supplemented with seasonal temporary labour with seasons typically lasting between 8.5 and 10 months.

The workforce was unionized with collective employment contracts negotiated by the dominant site union covering all waged employees (those paid an hourly rate). Pay rates were specified according to the employee's skills, experience, and activity classification, with temporary and permanent employees and males and females occupying the same classifications and carrying out substantially the same repetitive tasks. Permanent and temporary employees differed primarily in their employment status and duration of employment rather than because they carried out different activities or were exposed to different hazards.

The data came from a cross-sectional survey administered by one of the authors and compared the self-reported OHS experiences of permanent and temporary employees. The questionnaire included items on demographics, training, regulatory awareness, psychological wellbeing and injury experience and had previously been used in Australian studies into precarious employment (Mayhew and Quinlan, 1999, 2002, 2006). All procedures and materials were approved by the University of New South Wales Human Ethics Committee (Approval No: HRC 01039).

Before the study, company management briefed supervisors on the purpose of the study and asked them to co-operate in releasing people. In addition a summary of the study's purpose was provided for display on company notice boards. The companies provided names of eligible employees, that is, those covered by the collective employment contract and working in processing areas. The lists identified all processing team locations and the employment status of individuals. Within each supervisor's area, training, work tasks, and weekly hours were common across all members of the work team. Area supervisors were approached and asked to release a mix of temporary and permanent employees from the list to participate in the study. Therefore supervisors determined who would participate and may have biased selection by releasing team members who they knew had experienced an injury, or those who were least critical to ongoing production requirements. Therefore responses are from a convenience sample (purposive selection), based on individual identification by area supervisors.

The collective employment contracts within the three companies defined part-time workers as those working fewer than 32 hours per week. The survey instrument recorded how many hours the respondent usually worked in categories, including 35-39 hours. To avoid including data from part-time employees, responses from those who worked less than 35 hours per week were excluded. This avoided the possibility of confounding part-time employment and multiple job-holding with permanent or temporary status. A similar approach was taken by Virtanen et al., (2005).

The survey was carried out during working time over an 18-month period that coincided with the approximate midpoint of each company's processing season. Each interview lasted approximately 60 minutes. Company support allowed participants to be released from the monotony of their activities without having their pay affected. The researcher explained the purpose and requirements of the study to prospective respondents individually. Ninety-eight percent of those approached agreed to participate. Respondents were taken to a private area to complete the consent form. They were read the questions by the researcher, with responses recorded directly on the questionnaire, which was then assigned a number for subsequent identification and analysis. At the end of the interview, respondents were provided with an information sheet.

There were several benefits of the face-to-face interviewing technique including establishing rapport and creating trust between the researcher and the respondents by providing reassurance about the confidentiality and the use of the responses. This is likely to have contributed to achieving a higher response rate than would have been expected from an anonymous questionnaire survey. This technique also overcame potential literacy issues by enabling verbal clarification of questions and allowing observations to accompany responses.

Ascertaining Injury Experience

Injury experience data were derived from the following question: "Have you suffered any work-related injuries in the last 12 months?" Respondents were offered three alternative answers: 'yes', 'no', and 'little things that don't stop you working'. As the responses were not mutually exclusive, in nine cases (3.5%), respondents reported more than one injury (seven permanent and two temporary employees). In these cases only the more serious injury was counted. For example, if a respondent recorded two minor injuries only one was recorded. If a respondent recorded one minor and one serious injury then the serious injury was recorded.

Self-reporting may have increased the effects of bias or unreliable recall so a check was carried out to determine whether the respondent was employed with their current employer when the injury occurred. This involved examining responses to the question, "If yes, describe your task and workstation at the time". This allowed only injuries and days worked during the respondent's current term of employment, or, in the case of permanent employees, within the last 12 months and with their current employer to be included in the analysis. Self-reported injuries were triangulated with company records and reported locations. Most serious injuries (those involving days absence from work) were matched with company records. Some discrepancies were noted in comparing a random selection of minor injuries (bruises and minor cuts) where many occurrences could not be matched to company records. Respondents and company representatives suggested that employees failed to notify or record minor injuries because they considered the injury too insignificant to report, because they thought it may impact on their ability to get a permanent position, because no treatment was sought, or because no first aider attended them.

Calculation of Injury Frequency Rates

The self-reported injury frequencies of temporary and permanent employees were compared in two ways. Initial comparisons were based on the raw numbers of workers in each group who reported either an injury or a serious injury. 'Serious Harm Injury' has a legislative definition within the New Zealand Health and Safety in Employment Act 1992 and covers a range of injuries including serious laceration, unconsciousness, amputations, and death. Serious harm is commonly understood to mean an injury that prevents a person from completing the normal range of their duties, defined here as an injury requiring at least one day off work due to incapacitation.

Initial data analysis did not control for exposure. In subsequent analyses, injury frequencies were converted to frequency rates based on each worker's exposure (weeks worked with their current employer in the preceding 12 months). Temporary workers were employed for the same number of hours per week as their permanent counterparts but not for a full year. Consequently, they experienced less total exposure to workplace hazards across the year. Specific data was not collected on hours worked or overtime. However, responses indicated that both groups worked

similar weekly hours, that is, if overtime was required then all worked it. Total weeks worked was therefore used as the denominator to calculate injury frequency rates. The calculation was based on the following assumptions:

- One path to a permanent job was through satisfactory performance in a temporary position. Therefore, when permanent employees were asked about their length of service with the company, they were also asked if it included time on a temporary contract. Because of the transition from temporary to permanent positions, most permanent employees had completed more than one year of employment with the company. It is possible some of their injuries occurred before the respondent was appointed to a permanent position. However, in the analysis they were categorized as permanent.
- In five cases, permanent employees had completed less than one year with the company. In these cases, their injury rate was calculated using their length of employment in weeks, the same method as adopted for temporary workers.
- Permanent employees were estimated to work 47 weeks per year. This allowed for annual leave (three weeks) and statutory holidays and sick leave (two weeks). However, an unknown number of employees qualified for four weeks annual leave because of long service. There are also 11 statutory holidays in New Zealand although not all are working days. No questions were asked regarding sick leave and respondents may have taken less than the allowed maximum. No data was collected on the statutory holidays or sick leave taken by temporary workers.
- Exposure rates for temporary workers were based on the number of weeks they had been employed by their current employer.
- Checks were made to ensure reported injuries included only those incurred while on their current employment term for temporary workers or with their current employer in the case of permanent employees who had completed less than 12 months service.
- Injury frequency rates for temporary workers were calculated by dividing the injury or serious injury experienced by an individual by the number of weeks worked. Injury frequency rates for permanent workers were calculated by dividing the injury or serious injury experienced by an individual by 47 weeks worked.

It should be noted that while they were chosen to best reflect actual work exposure, the assumptions regarding holiday and sick leave for permanent and temporary workers were such that errors would tend to increase differences in working hours – and therefore exposure – between the two groups. For example, temporary workers' desire to secure a permanent position could influence their decision to take sick leave (Aronsson et al., 2002).

Data Analysis

The questionnaire provided predominantly categorical data, Chi-square tests and one-way analysis of variance (ANOVA) were used to identify whether there were significant differences in the sample, such as age or gender across the sample frame. Responses were analyzed using SPSS Version 22 with a critical probability of 0.05 used throughout. Rates, with 95% confidence intervals (95% CIs), were calculated for injured permanent and temporary workers for age group and gender. The 95% CIs were calculated in accordance with the methodology used by Horsburgh et al., (2001) in a study of work-related injuries in the agriculture sector and as defined by Armitage and Berry (1994).

Psychological Wellbeing

Psychological wellbeing was measured using the General Health Questionnaire (GHQ-12) scores. Instructions on the GHQ-12 asked respondents to report how they had felt over the last few weeks. This point was emphasised to each respondent. Five respondents in Dairy Co had been employed for less than one month, one had completed two weeks and four had completed three weeks. Meat Co and Produce Co had one employee each who had been employed for less than one month (three weeks in each case). As the instructions asked respondents how they felt in the preceding few weeks, an undefined time frame, and because psychological well-being is influenced by factors other than work, all responses were included in the analysis.

The standard form of the GHQ-12 (Goldberg and Williams, 1988) is designed to evaluate a respondent's psychological state over the preceding four weeks. It has been used in a variety of occupational and community settings as a measure of psychological well-being (Banks et al., 1980; Burvill and Knuiman, 1983) and has been widely validated for use within diverse communities. Of relevance to this study are validations within the Pacific region of which three were identified, two Australian studies (Tennant, 1977: Tait et al., 2003) and one New Zealand study although that validated the GHQ-28 for use with New Zealand women (Romans-Clarkson et al., 1989).

The GHQ has been shown to be "appropriate for use in employment studies as an estimate of the severity of psychiatric illness in groups or individuals" and is "sensitive to … differences in employment status" (Banks et al., 1980:192). It has been used successfully in studies of employment insecurity (Iwi et al., 1998; Sverke et al., 2002), downsizing and restructuring (Isaksson et al., 2002) and temporary workers (Aronsson et al., 2005; Mayhew and Quinlan, 2006; Neis et al., 2001; Saloniemi et al., 2004; Sverke et al., 1999; Virtanen et al., 2005). It was therefore considered appropriate for use in this study.

The GHQ-12 has been scored using two methods, the binary method described by Goldberg and the Likert method (Tennant, 1977). Under the Likert method, each item is scored from 0 to 3, yielding a maximum score of 36. A score of 11 may be considered to indicate a possible case of impairment and higher scores may "serve as an index of the severity of neurotic impairment" (Tennant, 1977:393). The Likert method is the more widely used in research as it allows parametric statistical testing (Norusis, 1998). Banks et al., (1980), for example, stated that although the Goldberg GHQ scoring system was "adequate with respect to discriminating between 'cases' and 'normals'" (p.190), the Likert method was: "likely to produce a wider and less skewed distribution of scores more appropriate for correlational analyses and intergroup comparisons based on parametric statistics" (p.190). Likert scoring is used in this study.

Given the inconclusiveness of previous studies that identify the factor structure of the GHQ-12, the present study used confirmatory factor analysis to test for two-factor and three-factor formulations (Kalliath et al., 2004). The relationships of the 12 items were analysed to determine if the model was constructed on a two-factor or three-factor structure predetermined in the principal-components analysis (Bank et al., 1980; Politi et al., 1994; Werneke et al., 2000). Table 1 shows the GHQ has a strong structure, with factor loadings ranging from 0.52 to 0.76. Since the two-factor loadings were greater than 0.5, the two-factor structure of GHQ-12 was established,

providing evidence of construct validity (Hair et al., 2006). These twelve factors accounted for 42.2% of the total variance to form the General Health Questionnaire-12 subscale ($\alpha = 0.77$).

Table 1: Factor Loadings from Principal Components Factoring (Confirmatory Factor Analysis): General Health Questionnaire-12 Factor loading

Scale Item	1	2
Factor 1		
1. Feeling unhappy or depressed	0.76	
2. Losing confidence in yourself	0.74	
3. Felt constantly under strain	0.64	
4. Thinking of yourself as a worthless person	0.64	
5. Lost much sleep over worry	0.53	
6. Could not overcome your difficulties	063	
Factor 2		
7. Face up to your problems		0.65
8. Feeling reasonable happy		0.64
9. Able to concentrate on what you are doing		0.61
10. Enjoy your normal day-to-day activities		0.56
11. Playing a useful part in things		0.54
12. Capable of making decisions about things		0.52
Eigen Value 5.0		
Cumulative percent variance explained 42.2		

Results

Demographics

The three companies employed 1102 permanent and 500 seasonal temporary employees. In total, 262 workers were sampled. Three declined to participate after they were briefed on the purpose of the study, two from Meat Co and one from Produce Co, resulting in the questionnaire being completed by 259 respondents, almost evenly split between the companies Meat N=87, Dairy N=89 and Produce N=79). Four responses were excluded as they were from part-time workers. The final sample comprised 255 usable responses, 156 (61.2%) temporary and 99 (38.8%) permanent employees, a response rate of 23.5%. The response ratio between temporary and permanent employees was almost the inverse of their employment ratio. This was because the focus of the study was on temporary workers' OHS experiences and because the selection criteria required in each processing area that a questionnaire be completed by a permanent employee, and at least one by a temporary worker. The high response rate is attributed to participation being encouraged by management and respondents being provided with the opportunity for a paid break of approximately one hour.

Table 2 shows the distributions of gender, age, and employment status of the sample. The gender difference was statistically significant. For males ($\chi 2$ (5, N = 131) = 13.044, $p<0.05$) and for females ($\chi 2$ (5, N = 124) = 18.673, $p<0.05$).

Table 2: Age, Gender, Work Injury by Employment Status (95% CI)

Gender	Permanent	95% CI	Temporary	95% CI	Total	95% CI
Male	**n (%)**		**n (%)**		**n (%)**	
21 and Under	4(4)	1.6 to 9.9	23(14.7)	10 to 21.2	27 (10.6)	7.4 to 15.0
22-25 years	7(7.1)	3.5 to 13.9	13 (8.3)	4.9 to 13.7	20 (7.8)	5.1 to 11.8
26-34 years	19(19.2)	12.7 to 28.0	22 (14.1)	9.5 to 20.4	41 (16.1)	12.1 to 21.1
35-44 years	11(11.1)	6.3 to 18.8	13 (8.3)	4.9 to 13.7	24 (9.4)	6.4 to 13.6
45-54 years	2(2)	0.6 to 7.1	11 (7.5)	4 to 12.2	13 (5.1)	3 to 8.5
55-64 years	4(4)	1.6 to 9.9	2 (1.3)	0.4 to 4.6	6 (2.4)	1.1 to 5.0
Total	47(47.5)	38 to 57.2	84 (53.9)	46 to 61.5	131 (51.4)	45.3 to 57.4
Female						
21 and Under	1 (0.1)	0 to 0.6	13 (8.3)	4.9 to 13.7	14 (5.5)	0.3 to 9.0
22-25 years	2 (2)	0.6 to 7.1	13 (8.3)	4.9 to 13.7	15 (5.9)	3.6 to 9.5
26-34 years	13 (13.1)	7.8 to 21.2	17 (10.9)	6.9 to 16.8	30 (11.8)	0.8 to 16.3
35-44 years	18 (18.2)	11.8 to 26.9	19 (12.2)	7.9 to 18.2	37 (14.5)	10.7 to 19.4
45-54 years	15 (15.2)	9.4 to 23.5	9 (5.6)	3.1 to 10.6	24 (9.4)	6.4 to 13.6
55-64 years	3 (3)	0.1 to 8.5	1 (0.6)	0 to 3.5	4 (1.6)	0.6 to 4.0
Total	52 (52.5)	42.8 to 62.1	72 (46.2)	38.5 to 54	124 (48.6)	42.6 to 54.7
Work Injury	49 (49.5)	39.8 to 59.2	73 (46.8)	39.1 to 54.6	122 (47.8)	41.8 to 54.0
Non-injury	50 (50.5)	40.8 to 60.2	83 (53.2)	45.4 to 60.9	133 (52.2)	46.0 to 58.2

There was a statistically significant relationship between age and employment status ($\chi 2$ (5, N = 255) = 22.774, $p<0.05$). There were higher percentages of young temporary workers (under 25 years) (n = 62, 39.8%) than permanent employees (n = 14, 14.1%). Temporary male employees were over represented in the two younger age groups: under 21 and 26-34 years. Low percentages of females in both under 25 year age groups were notable. There were decreasing percentages of temporary employees in the older age groups, dropping to less than 2% of those aged over 55 years.

Gender differences were most apparent in the high percentage of male employees in Dairy Co and female employees in Meat Co. The Dairy Co difference was statistically significant ($\chi 2$ (1, N = 89) = 0.98, $p<0.05$) although there was no statistically significant gender difference in the overall sample, ($\chi 2$ (1, N = 255) = 0.98, $p>0.05$). Males and females performed substantially similar jobs and were mixed throughout all processing areas. Therefore gender differences were not task related.

Injury Experience

Those injuries considered serious (those that required time off work) were analysed. Three reported serious injuries without corresponding days off work were included in this analysis as they occurred on the last day of a working week or before a public holiday. This meant the incapacitation occurred during a scheduled break. This rule was applied across all reported injuries. For the purposes of calculations in the following section, days lost from work were based on self-reported work injuries and individuals' recall of the length of time they were absent from work. Initial calculations compared injury severity in terms of the number of individuals who experienced a serious injury.

Table 3: Number of days lost/year due to injury by employment status

Days off for injury	Permanent (n)	Temporary (n)
Less than 10 days	9	11
11-20 days	3	6
21-30 days	4	4
31-40 days	3	-
41-50 days	3	2
51-60 days	-	-
61-70 days	-	-
71-80 days	-	-
81-90 days	-	2
91-100 days	-	1
More than 100 days off	-	3
Total (n) (percentage)	22 (43.1%)	29 (56.9%)
Mean (standard deviation)	4.1 (10.76)	6.5 (23.8)

Table 3 shows the number of days lost per year due to an injury by employment status. In total, permanent employees comprised 38.8% of respondents and suffered 43.1% of the total number of serious injuries. Temporary employees comprised 61.2% of respondents and suffered 56.9% of the serious injuries. Temporary employees reported six injuries that accounted for over half of all days lost (52.3%). The mean number of days lost due to injuries was compared using the independent samples T-test. For permanent employees, the mean number of days lost was 4.1, (SD = 10.76) and for temporary employees it was 6.5, (SD = 23.8). The difference was not significant (t (253) = -0.927, p>0.05).

Injury Frequency Rates and Employment Status

To test the hypothesis that 'Permanent employees have a lower injury frequency rate than temporary employees after controlling for exposure', the mean injury frequency rate was compared using the independent samples t-test (equal variances not assumed as Levene's test was significant, p< 0.05). For permanent employees the mean injury frequency rate was 0.014 injuries per week, (SD = 0.015), and for temporary employees 0.039 injuries per week, (SD = 0.051). This difference was significant (t (193.821) = -5.566, p < 0.05), indicating that temporary workers experience injury, more frequently.

The hypothesis that 'Permanent employees have a lower serious injury frequency rate than temporary employees when exposure is controlled for' was tested by comparing frequency rates using the independent samples t-test (equal variances not assumed as Levene's test was significant, p< 0.05). The mean serious injury frequency rate for permanent employees was 0.00665 serious injuries per week, (SD = 0.0157); for temporary employees it was 0.0133 serious injuries per week, (SD = 0.0331). This difference was significant (t (236.928) = -2.160, p < 0.05.

Psychological wellbeing as measured by GHQ Scores

GHQ responses were analysed using SPSS Version 22 with a critical probability of 0.05 used throughout. Preliminary analyses tested for differences in age and gender distributions within each company and across the sample. There was a statistically significant relationship between age and employment status ($\chi 2$ (5, N = 255) = 22.774, p<0.05), reflecting a higher proportion of young workers (under 25 years) in seasonal employment (n = 62, 39.8%) than in permanent employment (n = 14, 14.1%). Approximately 20% of all respondents had scores of 12 or more, suggesting a degree of psychological impairment. A one-way analysis of variance was used to test for differences in GHQ-12 scores between companies. It revealed no significant differences (F (2, 252) = 0.339, p = 0.713), suggesting that psychological well-being was not influenced by organisational differences. Scores had a slight positive skew across both temporary and permanent employees.

To examine differences between permanent and temporary employees, the mean GHQ-12 scores were compared using the independent samples t-test (equal variances assumed). There was no significant difference (t (253) = 1.569, p > 0.05), indicating employment status had no effect on scores in the sample overall however a significant difference was identified in Produce Co (t (79) = 2.134, p < 0.05) where permanent employees scored significantly higher GHQ scores.

An independent samples t-test revealed no significant differences in GHQ-12 scores between male and female respondents in the total sample (t (253) = 1.747, p > 0.05). To examine differences in GHQ-12 between age groups, Likert scores were converted into two groups, cases and non-cases and cross-tabulated. In the 22-25 years old age group, almost 29 per cent of respondents had GHQ-12 scores indicating possible impairment, although a chi-square test did not reveal a relationship between age and psychological well-being (χ^2 (5, N = 255) = 3.28, p > 0.05).

The GHQ-12 scores of approximately 20% of all respondents indicated possible psychological impairment, with 23.3% of permanent employees and 17.9% of seasonal employees scoring in this range. There was no significant difference (t (253) = 1.569, p > 0.05), indicating employment status had no effect on GHQ-12 scores.

Table 4: GHQ-12 Score, Possible Psychological Impairment and Age Group

Age Bracket	No Problem (Number)	No Problem %	Possible Impairment (Number)	Possible Impairment %	Total (Number)
21 and Under	39	17.9	2	5.4	41
22-25 years	25	11.5	10	27.0	35
26-34 Years	60	27.5	11	29.7	71
35-44 Years	55	25.2	6	16.2	61
45-54 Years	30	13.8	7	18.9	37
55-64 Years	9	4.1	1	2.7	10
Total	**218**	**100.0**	**37**	**100.0**	**255**

Discussion

Injury frequency rates

This study compared the injury experiences of permanent and seasonal temporary workers in three of the more hazardous food processing sectors: meat, dairy, and produce. To our knowledge there have been very few studies of seasonal work (for exceptions see Dolan et al., 2005; Neis et al., 2001) even though it is a longstanding form of temporary employment in industries such as tourism, agriculture, fishing, and forestry. Therefore this study adds to the body of knowledge on seasonal work and on the injury experiences of a sample of temporary workers.

The key finding from this study demonstrated that seasonal temporary workers in an integrated team performing the same or similar jobs as permanent workers were more than twice as likely to experience work-related injuries and serious injuries requiring time off work. These differences were only apparent when exposure was controlled by using injury frequency rates based on the number of weeks of work completed in a 12 month period with their current employer. The evidence that differences were not apparent in comparisons of the raw frequencies of injury, offers one explanation for the mixed results reported in previous studies of OHS and temporary work.

Spill-over effects from the working conditions of temporary workers to their permanent counterparts may mask workgroup differences (Eiken and Saksvik, 2009; Mayhew and Quinlan, 2006). However, the integration of temporary and permanent employees within the same work groups eliminated the potential confounding effects of different hazard exposures arising from one group performing more or less dangerous work. When injury frequency rates were compared, compensating for the reduced exposure of temporary workers due to the shorter periods of employment, differences in the rates of minor and serious injuries became statistically significant. The findings of this study are valuable due to the scarcity of research on seasonal work, except day labor and harvest work. They are also likely to have broader relevance as seasonal temporary employment is not only common in food production, but also in other cyclical industries, such as tourism, forestry, and fishing.

This study highlighted four other important issues. First, seasonal employment differs significantly from other forms of temporary employment such as casual and day labor, which often involve short periods of engagement with multiple employers. It is therefore important not to assume temporary workers are a homogeneous group and to carefully examine and describe the employment conditions of the workers under investigation, particularly their working hours so as to be able to systematically sample and compare workers according to a consistent definition (Virtanen et al., 2005). This will avoid masking effects due to the diversity of the sample, which may give rise to more diverse OHS outcomes.

Second, finding that differences between the comparison groups were not significant until variations in the duration of employment were taken into account indicates that such differences should be carefully investigated. This is particularly important where it is likely that working hours vary between comparison groups. The use of aggregate databases (medical or insurance data), make it hard to control for specific job task factors, occupational clusters, individual hours, and transitions between periods of employment and unemployment. These will all affect exposure levels that may differentiate permanent and temporary workers' experiences.

Third, a common risk facing temporary workers is associated with short job tenure such as lack of familiarity with the workplace hazards and lack of organizational knowledge (Benavides et al., 2006). A growing body of research has highlighted the greater injury risks associated with short job tenure (Breslin and Smith, 2006; Dupre, 2001). A recent Canadian study (Morassaei et al., 2013) which examined lost time injuries over a decade (1999-2008) found that injury rates were significantly higher amongst workers with shorter job tenure even after controlling for gender, age, industry and occupation. The growth of temporary employment (including agency labour) has contributed to shorter job tenure and for seasonal workers short job tenure is the norm even if they are re-engaged on an annual basis. Future studies of OHS outcomes amongst temporary workers need to take greater account of job tenure.

Fourth, while the study was unable to investigate the specific reasons why temporary workers experienced a significantly higher rate of injury, the findings do raise some issues in this regard. Unlike other temporary workers, these seasonal workers did not appear to experience a significant level of job insecurity. In this study, 57% of temporary workers reported working more than one season with their current employer with a typical season's employment lasting between 8.5 and 10 months. Many workers interviewed, reported fashioning their lifestyle around seasonal processing work (undertaking farming, fishing or forestry work at other times). Demand for processing work was fairly predictable over time and was not subject to erratic shifts in demand or long term decline experienced in some food processing industries (such as the North Atlantic cod industry). This may be exceptional in terms of temporary work (including some seasonal work). It may also help explain why there was no significant difference in the mental wellbeing (as measured by GHQ scores) for these temporary and permanent workers. The latter finding also supports the possibility that comparing OHS amongst temporary and permanent workers will yield different results for different OHS indices.

Further, another potential contributor to injury amongst temporary workers is the lower level of training they typically receive. However, here too the differences were less pronounced in our study. Regular re-employment of seasonal temporary workers effectively reduces training demands associated with hiring new workers, provides for better utilization of the temporary employee across a wider range of tasks and improves the return on the training investment (Neis et al., 2001). Work-related training has been positively correlated with union presence, collective bargaining, and organization size although individuals on fixed-term contracts have been identified as receiving less work-related training "… because of the expected shorter post-training period over which the investment can be amortized" (Arulampalam and Booth, 1998:527). However, what was observed in this study was that at the commencement of the new season, returning temporary employees were not retrained or reassessed but were assumed to be competent and performing at the same level they were when their employment was terminated at the end of the preceding season. This assumption is inherently risky as it relies on the individual retaining knowledge between seasons and can potentially lead to strain injuries due to a lack of "match fitness" or other injuries due to changes in processes or equipment.

Training is carried out by supervisors or other workers considered proficient in that activity. With the rapid ramp-up of labour at the season's start, this situation contributed to anecdotes of slightly more experienced workers training new starters, increasing the likelihood of variance in the

quality of the training or failure to communicate tacit knowledge. It should be noted that training is a requirement of New Zealand's OHS legislation, and it is also one of the most common initiatives used to ensure safety whereby the knowledge and skills to perform the task safely are imparted (Barling et al., 2003). As technology and work processes reportedly did not undergo significant changes between seasons and the companies have extensive on-the-job training programs, our findings do not appear to support lack of training as a primary reason for the different injury experiences. Rather, broken job tenure or other factors not identified in this study appear to explain the significantly different injury frequencies between seasonal temporary and permanent workers.

Other potential explanations for the higher rate of injury amongst temporary workers include work intensity or a weakening of OHS management systems (see Parejo-Moscoso et al., 2013). Our study was unable to shed light on these. Nonetheless, it does indicate these and other explanations require investigation along with the conditions that may mediate their influence.

The findings also help quantify workplace hazard exposure and injury experiences. While the exact hours that temporary and permanent workers worked, and therefore were exposed to common hazards and risks were not available, an approximation using weeks of employment was made. Despite this limitation, the analysis of this data revealed that exposure is a key element that should be considered when undertaking any comparative study of precarious workers' injury experiences, particularly when studies involve looking at groups who are unlikely to be fully employed.

Psychological wellbeing

The finding that there was no significant difference in the psychological wellbeing (as measured by GHQ scores) of temporary and permanent workers may seem inconsistent with earlier research indicating that workers in insecure positions exhibit higher GHQ scores (Ferrie et al., 1998; Iwi et al., 1998). However, more recent research paints a more complex and nuanced picture, including higher levels of stress and work intensity amongst permanent employees which have been attributed to different levels of life satisfaction and demand and control (Benavides et al., 2000; Bohle et al., 2011; Saoniemi et al., 2004; Virtanen et al, 2002). For example, while temporary workers may exercise less control they may also have fewer demands placed on them than their permanent counterparts. A reinforcing influence on psychological wellbeing is the possibility of spill-over effects whereby the presence of temporary workers places additional requirements on permanent workers in terms of workload, including the need to train and supervise temporary employees (Eiken and Saksvik, 2009; Parker et al., 2002).

In our study, apart from a few exceptions, seasonal workers generally had fewer strain inducing role demands in terms of training, supervision or responsibility for product quality/quantity. Seasonal and permanent employees were carefully sampled to ensure that, due to their integration into mixed work teams, there were very limited differences in training or work tasks and duties performed. Specific data was not collected on hours worked or overtime. However responses indicated that both groups worked similar weekly hours; that is, if overtime was required then all worked it. Therefore, although seasonal workers were employed for the same number of hours per week as their permanent counterparts, they were not employed for a full year. Consequently, they experienced less total exposure to the work environment and routines across the year.

Stresses arising from intermittent work and income also appeared less of an issue. Seasonal workers in this study were engaged for relatively long periods, between 8.5 and 10 months, with an expectation of return work in subsequent seasons. This may be exceptional in terms of temporary work as it offers seasonal workers the potential benefits to combine regular and predictable income for much of the year that could be augmented by social security or alternative work during the relatively short 'off-work' period thereby helping avoid the budgeting issues identified by Aronsson et al., (2005). This allowed planning of activities around a regular cycle. Consistent with this, a number of both male and female respondents commented on leisure activities they wanted to pursue at the season's conclusion including fishing, gardening and travelling with still other respondents stating that they would not want to work anymore of the year than the season requires as they were looking forward to the season ending so they could 'do their own thing'. These comments were not universal, with some respondents indicating they hoped good performance as a seasonal worker would result in a permanent job offer.

Responses suggest three possible explanations for failing to find support for the expected worse GHQ outcomes amongst temporary workers. Firstly, it suggests support for the 'voluntary temporary worker' (Isaksson and Bellagh, 2002) where temporary work is a preferred work option for whatever reason. Secondly, for those seeking permanent positions, the knowledge that the three companies recruit permanent staff from the ranks of temporary workers provides them with an opportunity to achieve their employment goal thereby fitting with their preference and ambition (DeCuyper et al., 2009). Thirdly, the temporary nature of seasonal work allows temporary workers a work life balance, not available to most in full time permanent employment. In short, many of these seasonal workers had a positive perception of their employment status due to the leisure and lifestyle opportunities it allowed them to pursue. This is in line with the Department of Labour findings that reported that almost 60 per cent of temporary workers "preferred work in a temporary job" (2009:3).

Analysis of the relationships between company, employment status, gender and age group revealed no support for previous findings indicating that temporary workers are more likely to be older (Louie et al., 2006; Vosko, 2006) with similar findings reported on Canadian seasonal temporary workers (deRaaf et al., 2003; Neis et al., 2001). There are several potential explanations for this finding. Firstly, it may reflect the effects of a social welfare benefit (The Community Wage) which allows those who are unemployed and over 55 years to receive a benefit slightly lower than superannuation (payable at 65 years), subject to them remaining available for work and being annually income tested (MacKinnon, 1995). As those approaching retirement may have less financial and family commitments, they may consider themselves to have retired early and therefore not present themselves (Jackson, 1985). Secondly, it could be an example of the healthy worker effect where workers who are less fit or able, self-select out of the employment market and onto social welfare benefits (Arrighi and Hertz-Picciotto, 1994; Choi, 1992). Thirdly, it may reflect the population distribution within the region or recruitment bias within the companies. Therefore although age maybe "a critical variable in defining vulnerability to the psychological consequences of unemployment" (Jackson, 1985:90), it was not apparent in this population.

A link has been identified between fair treatment and positive psychological outcomes (Kochan et al., 1994; Mauno et al., 2005; Probst, 2004). Positive perceptions of work and positive psychological well-being amongst temporary workers have been linked to situations where work related benefits and opportunities are comparable and temporary workers trust their employer to provide them with opportunities to obtain a permanent position (Connelly and Gallagher, 2004; DeCuyper et al., 2009; McDonald and Makin, 2000). These circumstances are also evident in our study. Seasonal temporary workers were an integral part of each company's workforce and processing requirements with no apparent difference in treatment, task allocation or pay. Seasonal workers have the opportunity for re-engagement each season along with opportunities to obtain a permanent position. While a number of temporary employees indicated they would prefer a permanent job, their GHQ scores did not suggest psychological impairment. On the other hand, as noted earlier, a number of respondents commented positively about only having to work part of the year with breaks between seasons being seen as an opportunity to engage in preferred activities.

An accommodation process or adjusted expectations have been identified by other studies of temporary workers. For example Ferrie (2001) observed that workers "in this secondary labour market regard job insecurity as an integral part of their work experience and consequently have a relatively stable set of beliefs about the labour market and their prospects" (p.71). Eiken and Saksvik (2009) make a similar point, suggesting that temporary workers have limited expectations of security making them somewhat immune to concerns of job finiteness and insecurity. This response is most likely where workers accept a job knowing it is insecure and concerns about the loss of income arising from unemployment are mitigated by the operation of the social welfare system along with the potential for employment in future seasons (Artazcoz et al., 2005; Bernhard-Oettel et al., 2005; DeWitte and Naswall, 2003; Pearce, 1998). Our study could not determine whether respondent's acceptance of periodic unemployment was an adaptation to the reality of their circumstances or reflected a pre-existing set of preferences. Nonetheless, our study adds support to the view that employment insecurity may be an objective risk factor that is not universal across all forms of precarious employment or temporary work (De Cuyper et al., 2008). As Benach et al., (2002) observe, perceptions of job insecurity "… its meaning and health related impact may vary according to different labour market characteristics such as type of flexible work contract, social class, race/ethnicity, age or genders" (p.405). More specifically, our study provides empirical support for Virtanen at al.'s (2005) contention about the heterogeneity of temporary employment. Temporary employment cannot be grouped as a single category but rather more differentiated analysis of particular subsets of temporary work, such as seasonal work, is required (along with comparisons that take important contextual factors into account).

Limitations

Several limitations of the present study should be noted. First, this study sampled workers from three large organizations involved in food processing in New Zealand. New Zealand's accident compensation, social welfare, and industrial relations legislation will differentiate this study from other jurisdictions. Similarly the presence of industrial unions and a collective employment contract providing minimum terms and conditions also differentiate these sites from other organizations. This convenience sample was employed in workplaces with formalized safety

procedures and training programs (although their effectiveness was not assessed). These may not be present to the same extent in smaller independent food processing plants. It also means generalizing these results to other populations should be done with considerable caution. However, this sample was particularly suited to comparing the injury experiences of temporary and permanent workers exposed to common training and operating environments. Further, it explores an under-researched area of temporary work, the seasonal employee.

Second, these findings are based on self-reports of injuries and employment duration and may therefore be subject to inaccuracy due to recall error despite our efforts to mitigate this by triangulating reports with company records. Additionally, any workers absent as a result of injury or who had been so badly injured that they could not return to work would not appear in the sampling frame. However, while self-reported data have been found to underestimate injury frequency and severity (Landen and Hendriks, 1995; Veazie et al., 1994), self-reports of serious injury in this study closely corresponded with company records. Thus, this study has been controlled for error variance associated with common scale formats by assessing injury records (Spector, 2006).

Third, the greatest numbers of days off work were recorded by temporary workers. Lost time has been criticized as an indicator of injury severity because it is a function of injury seriousness, job demands, workplace policies, and compensation criteria (Veazie et al., 1994). For example, lost time can be influenced by the implementation of enhanced rehabilitation programs or efforts to 'massage' compensation claim costs by discouraging time off or re-arranging work schedules (Walters et al., 1995). Therefore, the observation in this study that temporary workers experienced the most days absent from work due to injury, warrants further investigation.
Significant explanation was provided on how frequency rates were calculated. These relied on assumptions concerning working hours, holidays, and sick leave taken. In the absence of access to individual time sheets to calculate exposures and therefore frequencies, the method of calculation used in this study is likely to contain some inaccuracies.

Fourth, the sample was not randomly selected as supervisors determined who would participate and may have biased selection by releasing team members who they knew had experienced an injury or those who were least critical to ongoing production requirements. As respondents reported to many different supervisors and the study was conducted in three companies, the ability of any one supervisor to bias overall selection of the sample was limited. However, despite this, the results of a convenience sample cannot be generalized with confidence to the population. Further, this study involved fewer than 1000 respondents thereby having a greater sampling error than in larger studies. Notwithstanding these limitations, this exploratory study identified a point of interest in the relationship between exposure and injury.

Fifth and finally, another limitation of the study was the failure to systematically consider the impact of non-work issues or work/family balance on GHQ scores. Several respondents reported non-work issues likely to impact on their psychological well-being although their results did not exhibit in the extreme category. This finding illustrates the difficulty in concluding a relationship between psychological well-being and independent variables of company, employment status, gender or age based on the self-administered GHQ, when other possible non work related influences may be present.

Conclusions

Results for studies of temporary workers OHS have been less consistent than those for other forms of precarious employment. Several reasons for this have been suggested. These include the diversity of temporary work that may have either led to methodological problems that masked effects or the diversity of the respondents may have given rise to more diverse OHS outcomes. Previous research has noted the absence of frequencies in studies of adverse OHS in precarious workforces (Johnson and Lipscomb, 2006; Smith et al., 2010; Vegso et al., 2007). Therefore, one central objective of this paper was to account for systemic differences in working hours, and consequently hazard exposure, when comparing the injury experience of temporary and permanent workers. Controlling for exposure has been uncommon in previous studies of injury in temporary work. While it is widely acknowledged that temporary work is associated with irregular working hours, the secondary datasets used in many studies preclude this factor being addressed during data analysis. As a result, few studies have controlled for exposure while comparing the injury experiences of permanent and temporary workers in workplaces where both groups perform the same, or very similar, tasks.

This study identified the presence of a higher likelihood of injury amongst temporary workers when exposure was controlled for despite the workforce receiving similar training and carrying out similar tasks. These findings point to length of service being a factor that increases risk of injury. Therefore, it is essential that temporary employees receive thorough integration and training to try and assimilate organizational knowledge, if higher injury frequencies for those with short job tenure are to be avoided. This has implications for any new employees being employed in an organization. Further research that more accurately assesses hours worked to calculate exposure when using objective injury data would be beneficial. This should also identify the characteristics of particular groups of temporary workers so they are clearly identifiable and avoid the homogenization that has occurred in some studies involving large data sets.

Importantly, the study found that while there were significant differences in injury frequency rates between seasonal and permanent workers, there were no significant differences in mental health and wellbeing as measured by the GHQ. This finding raises a number of important issues warranting further research. First, and most obviously it provides support for other studies which have found that health outcomes may not be worse for temporary workers (see Eiken and Saksvik, 2009; Keuskamp et al., 2012) which may help to explain the more 'mixed' results obtained by meta reviews of temporary employment (see Virtanen et al., 2005) than has been the case with reviews of research into the OHS effects of downsizing/job insecurity and subcontracting. Second, possible explanations as to why results are affected by the particular OHS outcome indices used include that temporary work is more hazardous in terms of injury than mental health (perhaps because in job strain terms, lower control is matched by lower demands). Another possible explanation, which doesn't necessarily exclude the last one, is that the very diverse character of temporary employment (from fairly long term and predictable work arrangements to, at the other extreme, very insecure and intermittent day labour) and the vulnerability of those undertaking it (especially recent immigrants or undocumented workers) has significant implications for health outcomes. In either case, there is a need for more nuanced studies which use multiple OHS indices and take account of the particular type of temporary work being studied.

Consistent with the last point, another key finding of this study is it identifies seasonal work as a distinct form of temporary employment. There is a need for further research into seasonal work. This can and should form part of research into the full array of temporary work arrangements, using a range of OHS indices, so that any distinctive features affecting health outcomes are better understood. Such research could also constitute an important step towards understanding the mechanisms by which precarious employment affects health.

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Employee participation and quality of the work environment: Cases from New Zealand

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Abstract

The article reports on an investigation of the association between direct and representative forms of employee participation and the quality of the work environment, including the psychosocial work environment. A multi-method research strategy was utilized in eight organisational case studies across four New Zealand industries: hotels, schools, aged care facilities and food manufacturing factories. The study finds that workplaces with strong forms of participation displayed high levels of work environment quality, but that this association was mediated by the nature of different forms of participation and their relationship with each other, as well as by industry characteristics. Representative participation plays a critical role, but in the absence of union representation, JCCs or direct participation can also play important roles. In other words, it appears to be either union or non-union participation but not both, that is associated with positive QWE outcomes.

These results support previous research suggesting that non-union forms of employee participation may displace or undercut unionism, but there is no confirmation that direct participation was associated with poor QWE outcomes as suggested by some recent literature. The research also contradicts European, particularly Scandinavian, evidence regarding the complementary role of direct and representative participation, including union representation, which may reflect the impact of differential national industrial relations regimes. Further research is needed at this level to examine the differential impact of various forms of employee participation on the full quality of work environment, including its psychosocial aspects.

Key words: quality of work environment, employee participation, representative employee participation, psychosocial work environment, workload and stress

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Introduction

A substantial literature links employee participation, especially in its representative forms, to quality of the work environment (QWE) and related concepts such as job satisfaction (see Markey & Knudsen, 2014). These connections, and a link between both participation and QWE with productivity, have a strong tradition in Scandinavian and socio-technical literature (Emery & Thorsrud, 1976; Gustavsen & Hunnius, 1981). More recently, these three-way connections have been made in discussions of high-performance workplace systems (HPWS) (Appelbaum, Bailey, Berg & Kalleberg, 2000; Macky & Boxall, 2008; Boxall & Macky, 2009). In the Scandinavian and HPWS literature, employee involvement or participation is generally attributed with impacting positively on the work environment.

The concept of work environment is broad, including the physical, social and organisational context of work. Originating in the 1970s in Scandinavia, the concept of work environment expanded the narrower concept of occupational health and safety focusing upon physical work hazards, to encompass the "psychosocial work environment" (Knudsen, Busck & Lind, 2011:379). The psychosocial work environment designates how organisational job demands and social structures and interactions impact upon employees' psychological well-being (Hvid & Hasle, 2003). This broader concept of QWE has gained currency as the recognition of psychosocial workplace problems has increased, particularly stress-related conditions (Busck, Knudsen & Lind, 2010).

The expansion of employee participation has been a contemporaneous trend in workplaces. The influence in particular of modern human resource management has fostered employee involvement, voice and "empowerment" through a variety of forms of work organisation that may be categorised as falling within the umbrella concept of employee participation (Markey & Townsend, 2013). Generally, these forms of employee participation can be characterised as direct or representative (Markey, 2001). Direct participation is concerned with the task or job, empowering employees to exert influence over their immediate work environment through job autonomy, task delegation or teamwork. Representative participation may occur through trade unions, employee representation on boards and various kinds of workplace committees, such as European works councils or joint consultative committees (JCCs) with employer and employee representatives. Occupational health and safety (OHS) committees are specialist forms of JCCs underwritten by legislation in New Zealand (Harris, 2004) and most developed countries.

There is substantial evidence suggesting that employee participation and influence in workplace decision-making can impact positively on the work environment (Blumberg, 1968; Heller, Pusic, Strauss & Wilpert, 1998; Meyer & Topolnytsky, 2000). In contrast, recent research has suggested that employees may be motivated and empowered, but simultaneously stressed by an increase in job complexity when more direct participation is implemented (Kalleberg, Nesheim & Olsen 2009; Busck, Knudsen & Lind 2010). However, the research specifically analysing the impact of employee participation on psychosocial aspects of the work environment is limited.

The effectiveness of participation and its impact on QWE is affected by a range of other variables, such as whether it is "full" or "partial", the type of participation and the industrial relations climate. Both the scope of participative mechanisms, i.e., the range of decisions that are open to employee participation, and the depth of participation, i.e., the degree of influence allowed employees and/or their representatives, are significant parameters. Employee participation may also be manipulated by employers in "pseudo" forms (Blyton & Turnbull, 2004; Busck, Knudsen & Lind, 2010; Heller et al., 1998; Pateman, 1970). Direct forms of participation tend to be managerially-driven to improve productivity and profitability, and to be framed within a unitarist discourse of employee relations. Representative participation has greater potential to be concerned with broader strategic issues at an organisational or departmental level because of the structures of representative bodies and their collective basis, although the depth of participation varies in practice. Trade unions in particular operate within a more pluralist discourse acknowledging different interests between employers and employees, and may interact with other forms of representation, direct and representative, to extend their depth. However, research has strongly indicated in the liberal market Anglo countries that non-union forms of participation, such as direct forms or JCCs, have been utilised by employers adopting HRM strategies to undermine unionism (Markey, 2007; Wilkinson, Gollan, Marchington & Lewin, 2010; Dundon, Wilkinson, Marchington & Ackers, 2004).

This study evaluates the impact of both direct and representative participation on QWE in a range of New Zealand workplaces. The remainder of the article surveys the literature on employee participation and its impact on the work environment, outlines the research design and methodology, reports the research results, and draws appropriate conclusions.

The Impact of Employee Participation on the Work Environment

The existing research indicates that the impact of employee participation on the work environment varies between different broad types of participation. The evidence for a positive impact on the work environment is strongest for representative forms of employee participation. British, Australian and Danish studies have found that worker representation and consultation in OHS and other committees produced better outcomes in OHS than management acting alone (Eaton & Nocerino, 2000; Walters, 2004; Walters, Nichols, Connor, Tasiran & Cam, 2005; Walters & Nichols, 2007). Similar studies have also suggested that trade union presence and workplace organisation positively impacts on OHS (Fairbrother, 1996; Bohle & Quinlan, 2000; Hasle, 2001; Markey & Patmore, 2011; Saksvik & Quinlan, 2003; Walters & Frick, 2000). Additionally, the presence of a broad framework of participative practice through unions and works councils as exist in European countries, is likely to impact on the effectiveness of specialised OHS committees (Harris, 2004; Knudsen, 1995). However, this body of evidence relates mainly to physical work hazards.

There is less evidence for a positive impact from representative employee participation upon the psychosocial work environment. The issues may be more difficult to define, often have more long-term cumulative impacts, have therefore been slower in gaining recognition, and potentially challenge managerial prerogative over work organisation, for example, over length of working hours and work intensity. Of course, employee

representative rights over physical work hazards also challenge managerial prerogative over work organisation, but recognition of psychosocial problems extends this contested sphere of control. Traditionally, OHS committees have focused mainly on physical hazards. Consequently, works councils in Europe may have taken up responsibility for the psychosocial work environment in many cases. On balance the research suggests a positive impact on the work environment, including the psychosocial work environment, from representative employee participation (Markey & Knudsen, 2014; Karasek & Theorell, 1990).

The evidence regarding direct participation is more ambivalent. Karasek and Theorell (1990) found health and well-being to be strongly associated with job control. However, a growing body of research now suggests that increasing influence at the task level is not necessarily associated with QWE improvements. Greater job autonomy frequently goes hand in hand with work intensification and increasing stress, team workers have been found to suffer greater stress than non-team workers, and high degrees of job autonomy may lead to responsibility for psychosocial problems being transferred to the individual worker (Busck, Knudsen & Lind, 2010; Kalleberg, Nesheim & Olsen 2009; Hvid & Hasle, 2003). Some of the HPWS literature also indicates that high levels of employee participation may lead to work intensification, fatigue and stress (Godard, 2001; White, Hill, McGovern, Mills, & Smeaton, 2003), or that a low road approach to HPWS may involve a bundle of workplace practices that simultaneously intensify work and include employee participation or involvement (Boxall & Macky, 2009). These results no doubt reflect that fact that direct participation is more directly tied to management objectives for improving productivity and efficiency than is the case with representative participation (Hyman & Mason, 1995; Markey, 2001).

Consequently, the relationship between direct and representative participation may be important in determining the impact on QWE. In major studies in Europe the two forms of participation have been found to be complementary (Markey, 2001; Hagen & Trygstad, 2009). However, in recent years direct participation has tended to displace representative participation in Britain and elsewhere (Kersley, Alpin, Forth, Bryson, Bewley, Dix, & Oxenbridge, 2006; Markey & Patmore 2011).

Representative employee participation is well-established in New Zealand in the form of OHS committees, the only legislatively mandated form of workplace employee representation. The Health and Safety in Employment Amendment Act 2002 required either OHS committees or worker representatives in workplaces with 30 or more employees, and smaller enterprises could have representatives if requested by workers or unions (Harris, 2004). From April 2016 the new Health and Safety at Work Act 2015 exempts small workplaces from the requirement to appoint OHS representatives if they employ fewer than 20 workers and are not in a high-risk sector (manufacturing, mining, construction, utilities, transport) (Health and Safety at Work Act 2015, Subpart 2, 62, para. 4; Health and Safety at Work Act 2015 Draft Regulations). This will have a substantial impact because 30 per cent of New Zealand employment is in small workplaces (StatsNZ 2015).

The jurisdiction of New Zealand OHS committees has been focused mainly upon OHS and hazard prevention. This is similar to OHS committees' jurisdiction in other Anglo countries, such as the United Kingdom and Australia, in contrast with Scandinavian countries where broader psychosocial and work environment issues are in the remit of

committees (Markey & Knudsen, 2014), although this potential for effective representative participation often remains under-developed even in Scandinavia (Bruhn & Frick 2011; Frick, 2014). However, New Zealand legislation at the time of the research did include unacceptable behaviour, such as workplace bullying, in the jurisdiction of OHS representatives. The research design took account of bullying as a potential impact on the work environment.

Other forms of representative participation in New Zealand are more weakly based, although there is variation between sectors. Union membership density and collective bargaining coverage in the workforce as a whole are about 19-20 per cent. Both are concentrated in the public sector, where they represent about 49 per cent of the workforce, compared with 9 per cent in the private sector. Most collective bargaining occurs at an enterprise level, with multi-employer agreements covering only 20 per cent of workers covered by collective agreements, mainly in the public sector, especially education and health (Blumenfeld, 2010).

In a recent survey 40 per cent of employees reported coverage by JCCs of some kind, including OHS committees. This is a relatively high figure given the importance of the small business sector. However, general (non OHS) JCCs have no legislative base, and vary greatly in role and effectiveness. Often they appear to be established unilaterally by management, with employee representatives chosen by employers in over a quarter of instances (Boxall, Haynes & Macky, 2007). This managerial impetus, together with its frequent association with undermining unions, and union traditions of a "single channel" focus on representative participation through collective bargaining or state conciliation and arbitration systems, has created a lack of union trust in extra union forms of participation in the liberal market Anglo countries (the UK, Australia, New Zealand, the USA) (Firth, Keef & Mear 1987; Markey 2007). The New Zealand national regime of participation is far removed from European experience, where works councils have a legislative basis, are frequently associated with productive workplace relationships, and have collaborative relationships with trade unions for their mutual benefit (Markey, 2007; Rasmussen & Lind, 2003)

This overview of representative participation in New Zealand suggests that generally its scope and depth, and therefore, its impact on the work environment, is limited, although there are considerable variations at sectoral and workplace levels.

Research Design and Methodology

We adopted a multi-method case study approach, based on two organisations in each of four industries: hotels, education (schools), aged care, and food manufacturing. These sectors were chosen to cover a range of blue and white collar, and public versus private sector workplaces. Fieldwork was undertaken in 2009. Three sources of data were gathered from each case:

- Organisational documents relating to structures of participation, OHS working hours and shiftwork;
- Interviews with the chief executive officer, human resource manager where appropriate, a senior employee OHS representative, and one other employee

representative from union, JCC or OHS committee depending on whether there was a union presence or JCC;
- Survey of a sample of employees from each workplace.

Surveys were administered on site during work breaks. The survey response rates varied between 1 and 87 per cent for each workplace. The schools achieved the highest response rates. One of the food manufacturing sites had the lowest response rate because of a high proportion of casual part-time staff, shift work, short breaks and language difficulties which hindered reaching a larger sample. Some of these issues also hindered a stronger response rate at one of the aged care facilities. Lower response rates may have detracted from representativeness of the sample, but the results were triangulated with the other sources.

Quality of work environment in the survey was measured by 15 questions indicating four dimensions of:

- ***total work environment*** –one question:
    - Are you satisfied with the safety and comfort of your working conditions? (yes/no);
- ***physical work environment*** -3 questions:
    - Have you suffered a work related injury or illness in the last three years? (yes/no),
    - How often have you experienced violence at work in the last three years? (always/often/sometimes/rarely/never or almost never),
    - How often have you felt threatened at work? (always/often/sometimes/rarely/never or almost never);
- ***workload and stress***, 6 questions with the same 5-point scale (always/often/sometimes/rarely/never or almost never)
    - Do you have more work than you can accomplish?
    - Are you required to work overtimes?
    - How often have you felt really tired from work?
    - Does your work put you in emotionally distressing situations?
    - How often have you felt stressed at work?
    - Do you think your work takes so much of your energy that it effects your private life? And
- ***job satisfaction*** –5 questions:
    - My work is appreciated by management (strongly agree/agree/neither agree nor disagree/disagree/strongly disagree),
    - Thinking of all the changes to your job in the past 12 months or less, do you think you are generally better off or worse off than before? (better off/about the same/worse off),
    - Do you agree with the statement that 'your workplace is a good place to work'? (yes/no/unsure),
    - Do you agree with the statement that 'I often think of leaving my job'? (yes/no/unsure),
    - Has your satisfaction with your job changed during the past 12 months? (increased/no change/decreased).

A score out of 40 was calculated for each dimension. For responses on a 5-point scale scores of 40, 30, 20, 10 and 0 were allocated for each response, with 40 being the most positive and 0 the most negative response, and the total was divided by the number of responses. For responses on a 3-point scale the scores were 35, 20, 5. And for one response requiring a yes/no answer the scores were 30/10. From these scores an index was created for each dimension and from that an overall index for QWE. This method follows the practice of the Danish National Research Institute for the Work Environment (Kristensen et al. 2005). As higher scores in general indicate a more positive work environment, scoring for workload and stress questions was reversed since the most positive response was ”negative” (e.g. the most positive response to the question about feeling stressed was ‘never/almost never’). The same method was applied to direct participation, OHS committees and JCCs.

Direct participation

The degree to which employees felt empowered by direct participation was measured by the following six questions:

- Do you have possibilities to learn new things in your job? (always/often/now and then/rarely/never or almost never),
- Do you have significant influence on how much work you do? (always/often/now and then/rarely/never or almost never),
- I have significant influence on how my work is done (strongly agree/agree/neither agree nor disagree/disagree/strongly disagree),
- I should have more influence at my place of work (strongly agree/agree/neither agree nor disagree/disagree/strongly disagree),
- I get information on important decisions in due time (strongly agree/agree/neither agree nor disagree/disagree/strongly disagree),
- If your work changed in the past 12 months, were you consulted about the changes? (yes/no/unsure).

OHS representation

OHS representation was measured on the basis of four questions:

- Is there a health and safety committee at work with employee representatives? (yes/no),
- How are employee representatives chosen? (everyone votes 40/employees volunteer 30/ management decides 0/other 10),
- If you have raised an issue with the OHS committee was it dealt with satisfactorily? (yes/no),
- If you have raised an issue with the OHS committee how quickly was it dealt with (immediately/in 1 month or less/2-4 months/more than 4 months/not dealt with).

Other representative committees

Effectiveness of non-union and non-OHS representative participation was evaluated on the basis of four questions identical to those for OHS committees.

Union representation

Union representation was not a subject of the survey, but data regarding union membership density was elicited from interviews. A score out of 40 was also allocated on the following basis:

- 90%+ workplace membership 40
- 70-85% workplace membership 30
- 50-70% workplace membership 20
- <50% workplace membership 10
- <10% workplace membership 0.

Cases

Schools A and B were co-educational state secondary schools that were highly unionised. School A was large with 1,000 students and 60 teachers, based in the major city of Auckland. School B was smaller, with 650 students and 45 teachers, based in a smaller town.

Management at the two schools manifested different styles. Both schools had joint staff management forums, such as staff and department meetings. However, at School A there was a greater range of forums and management was committed to participative decision-making, with the timetable and class sizes determined by staff. At School B decision-making was more management led and initiated.

In terms of OHS representation, management and staff at both schools exhibited a poor understanding of the HSE Act. At School B the OHS committee had not met for more than a year. In contrast, at School A the OHS committee had previously resolved a dispute through a hazard notice, and it was considered more important than the union at workplace level.

The aged care facilities were both run by charitable trusts, with boards of trustees, female general managers, and active unions. Rest home A was located in a small city, and Rest home B in a small town. Each organization employs 75-80 mainly female care givers. Rest home A, however, has a higher proportion of registered nurses, and Rest home B a higher proportion of management positions. When interviewed, the general manager at Rest home A only had twelve months experience, compared with eleven years for her equivalent at Rest home B.

OHS committees at both aged care facilities predate the 2002 Act that made them mandatory. This stems from the nature of the industry, whereby auditing of aged care facilities is required for external accreditation upon which public funding is dependent. Auditing of risk management is also required if these facilities seek to reduce employer levies for OHS. Both committees include staff from all departments, and have a strong hazard focus.

However, as with the schools, different management styles impacted on effectiveness of representative participation. The Rest home A manager was very supportive of the union, and manifested an inclusive decision-making approach through the union, OHS committee and other committees, such as staff and department committees. The OHS committee had a high profile, a significant degree of autonomy and longstanding

members. In contrast, at Rest home B, the OHS and other committees tended to defer to management and to have a primarily communication focus.

The food manufacturing workplaces also differ in a number of important respects. Both had ethnically diverse workforces, but Food manufacturing A was a relatively small New Zealand owned operation with 65 employees, whereas Food manufacturing B was a foreign owned subsidiary with 1,900 employees, 350 of whom were casual. Food manufacturing A was non-union, whereas Food manufacturing B was 70 per cent unionised. Direct participation was strong as each workplace as a result of teamwork, though this was more extensive at Food manufacturing B. At Food manufacturing A the OHS committee representatives were chosen on the basis of the job position, rather than being elected. Other committees operated at both sites, but Food manufacturing B's were more structured, operating at department and site levels.

Both hotels are part of large international chains, with overseas owners in France and the US, regional offices in Australia, and hierarchical management structures. Hotel A is based in the city of Auckland, and hotel B in the capital, Wellington. Both hotels are in the upper end of the sector: Hotel A is rated 5 star, and B is 4 star. Hotel A had a staff of 90, whereas Hotel B had 330. These hotels had typically high labour turnover characteristic of the sector: Hotel A, had an annual labour turnover rate of 45 per cent, and Hotel B of 50 per cent in 2009. These compared with at least 60 per cent for the sector generally, although this has since trended downwards to 33 per cent because of the recessionary environment (NZTRI, 2007; Markey, Harris, Knudsen, Lind, & Williamson 2014: 9).

In terms of non-union forms of representative participation, both New Zealand hotels have reasonably effective OHS committees, but with narrow jurisdictions and some limitations to accountability and representativeness. Although numerically dominated by employees, the Hotel A committee includes the Chief Engineer and HRM manager. The Hotel A employee representatives are a mixture of volunteers and nominees, often 'shoulder-tapped' for the role according to the HRM manager. The Hotel B OHS committee seems more representative, in that employee nominees are called for and elected by staff. Interviewees indicated that there was no issue with getting people to nominate, although the General Manager considered that some 'shoulder-tapping' occurred. The Hotel B committee is also chaired by the executive secretary to the General Manager. The jurisdiction of both committees is confined essentially to hazard identification and reduction, but both management and employee representatives considered them effective in this sphere. For both New Zealand hotels OHS committee staff representatives are paid to attend meetings outside normal hours, and committee membership is viewed by employees as an opportunity for networking and access to management. Hotel B has more extensive training opportunities, during introduction to the committee, and an online training module for all staff. Both hotels also operate a range of other committees focused on quality improvement and social activities. These committees tend to be organised either around specific functions such as sales or front line reception, or they are cross-functional, drawing managers and employees from throughout the hotel, for example, environmental committees and exchange committees.

Survey Data

The scores based on employee responses regarding quality of the work environment are shown in Table 1. Separate scores are shown for total work environment, physical work environment, workload and stress and job satisfaction, with an overall index score comprising all these factors. The workplaces are ranked according to their overall QWE index score.

Overall, the QWE index score indicates strong trends on an industry sectoral basis. The rest homes and hotels scored in the top four, and their scores for all components of the index were consistently high. The schools and food manufacturing workplaces were in the bottom four. The schools scored lowest by far for workload and stress, and this drags their overall QWE index score down.

Table 1: Quality of Work Environment (QWE)

Workplace	Total WE	Physical WE	Workload & stress	Job satisfaction	QWE index	N.
Rest home A	30.0	35.6	24.5	31.0	30.3	6
Hotel A	30.0	35.9	23.0	31.3	30.1	9
Rest home B	28.9	26.4	25.5	28.1	27.2	19
Hotel B	28.0	28.7	20.3	25.0	25.5	20
Food manufacturing B	25.0	26.4	22.3	21.5	23.8	13
School A	28.3	27.0	15.2	24.4	23.7	23
School B	22.8	26.4	11.3	23.1	20.9	26
Food manufacturing A	21.7	24.9	17.3	18.1	20.5	17

Table 2 indicates scores based on employee responses regarding aspects of direct participation, with an overall index. The workplaces are ranked according to their overall index score. These results are very mixed between the workplaces. The hotels again score highly in the overall index; highest for Hotel A and third for Hotel B. Rest Home B also scores highly overall again, ranking second. School A scores fourth in the overall index, whilst the Food manufacturing workplaces occupy the two lowest positions.

However, there was considerable variety in the components of the index for direct participation. Hotel A scored highest for learning possibilities, influence on work organization, consultation regarding organisational change and equal highest for receiving information from management and. It also scored second for influence on workload and needing more influence (i.e. second lowest proportion of employees needing more information). Hotel B was ranked first for influence on workload, and School A ranked highest for influence on workload. Food manufacturing B scored lowest on learning possibilities, influence on workload and work organisation, and second lowest on receiving information from management.

Generally, the scores for influence on workload were low for all workplaces, and higher for influence on work organisation in all cases. The scores for needing more influence were also relatively low across the board, indicating that all workplaces had substantial numbers of respondents desiring greater influence; Rest home A scored most positively in this regard, i.e. fewest employees desired more influence.

Table 2: Direct Participation

Work place	Learning possibilities	Influence on workload	Influence on work org'n	Need more influence	Inform-ation from m'gmt	Consult re change	Index
Hotel A	37.8	21.3	35.6	16.7	30.0	31.7	28.9
Rest home B	36.3	19.4	27.9	16.1	31.1	26.7	26.3
Hotel B	30.5	24.5	30.0	12.5	27.0	26.3	25.1
School A	31.3	24.8	27.4	14.4	24.8	26.4	24.9
Rest home A	26.7	20.0	31.7	20.0	30.0	20.0	24.7
School B	29.6	20.4	31.9	13.8	25.0	16.6	22.9
Food man. A	27.7	23.6	27.5	16.4	16.2	22.5	22.3
Food man. B	20.6	18.8	26.9	14.7	22.4	21.8	20.9

Results for OHS representation are shown in Table 3. The index indicates how effective OHS representation through committees was according to employees, with the workplaces ranked by score. The first column records results from a question as to whether an OHS committee existed in the workplace. Interviews indicated that they existed in all cases except School B, which scored lowest here. However, where they existed each case should have scored 35. The fact that none did indicates varying degrees of uncertainty amongst employees, and some limitation to the effectiveness of the committee. In the second column the highest scores were attained for committees whose employee representatives were elected, and the lowest where management chose them. From interviews we knew that representatives were elected in most cases, although a degree of shoulder tapping also occurred. Where employee representatives were elected the case should theoretically have scored 40, but none did. This indicates that elections may not always have been the sole source of employee representatives and that there was a degree of uncertainty amongst employees, both of which detract from the committees as representative forms of participation. The other questions relating to dealing satisfactorily and in a timely manner with issues are more straightforward.

Food manufacturing B, Hotel A, Rest home A, and School A all scored highly overall. Food manufacturing B scored very highly for the method of choosing employee representatives and had the highest overall score. This no doubt reflected the well-

developed committee structure at site and department levels. Hotel A and Rest home A scored highly in all categories except the method of choosing employee representatives, which dragged down their overall index scores. In Hotel A this confirms the selection of employee representatives through "volunteering" or "shoulder tapping", as indicated in interviews. In Rest home A it may be an indication of long term lack of change in the composition of the OHS committee. School A's overall index score was dragged down only by how satisfactorily the committee dealt with issues according to employees. Hotel B and Rest home B had relatively low scores for how employee representatives were chosen, dragging down their overall index, even though interviews indicated an election for representatives at Hotel B. Food manufacturing A scored lowly in terms of satisfactorily dealing with issues and timeliness, and School B naturally scored lowly across the board.

Table 3: Occupational Health and Safety Representation

Work place	OHS C'tee	How OHS representatives chosen	Dealing satisfactorily with issues	Timeliness dealing with issues	Index of OHS representation
Food man. B	28.8	35.7	27.1	28.8	30.1
Hotel A	30.0	26.7	30.0	32.5	29.8
Rest home A	30.0	24.0	30.0	35.0	29.8
School A	30.0	30.0	26.4	31.0	29.4
Hotel B	28.0	25.0	28.3	30.0	27.8
Rest home B	24.4	20.7	31.4	31.4	27.0
Food man. A	28.2	28.3	20.0	20.0	24.1
School B	15.0	21.0	15.0	10.0	15.3

In Table 4 the same analysis occurs for JCCs. Hotel A, School A and Food Manufacturing B all again scored highly overall for the index of effective JCC representation, as did Rest home B. The last two workplaces in terms of effective JCC participation retain the same rank order by score as with OHS participation, with School B the least effective in both incidences. The combined index for representative participation was highest for Hotel A, Food manufacturing B, School A and Rest home A, closely followed by Rest home B.

Table 5 shows the ranking of workplaces on the basis of the level of union membership. The schools were clearly the most unionised, in a sector where overall union membership density is about 90-95 per cent. The other sectors were far less unionised and more mixed in the degree of unionisation, with one workplace in each sector being more unionised than the other. Hotel A and Food Manufacturing A had no union members.

Table 4: Joint Consultative Committee (JCC) Representation

Work place	JCC	How reps. chosen	Dealing satisfactorily with issues	Timeliness dealing with issues	Index of JCC representation	Combined index of OHS & JCC rep'n
Hotel A	30.0	21.3	30.0	30.0	27.8	28.8
Rest home B	30.0	23.6	26.7	30.0	27.6	27.3
School A	24.3	23.3	30.0	32.5	27.5	28.5
Food man. B	26.3	28.3	26.0	28.0	27.2	28.7
Hotel B	24.7	24.2	23.3	30.0	25.6	26.7
Rest home A	30.0	12.5	30.0	30.0	25.6	27.7
Food man. A	22.7	30.0	20.0	16.7	20.4	23.2
School B	20.0	19.1	14.0	20.0	18.3	16.8

Table 5: Union representation by membership density

Workplace	Index score	Rank
School A	40	1
School B	30	2
Rest home A	20	3
Food manufacturing B	20	3
Rest home B	10	5
Hotel B	10	5
Hotel A	0	7
Food manufacturing A	0	7

Discussion

Taken as a whole the results are complex, but some clear trends do emerge at the level of individual workplaces and industry sectors. In the first instance, the relationship between various forms of representative participation is interesting. In half the workplaces there was a substantial degree of similarity in rankings for all forms of representative participation. School A and Food Manufacturing B were in the upper half of rankings for all forms of representative participation, hence their combined representative participation scores were the highest, as shown in Table 6. This indicates what has been described as relatively "democratic" workplaces in terms of employee participation (Markey & Knudsen, 2014). In contrast, Food Manufacturing A and Hotel B were consistently ranked in the lower half of workplaces for all forms of representative participation; overall Table 6 shows that Food Manufacturing A was the lowest ranked for representative participation and Hotel B was ranked third lowest. In each of the other cases two of three forms of representative participation were similarly or identically ranked. These results may indicate a degree of mutual support between different forms of representative participation.

Table 6: Ranking for QWE, Direct and Representative Participation

Workplace	QWE rank	DP rank	Combined REP rank
Rest home A	1	5	3
Hotel A	2	1	7
Rest home B	3	2	5
Hotel B	4	3	6
Food manufacturing B	5	8	2
School A	6	4	1
School B	7	6	6
Food manufacturing A	8	7	8

In the workplaces where only two forms of representative participation were similarly ranked there may have been a trade-off between union and non-union forms of participation. Hotel A and Rest Home B were both ranked highly for representative participation through JCCs (and in Hotel A's case also for OHS representation), but they were ranked lowly for union representation. Rest Home A and School B were ranked highly for union representation, but lowly for JCCs. OHS committee representation ranking was not consistently associated with high or low rankings for JCCs or unions, but unlike them OHS committees have a statutory basis. Since both union and JCC representation are largely a matter for management strategic choice, it is more likely that they may contrast in their viability in different workplaces.

Similar observations may be made concerning the relationship between direct and representative forms of participation. In most cases the overall ranking for these different forms of participation bore an inverse relationship to each other. Only School A ranked in the top four for all forms of participation, and Food Manufacturing A ranked lowly for all forms of representative and direct participation. On the other hand, Food Manufacturing B ranked in the top four workplaces for all forms of representative participation, but ranked lowest for direct participation. Conversely, Hotel B ranked third for direct participation, but in the bottom four for all forms of representative participation.

In the remaining four workplaces it was principally union representation which contrasted with the level of direct participation, and the level of non-union forms of representative participation were similar to those for direct participation. For example, Hotel A and Rest Home B ranked highest for both direct participation and JCC representation (and also second for OHS representation in Hotel A's case), but were ranked in the bottom half of workplaces for union representation. Conversely, in Rest Home A and School B the level of union representation was comparatively high, but both JCC and direct forms of participation were comparatively weak. These results tend to suggest that direct participation and non-union representative participation may complement each other.

There were significant associations between QWE and participation, but they were also not straightforward. The top four ranked workplaces in terms of QWE were also ranked in the top four for either direct or overall representative participation, but not both. Conversely, the two bottom ranked workplaces for QWE were also near or at the bottom of rankings for both direct participation and overall levels of representative

participation. Direct participation was more important in terms of its association with QWE in three of the four highest ranked workplaces for QWE, and only at Rest Home A was the high overall ranking for representative participation associated with a high QWE ranking. In two cases, Food Manufacturing B and School A, low rankings for QWE were associated with high rankings for overall representative participation; at School A the direct participation ranking was also high.

Looking more closely at the components of representative participation in each workplace, high rankings for JCC representation were more likely than high levels of trade union representation to be associated with high levels of QWE. As with direct participation, three of the top four ranked workplaces in terms of QWE were also the top ranked for JCC participation. Only Rest Home A was highly ranked for all forms of representative participation, and QWE.

However, the picture changes somewhat if we focus on the sectoral industry level of analysis. At an industry level there are strong associations between high ranking for QWE and participation, especially representative participation. In three of four sectors the higher ranked workplace for QWE was also more highly ranked overall for representative forms of participation: rest homes and food manufacturing on the basis of union and OHS representation, and schools on the basis of all forms of representative participation. The higher ranked hotel for the level of QWE was also ranked higher for direct participation and JCC representative participation.

Both participation and QWE outcomes displayed patterns based on industry sector. The schools were by far the most unionised workplaces, and the hotels were both highly ranked for direct participation. The hotels were also highly ranked for QWE, whereas the schools ranked lowly for very poor workload and stress scores affected by general industry trends.

These patterns indicate that industry characteristics strongly influenced outcomes for both participation and QWE at the workplace level. Both rest homes and both hotels are in the top four ranked workplaces for QWE, in contrast with both schools and food manufacturing workplaces being more lowly ranked. It is not entirely clear why rest homes would score relatively highly for QWE, and this warrants further study. The low rankings for QWE at both schools are mainly a result of very low scores for workload and stress, or psychosocial work environment, although one is ranked highly for all forms of participation. Changes in work practices in schools have been acknowledged to contribute to high levels of workplace stress, regardless of participation (Knudsen, Markey & Simpkin, 2013). Bearing in mind that our measures are based on subjective evaluations, the surprisingly high assessments for QWE and participation given by employees in the hotel industry may reflect low expectations for QWE as well as non-union forms of participation. The sector is known for its rather tough working conditions, and a substantial part of the jobs are occupied by young temps and part-timers (NZTRI, 2007); perhaps they experience that jobs in the industry are better than they had feared. Thirdly, the food manufacturing workplaces are by their physical nature likely to offer poorer work environments, and seem to be prone to more direct management control of work processes which limit employee discretion in direct participation. Food manufacturing A also had a very low score for psychosocial work environment.

Conclusions

Overall this study finds that workplaces with strong forms of participation tend to display high levels of work environment quality, but that participation is not the only factor influencing QWE. A number of complexities were revealed in this association. In particular, the association between participation and QWE was mediated by the nature of different forms of participation and their relationship with each other, as well as by industry characteristics.

The incidence and practice of direct and representative forms of participation tended to vary inversely; where representative forms overall were strong direct forms were weaker, and vice versa. Only a couple of workplaces had wide scope and depth of participative practices; notably School A where all forms of representative and direct participation were strongly practiced. However, there was a stronger link between direct participation and JCCs, which tended to coincide where unionisation was weak. This indicated strategic management choice between union and non-union forms of participation, either as a result of deliberate union avoidance or an attempt to compensate for lack of employee voice in the absence of unions. In a couple of cases, notably food manufacturing and to some extent with rest homes, the degree of unionism varied significantly between individual workplaces in the sectors, indicating the likelihood of management's strategic choice. In other cases, however, the level of unionisation reflected a sector wide trend; towards high union membership density in schools, and low union membership in hotels. To some extent these results support previous research suggesting that non-union forms of employee participation may displace or undercut unionism.

The forms of employee participation also appeared to have a differential association with QWE, but it is necessary to recognise the importance of industry characteristics in mediating the relationship between participation and QWE, the type of participation and the ranking of QWE itself. If we focus on results within industry sectors, substantial representative participation was usually associated with better QWE. Union representation was particularly important at a sectoral level in determining better QWE. The one exception to this trend, in hotels where union representation is very weak generally in the sector, non-union JCC representation as well as direct participation were associated with good QWE.

Most importantly, at an industry level there is confirmation of an expectation that a good QWE is associated with a high degree of participation. Representative participation plays a critical role, but in the absence of union representation, JCCs or direct participation can also play important roles. In other words, it appears to be either union or non-union participation, but not both, that is associated with positive QWE outcomes.

This result is significant for two reasons, although it is not possible to generalise from a collection of case studies. First, there is no confirmation that direct participation was associated with poor QWE outcomes as suggested by some recent literature. Second, the research contradicts European evidence regarding the complementary role of direct and representative participation, including union representation. This suggests the importance of national regimes of employment relations. Further research is warranted to explore these relationships.

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Research Note: The state of human resource (HR) competency research: Charting the research development of HR competencies and examining the signals from industry in New Zealand

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Key Words: Human resource professionals, human resource competencies, strategic human resource management, signalling theory and recruitment

ABSTRACT

Human resource (HR) competencies for HR professionals have been implicated as an indicator of organisations' pursuit of strategic human resource management (SHRM). Utilising signalling theory, this research note charts the development of HR competency research and examines the signals given by organisations in the recruitment of HR professionals in New Zealand. This research note reports on the signals that organisations recruiting HR professionals give in their job advertisements. Findings indicate that the development of HR competency research has progressed to more strategic concerns and focused on the management of competencies by organisations. In contrast, signals by organisations appear to emphasise functional rather than strategic competencies. Implications for theory and practice are discussed.

Introduction

In the last few decades there has been an increasing strategic orientation for human resource management (HRM) function (Lengnick-Hall, Lengnick-Hall, Andrade, & Drake, 2009; Lepak, Liao, Chung, Harden, & Joseph, 2006; Marler, 2012). Despite this, there has been criticism that the literature on strategic human resource management (SHRM) has failed to make an impact on the everyday practice of organisations (Kaufman, 2012;Yeung, 2011). Such evaluation is surprising considering the enormous impact that SHRM initiatives have for the organisation (Jiang , Lepak, Jia, & Baer, 2012). Scholars suggest that this lack of proliferation rests squarely in the human resource (HR) competencies of the HR professional (Han, Chou, Chao, & Wright, 2006; Ulrich, Younger, Brockbank, & Ulrich, 2013). Empirical research on the HR competencies of the HR professional demonstrate the importance of their credibility and the HR function to employees (Graham & Tarbell, 2006); as well as the importance of leadership competencies in mobilising HR strategy (McDermott, Conway, Rousseau, & Flood, 2013). Such is the importance of competencies for the HR professional that professional associations such as the Human Resource Institute of New Zealand (HRINZ, 2013) and the Australian Human Resource Institute (AHRI, 2013) have advocated competency standards for their members.

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However, there has been little systematic review of the overall HR competencies literature to assess the development of HR competencies for HR roles. Aside from Ulrich and colleagues (Ulrich et al., 2013) which utilised professional associations, practitioners and thought leaders as the basis for their study (Ulrich, Brockbank, Johnson, Sandholtz, & Younger, 2008b; Ulrich, Brockbank, Yeung, & Lake, 1995; Ulrich, Younger, Brockbank, & Ulrich, 2012), we have very little knowledge about how much of the research literature on HR competencies have impacted on the development of HR competencies required by industry. Such critical assessment of the development of HR competencies research and the way in which HR competencies are signalled by organisations has the potential to bridge the micro and macro aspects of the HR function including highlighting the gaps through which organisations are able to develop their HR readiness and competence (Huselid & Becker, 2011). Utilising signalling theory, we aim to investigate how HR competencies for HR roles have developed and assess the HR competency requirements on job advertisements. This research note is the first step in a wider research stream on HR competencies and their development for the professionalisation of HR professionals. Our research question therefore asks, "What do New Zealand organisations signal in their HR competency requirements of HR professionals?"

This research note is structured as follow, we begin with a theoretical background of how HR competencies for HR roles in research has developed with an emphasis on recruitment information as signals to HR professionals. In the methodology section, we then chart the development of HR competencies for HR roles research highlighting the prominence of different HR competencies throughout the years. Secondly, we analyse the HR competencies that industry signals through their recruitment of HR professionals. Results are presented in the next section including findings from the content analysis based on published articles and a quantitative analysis based on job advertisements. In the final section of this research note, we discuss some important findings and its implications for theory and practice.

Background

The importance of human resource (HR) competencies has been researched in the literature for over 20 years. Beginning with the seminal work by Ulrich and associates at the Michigan school of business, the general consensus was that the development of HR competencies had the ability to promote the HR function by adding value to the business through proficiencies and through strategic partnership (Ulrich, 1997; Ulrich, 1998). Thus, as the HR function became more strategic, the impetus for the professionalisation of HR roles and specialised knowledge too became critical (Baill, 1999; Kochan & Dyer, 1993; Lawson & Limbrick, 1996). In a recent review, Ulrich, Younger, Brockbank and Ulrich (2013) identified six domains of competencies that are as critical for the HR profession including strategic positioner, credible activist, capability builder, change champion, human resource innovator and integrator, and technology proponent. Their categorisation of HR competencies was identified from surveys of HR professionals (Ulrich et al., 2013). Proclaiming that the HR profession has arrived, the authors go on to suggest that HR standards should impact "hiring, orienting, promoting, training and assessing HR professionals" (p.468). However, such assertions are rarely straightforward. The authors themselves have noted the changes in the HR function and competencies associated with the HR roles since their initial data gathering wave beginning in 1988/1989 (Ulrich, Brockbank, & Yeung, 1989; Ulrich et al., 1995). However, the context for these changes have not been systematically assessed.

Several authors have argued convincingly that HR's strategic contribution should encompass more functional competencies such as negotiating trust and fairness as these competencies are far more critical in managing multiple stakeholder perspectives important for sustainable performance (Graham & Tarbell, 2006; Han, Chou, Chao & Wright, 2006). Moreover, others have argued that HR's contribution was not a function of its strategic contribution per se, but as a function of its effectiveness in operational activities (Teo and Rodwell, 2007). These studies highlight the need to evaluate how HR competencies have evolved over time along with the changing strategic role of the HR function. Despite the literature distinguishing between strategic and functional HR competencies in the alignment of HR value with the organisation (e.g., Huselid, Jackson, & Schuler, 1997), evidence suggests that HR practitioners are still spending more time on operational HR activities (e.g. providing support to line managers and HR transactions), than making a strategic contribution (Kulik, Cregan, Metz, & Brown, 2009; Ramlall, 2006). Moreover, there is evidence to suggest that HR competencies in organisations may continue to evolve in organisations (Guest & Conway, 2011; Soderquist, Papalexandris, Ioannou, & Prastacos, 2010). Legge (1995) suggests that the rhetorics of HRM and the realities of practice in HR have further muddied the waters. Taken together, these studies suggest that the adoption of HR competencies for HR professionals has significant complexity.

One area that has not received much attention despite its importance for organisations is the recruitment of HR professionals. This is surprising considering the importance of organisational attraction in ensuring human capital advantage (Den Hartog, Caley, & Dewe, 2007; Marques, 2006). As such the focus on how organisations recruit HR professionals should provide insights into the importance organisations place on HR competencies for their HR professionals. In addition, the messages used in recruiting such as job advertisements provide information about the role and the organisation (Rynes & Barber, 1990). Recently, signalling theory has been described as gaining momentum in the management literature (Connelly, Certo, Ireland, & Reutzel, 2011). Signalling theory is based on information economics research on the outcomes of information asymmetries in markets (Spence, 1973). Spence's (1974) theory presented the hiring of employees by organisations as a central problem. In this case, organisations wanting to employ productive individuals and potential employees wanting a monetary exchange for their abilities employ signalling mechanisms (such as education as a proxy for their abilities) to surmount information asymmetries between the potential hiring organisation and the potential employees. Within this framework, concepts such as immutable attributes (such as gender and sex) are known as indices while alterable attributes are named signals. In addition, the framework recognises the reduction of uncertainty, costs of equilibrium, and perception as important processes in the interpretation of the signals (Karasek & Bryant, 2012). Based on this premise, signalling theory has been used to explain acquisition premiums (Reuer, Tong, & Wu, 2012), promotions (DeVaro & Waldman, 2012), recruitment (Celani & Singh, 2011), and selection (Bangerter, Roulin, & König, 2012). Signalling theory provides an important insight into the exchange between actors in the employment relationships and the role of HRM (Cadsby, Frank, & Maksimovic, 1990; Kirmani & Rao, 2000).

In terms of recruitment, the way in which the organisation signals to potential applicants of a job role represents the beginning of the relationship between two agents such that as potential psychological contract begins with the signals transmitted via websites or job advertisements (Rynes, 1991; Suazo, Martínez, & Sandoval, 2009). Recruitment begins with the sole purpose of identifying and attracting potential employees (Barber, 1998). Therefore, job

advertisements provide a fruitful avenue to examine the signals that organisations make about the required competencies and roles (De Cooman & Pepermans, 2012; Dineen & Williamson, 2012). Thus in order to assess the dissemination of HR competencies utilised by organisations, assessment of the job advertisements used to recruit HR professionals is an important step.

In summary, while studies exist of what HR competencies required (e.g., Ulrich et al., 2013), there is little examination of the context of these changes. Therefore, it is timely to assess the evolution of HR competency research since the 1990s in order to understand how competencies for HR roles has evolved. Thus, we report on the development of the HR competency literature through automated content analysis. In addition, we report on an analysis of job advertisements of HR professionals in order to assess the competency signals that organisations in New Zealand have for HR professionals.

Methods

The research design of this research note utilised a quantitative approach in both analysing the development of HR competency research as well as the analysis of the job advertisements. We charted the changing concepts in the HR competency literature using content analysis aided text-mining software (www.leximancer.com) as a research tool. In this research note, we utilised articles about competencies for the HR function from a business database (Business Source Premier). Moreover, we analysed job advertisements of HR roles collected from an online database (www.seek.com). These methods are briefly described in the following section. For the purposes of this research note, we distinguish the concept of HR competency from the concept of HR practices. HR competency refers to the personal characteristics and behaviours required of an individual HR practitioner to achieve effective performance in his/her job (McEvoy et al., 2005; Ulrich et al., 2008b). Whereas HR practices refer to a set of interrelated activities aimed to ensure the management of employees contributes to effective organisational performance (e.g. recruitment & selection) (Delery & Doty, 1996; Schuler & Jackson, 1987).

HR competency research development: Journal articles 1990-2012

In order to chart the movement of concepts in HR competency research, we collected scholarly, peer-reviewed articles published on HR competencies in *Business Sources Premier* database from 1990-2012. Business Source Premier is one of the top business research databases, featuring the full text for more than 2,200 journals in all business disciplines, including HRM. Pdfs of the articles were downloaded as a unit of analysis. Utilising the entire article as data for analysis allowed a much deeper analysis of the content and scope of the HR literature on competencies for the HR function. We utilised "human resource competencies" as a general search term in the Business Source Complete database. In addition, we limited the search to scholarly (peer reviewed) journals. A total of 141 articles were obtained from this initial search term. However, from this initial set of articles, 26 were excluded because they were non-specific HR roles (such as line managers), 37 were about competencies for non-HR organisational level functions (such as logistics), 12 were excluded as miscellaneous articles (such as non-management, book reviews, research reports, research reviews or news articles), seven were about generic competencies for organisational strategy, and finally, eight were excluded because they were non-English articles. The final dataset

yielded 51 articles. The results of the database search were rated by the co-authors to ensure inter-rater reliability resulting in 97% agreement for the final dataset for analyses (agreement on 137 out of the 141 articles).

Leximancer (ver. 4) was utilised to analyse the content themes and concept relationships in the articles. The automated content analysis utilises word frequency and co-occurrence of data that is then aggregated to identify families of words and terms that are used together in the data. Two phases of co-occurrence information extraction is performed that uses both a statistical algorithm (examining semantic and relational features of the data) and nonlinear dynamics and machine learning (Cretchley, Rooney, & Gallois, 2010). By utilising automated content analysis in this research note, researcher bias is eliminated as a priori identification of words and terms are identified automatically. The automatic generation and co-occurrence data that occur frequently from the data are then treated as concepts. Concepts are then clustered together (denoted as themes) and this can be displayed in a concept map for an overview of the structure and content of the data. Each theme is named after the most prominent concept in that group which is also indicated by the size of the dot in the concept map. Further analyses are available including rank-ordered concept list, concept frequency, total concept connectedness (in a hierarchical order of appearance), direct inter-concept relative co-occurrence frequency and total (direct and indirect) inter-concept co-occurrence (shown as proximity of one concept to another in the map).

The reliability and validity of Leximancer has been demonstrated by it stability, reproducibility, correlative validity and functional validity (Smith & Humphreys, 2006). Minor data cleaning was performed at each analytical step of the analyses. These steps included automatic merging of plural and singular words (such as organisation and organisations), and removing common function words and general terms (such as "et al", "results", etc) from the concept seeds. A growing number of publications have also established Leximancer as a rigorous research tool (Campbell, Pitt, Parent, & Berthon, 2011; Cretchley et al., 2010; Cummings & Daellenbach, 2009; Gapp, Fisher, & Kobayashi, 2008; Middleton, Liesch, & Steen, 2011).

We conducted a second analysis utilising Leximancer with a semantic comparison of each decade in the dataset. Concept maps were also created for each decade for comparative purposes for this research note. These separate analyses allowed a much greater detail to be examined about the conceptual nature and concept relationships in each individual period without relational forcing in the overall analysis (Cretchley et al., 2010). We assessed two time periods (1990-1999 and 2000-2012) by creating data subsets of 10-year periods. The two separate time periods consisted of 20 articles for the 1990-199 time period and 31 articles for the 2000-2012 time period. These two decades were selected because the competencies approach were analogous to changes in the HRM movement from HRM to SHRM (Boxall & Purcell, 2003; Lundy, 1994). In addition, HR competencies were widely disseminated in HRM culminating in several seminal books by Ulrich distinguishing a model of competencies and HRM in the late 1990s (Teo, 1998; Ulrich, 1997; Ulrich, 1998). This provides a natural point (1990-1999 and 2000-2012) to assess the direction and dissemination of competencies in HRM over the two decades. Leximancer provided an identification of where each decade was situated in relation to the overall landscape of the dataset. This allows an examination of the semantic focus of each period and highlight changes over time.

Analysing industry demands of HR competencies: Job advertisements for HR professionals

Job advertisements were collected between December 2012 and February 2013 from NZ's most widely used online job site (www.seek.com). The search term of "human resources" and "New Zealand only" search limiter was used to gather job advertisements for HR roles. The initial search results gleaned 1,000 results. However, job advertisements which were not for HR roles (e.g., general administrator, sales representative) or limited term (e.g., part time, casual) were eliminated from this initial search resulting in 111 Job advertisements. Each job advertisement was scanned, marked with a reference number and filed into an excel database based on the type of role (HR Manager, HR Director). Job advertisements were then broken down into semantic categories and identified competencies categorised into knowledge, skills, and abilities (KSAs). For example, from the job advertisement (semantic category) - "delivery of exceptional operational performance through engagement of people and leadership", we categorized as "leadership" under knowledge (KSA category).

Along with the competencies, we also recorded some relevant demographic and job data such as name of the advertising company and work conditions. Manual input of each job advertisement into KSAs were performed by one of the researchers and verified by another. Descriptive analysis and frequency analysis of the competencies from the job advertisements were then performed. A total of 793 competencies were identified from the job advertisements. Frequencies (%) were calculated on the number of KSAs competencies identified from the overall dataset. Frequencies for specific HR roles were calculated on each HR role total competencies. In addition, we further categorised the KSAs identified into Ulrich et al's HR (2008a) competencies domain to allow for further comparisons. Utilising these categories is important as professional bodies such as the Human Resource Institute of New Zealand (HRINZ) have used Ulrich et al.'s (2012) seven HR competencies domains as the basis for their standards (HRINZ, 2013). Thus, the focus on signals that organisations give can be understood in the context of these idealised competency requirements.

Results

The Leximancer analysis of the 51 articles shows the most frequently occurring concepts. Figure 1 presents the overall map of concepts and themes, with decades indicated (see Appendix). As can be seen from the concept map, HR is one of the most central themes (HR, business, professionals, role, and managers; theme connectivity=100%) indicating that the role and utilisation of HR is a central theme in the HR competencies literature. Associated with the concept of HR is the link towards competencies with the strategic aspect of business and research. In addition, competencies (competencies, model; theme connectivity=67%) reflected the importance of competencies and competency models. The third most important theme is that of Organisation (organisation, resource, people; theme connectivity=50%) which specifies organisational features and resources in HR competencies. Overall, the concept map displays that competencies were associated with aspects of training and development, the job itself and performance. These concepts were associated with the

increased need to contribute to the performance of the organisation including its role in SHRM.

Table 1. Top ten concepts from HR competency journal articles 1990-2012

Word-like	**Count**	**Relevance (%)**
Competencies	1564	100
Business	502	32
Organisation	476	30
Management	460	29
Professionals	457	29
Resource	387	25
Performance	385	25
Model	351	22
Role	334	21
Knowledge	323	21

In addition, the top ten concepts based on their frequency from the literature can be identified (refer to Table 1). The top concepts include business, organisation and management while the lowest ranked concepts (not shown) were customer, activities and capabilities. Of the top ten concepts, Competencies (100%) of the literature specifying the competencies required for HR roles while model (22%) specifies competency models for HR roles, five (business, organisation, management, resource and performance) were about the relationship of competencies with the organisation, and three (professionals, role and knowledge) were about the individual aspects of HR competencies. We further specified comparative analysis of the decade changes in concepts in the HR competencies literature (refer to Figure 2, see Appendix).

Table 2. Ranked concepts by decade (1990-1999 and 2000-2012)

Category: FOLDER1_1990-1999

Concept	Rel Freq (%)	Strength (%)	Prominence
change	12	63	1.5
resource	16	59	1.4
human	13	57	1.3
organization	16	49	1.2
model	12	47	1.1
competencies	50	46	1.1
professionals	14	43	1.0
performance	11	42	1.0
business	14	40	0.9
management	11	35	0.8

Category: FOLDER1_2000-2012

Concept	Rel Freq (%)	Strength (%)	Prominence
management	15	64	1.1
role	11	61	1.1
strategic	9	60	1.0
business	16	59	1.0
performance	12	57	1.0
professionals	13	56	1.0
competencies	44	53	0.9
model	10	52	0.9
skills	9	51	0.9
organization	12	50	0.9

Figure 2 displays a table of the top ten concepts by decade (1990-1999 and 2000-2012). The quadrant map allows a visual comparison of the changes in concept centrality of the literature. In addition, Table 2 displays the list of top ten concepts according to decade. One of the main findings is the significant increase in the concept of management from 10th place to 1st place over the two decades (prominence from 0.8 to 1.1). In summary, the main findings from the analysis of the research literature revealed the move towards strategic contribution of HR competencies for HR professionals. Moreover, the change over the decades saw a move towards more strategic competencies for the organisation including the need to find new ways to manage HR competencies for SHRM.

The analysis on job advertisements revealed the specific competencies that are signalled to HR professionals. With regards to the KSAs identified for all HR roles, there were some similarities and differences between the HR roles. Overall, there were more knowledge and skills described while little information about abilities (except for creativity) was mentioned for HR professionals. Generally, all HR roles demanded knowledge of HRM operational activities such as recruitment (5.42%), performance management (3.66%), learning and development (4.79%), remuneration (1.89%), and employment relations (3.28%). In terms of skills, communication (7.57%) and leadership (3.92%), as well as IT skills or computer literacy (3.40%) were important competencies requested. Table 3 summarises the competencies associated with the HR roles identified by Ulrich and HRINZ (HRINZ, 2013; Ulrich et al., 2008a).

Table 3. Sample of competencies identified from job advertisements

Prominent competencies of HR professionals across job advertisements		
Competence elements	**Percentage**	
Knowledge	Recruitment	5.42%
	Performance	3.66%
	Learning and Development	4.79%
	Remuneration	1.89%
	Employment relations	3.28%
Skills	Communication	7.57%
	Leadership	3.92%
	IT skills or Computer literacy	3.40%

In terms of specific HR roles, HR director competencies were the least represented in job advertisements (4.79%). The most common HR roles advertised were HR advisor (25.85%) followed by HR manager (20.68%) and other HR (20.30%; other HR included administrative/focus roles in HR including HR training and development and employment relations focus). This was followed by HR Admin and Entry level HR (13.37%) and Specialist HR (15%; Specialist HR included categories such as HR consultants or recruitment consultants). As Table 3 demonstrates, the job advertisements reveal that competencies for HR roles varied across the different HR positions in organisations: the higher position, the fewer operational priorities and the more strategic capabilities required.

Categorising the KSAs identified from the job advertisements around the six dimensions developed by Ulrich and his associates (Ulrich et al., 2008a), reveal that HR director' competencies were prioritised around leadership, organisation culture and strategy (Table 4). Specifically, the categorisation of KSAs from the job advertisements showed that operational executors (55.24%) was highest, followed by culture and change steward (39.46%); talent manager/organisational designer (42.09%) and strategy architect (39.46%). For the HR manager roles, a significant proportion of competencies requested were as an operational executor (73.20%). Similarly, competencies of HR Advisor, Other HR, Other Advisor and HR Admin were associated with the role as operational executors (HR Advisor=84.94%; Other HR=95.61%; and Other Advisor=84%; HR Admin=96.23%). To summarise, competencies signalled by organisations in their recruitment of HR professionals were far more functional than strategic. All HR roles required knowledge or functional competencies. In addition, senior roles signalled far more strategic and change management competencies and stakeholder and relationships building competencies.

Discussion

Our first discussion deals with the development of HR competency research. Overall, it can be observed that as the strategic imperative for HRM has also extended to understanding how HR competencies contribute to this change (Chadwick & Dabu, 2009; Teo, 1998). In particular, the search for the role of HR competencies in organisational performance dominates the development of HR competency research. This is in line with current thinking that the black box of performance in the HRM-performance link remains little understood (Guest, 2011). Additionally, there is increasing attention that these performance links lies in understanding the role of HR competencies (Guest & Woodrow, 2012; Morris et al., 2009).

Analysis of the changes from 1990-1999 to 2000-2010 demonstrate that concerns regarding management perception, skills and people around competencies are an imperative for potentiating HRM for performance (Campion et al., 2011; Heneman & Milanowski, 2011).

Additionally, our initial analysis of the signals from industry show that HR competencies for HR roles in NZ are focused on functional rather than strategic competencies. The HR competencies in NZ appear to be fixated on the operational aspects of the function with greater emphasis on competencies as operational executors. Looking further into these competencies the results show that senior HR roles (HR director and other advisor) were more strategic than the other roles and were far more focused on stakeholder management (credible activist and business ally). In terms of the competencies of Ulrich et al.'s (2008a) dimensions, the signals that job advertisements give tend to emphasise systems and processes rather than relationships or strategy (Kulik et al., 2009). HRM in NZ therefore appear to be at focused on operational efficiencies and not on the strategic dimensions. One potential explanation is that HR professionals in NZ are more focused on operational and functional aspects of HRM, which some authors have argued is the way HR departments can be more effective (Teo & Rodwell, 2007). This is counterintuitive to the development of HR competency research that demonstrates increasing need for strategic orientation for HR roles. This suggests that intuitively the role of HR competencies and professionals play in SHRM is far more complex. An additional implication for the lack of strategic competencies in signal from job advertisements, especially for senior positions have real implications for the recruitment of a potentially strong pool of HR professionals (Gruber, MacMillan, & Thompson, 2012; Wright & McMahan, 2011). Increasingly organisations utilise the job advertisement as a powerful tool for attracting employees with high potential (Edwards, 2010; Elving, Westhoff, Meeusen, & Schoonderbeek, 2013; Lievens, 2007; Martin, Gollan, & Grigg, 2011). These signals may form the basis of the organisation's competitive advantage (Johnson, Winter, Reio, Thompson, & Petrosko, 2008).

This research note has a number of implications for the organisation and HR professionals. Firstly, the results indicate that all HR roles require operational competence and be efficient in HR systems and processes. Senior level HR roles are associated with a stakeholder focus and may contribute to the roles' credibility and professionalisation. Such stakeholder focus can be explained by the NZ employment relationships framework requiring more interaction with unions as well as the importance of relationships building with internal stakeholders (Haworth, 2011; Macky, 2004). However, as many professional bodies (e.g., HRINZ, AHRI, Society of Human Resource Management, etc) continue to develop accreditation for the HR professional based on the Ulrich model, the changing nature of the HR function will continue to be advanced by further research and the changing nature of professional practice. As more research evidence becomes available, HR competencies and their outcomes will be at the forefront of accreditation from these professional bodies.

This research note demonstrates that the evolving role of HR competencies require a focus on the evolving nature of HRM contributions to organisational performance and the ability of organisations to signal the minimal competency standards for the HR professionals. Our research note suggests further improvements could be made with regards to how HR competencies are utilised and signalled to the HR community (Barber, 1998; Heneman & Berkley, 1999; Rynes, 1991). This brings up two possibilities that could be part of the wider discussion on the value of HR competencies. Firstly, in assessing the contribution that associations such as HRINZ make about providing the competency level quality for junior-level roles and secondly to focus on the contribution that such associations can make for the

strategic competencies of its members. The findings on the junior and administrative level HR roles suggests that organisations seek HR professionals at this level as an entry level position or that organisations are tasked at providing training for these competencies. Regardless, this has implications for the role of professional associations in managing the professionalization of the function with future efforts focused on providing the development of operational and functional efficiencies to gain credibility.

Conclusions

This research note has charted the development of HR competency research and assess the state of HR competencies that organisations signal to potential HR professionals. As the strategic nature of HRM demand more strategic competencies, this research note demonstrates that the relationships between HR competencies and SHRM is far more complex than just the need to accumulate and exploit the potential of strategic competencies in people. Based on signals that organisations signalled in this research note, HR professionals in New Zealand are expected to focus on operational efficiencies rather than on strategic dimensions. Such findings reiterates the need to examine the ways in which HR competencies, particularly strategic ones are utilised and perceived in organisations. This suggests that NZ organisations can use job advertisements as a powerful tool to attract potentially qualified HR professionals.

We acknowledge that this research note has some important limitations which limit the generalisability of findings. Firstly, while we have attempted to be inclusive by using a prominent research database for article search, this has limitations in that our search only produced articles that are indexed by this database. In addition, our use of job advertisements was limited to the past 3 months in the Australasian summer which may limit the representativeness of job advertisements as this period may have less activity. Future research could examine a larger scope of articles (by including more journal databases e.g., ABI/INFORMS and broad search terms such as "competencies") and job advertisements over a longer time frame (for example, a year). Therefore, a future research direction is to determine the adoption and dissemination of HR competencies as they are driven by the contextual and organisational processes (Yeung, 2011). All things being equal, substantial gains can be made for the role of HR competency development for both the individual and the organisation (Shaw, Park, & Kim, 2013).

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Figure 1. Theme and concept map of HR competency journal articles 1990-2012

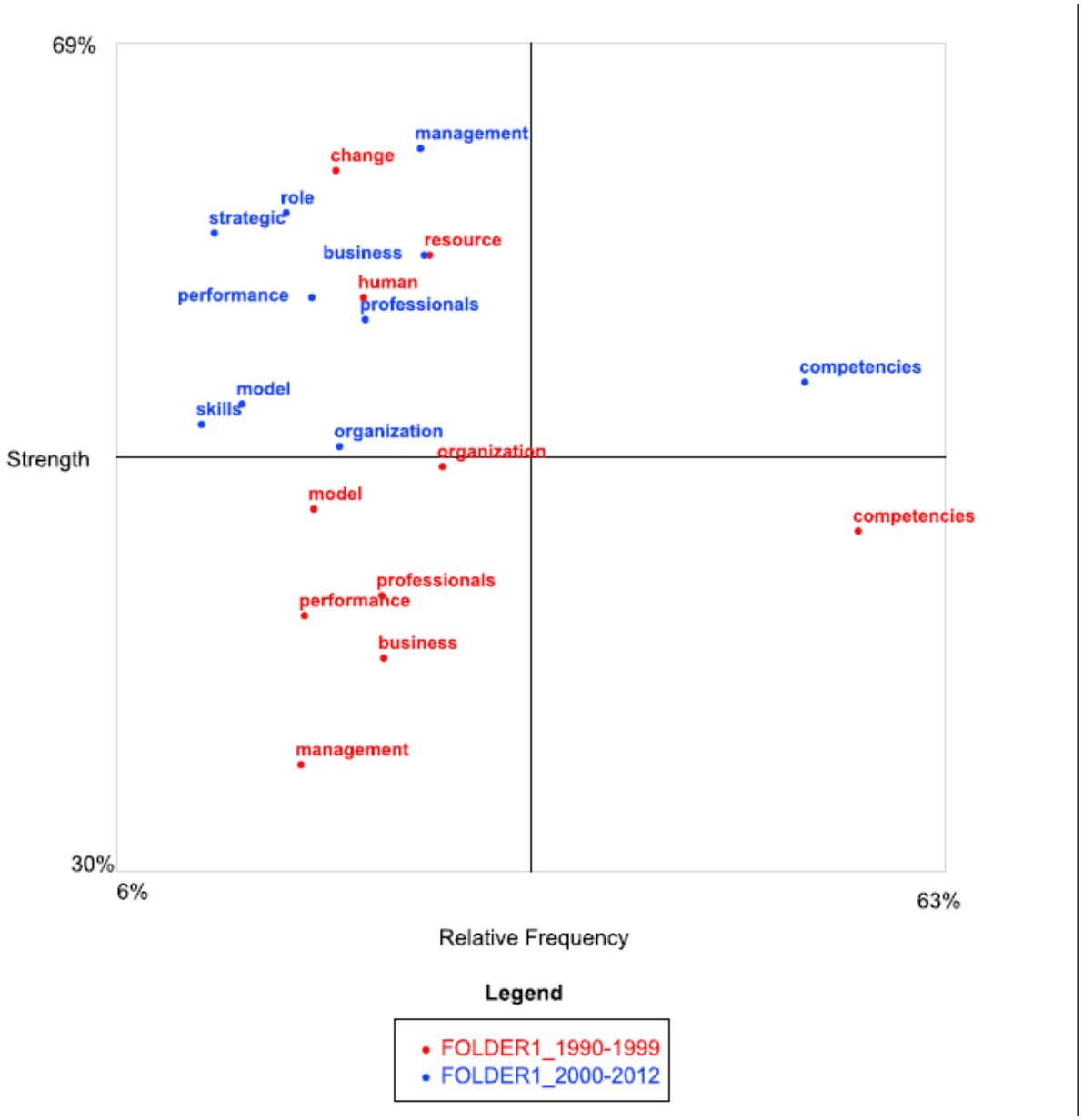

Figure 2. Concept centrality and frequency by decade (1990-2012 and 2000-2012)

Table 4. Summary of HR competencies for HR roles **Percentage of HR Professional's competencies (Knowledge, Skills, Abilities and Other characteristics)**							
Positions		**HR Director**	**HR Manager**	**HR Advisor**	**HR Admin**	**Other HR**	**Other Advisor**
Frequency (overall)		4.79%	20.68%	25.85%	13.37%	20.30%	15%
Relationships	*Credible Activist*	31.57%	21.35%	8.80%	14.15%	5.59%	12.60%
Systems and Processes	*Operational Executors*	55.24%	73.20%	84.94%	96.23%	95.61%	84.00%
	Business Ally	36.83%	24.40%	18.57%	0%	0%	33.60%
Organisational capabilities	*Talent Manager/ Organisational Designer*	42.09%	26.84%	16.12%	0%	0%	35.28%
	Culture and Change Steward	39.46%	23.79%	14.18%	0%	14.28%	34.44%
	Strategy Architect	39.46%	23.18%	18.07%	0%	12.41%	34.44%

Research Note: The state of New Zealand Union membership in 2014

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The Centre for Labour, Employment and Work (CLEW) has collected data on union membership each year since enactment of the Employment Contracts Act in 1991. In that time, there has been a dramatic decline in the share of New Zealand's workforce that belong to a trade union, as well as a concomitant shift in the composition and structure of union membership in New Zealand. While declining union membership over the past three or four decades is an international phenomenon and much has been written on the impact of this on employment conditions and the rise of social and income inequality, the drop in trade union membership and density experienced in New Zealand in the first few years of the ECA 1991 was far more precipitous than in virtually any other country around the globe.

Within the labour movement and amongst academics in the field of industrial relations, there has been much discussed and written on the need for union 'renewal' and 'revival'. Unions have attempted to address this pressing need by taking a broader approach to organising new members, often manifest in terms of a shift away from collective bargaining as the primary means of achieving better pay and conditions for union members. The 'Living Wage" (SFWU), the movement to end 'zero-hour' contracts (Unite), and that to promote gender equity in pay (NZPSA and SFWU) are but three examples of such campaigns, which reflect attempts by organised labour to extend unions' influence and support base to workers who may feel disenfranchised from traditional bargaining relationships.

So what does union membership in New Zealand look like in 2014?

CLEW Survey

The union membership survey conducted by CLEW is distributed to all registered trade unions in New Zealand in late March of each year with a target closing date of 30 April. That survey asks those unions to account for their membership numbers as at 31 December of the previous year. At September 2015, the time of initial processing of CLEW's latest union membership survey, 78 of the 137 registered unions had returned completed surveys to CLEW. Union membership data for a further 48 registered unions was sourced from the Registrar of Unions. All unions have a statutory obligation to submit a return to the Registrar by 1 June each year of their membership numbers at 1st

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March in that year. This leaves 11 registered trade unions for which union membership tallies for the year ending 31 December 2014 are unknown.

For the purposes of interpreting our data it is important to note the following:

1. One union, in education and training, has changed the way it categorises 'membership' for the purposes CLEW's survey.[1] That union now includes only financial members in their survey return, whereby they had previously included other categories of membership – student members and 'suspended' memberships – in its tally. This change in practice has resulted in an apparent reduction of close to 5000 members in CLEW's accounting for December 2014 and a discrepancy of around 3000 from that returned to the Registrar of Unions for March of this year.
2. Across the 48 unions for which membership data was sourced from the Registrar, the distribution of total membership across sectors has been estimated from past survey returns or assumptions based on the industry coverage area, as indicated in the Register of Unions.[2]
3. Where unions did not allocate 100% of their membership to an industry or where no industry was indicated on the union membership return to CLEW, those membership numbers have been added to the category 'no industry'.

Total union membership

With these caveats in mind, total union membership in New Zealand appears to have continued its decline since the beginning of the global financial crisis (GFC) and recession (see Table 1). To this end, there appears to have been in excess of 20,000 fewer union members in New Zealand at the end of 2014 than six years prior, at the end of December 2008. Noteworthy in this regard is that that drop in union membership did not occur during or immediately after the GFC (2008-2010), when overall employment in New Zealand fell. But, rather, New Zealand trade union membership declined, instead, between 2011 and 2013, hence commencing nearly two years *after* the end of the GFC and recession in New Zealand.

Also important to note in this regard is that the precipitous decline in union membership since 2011 has slowed in the year to December 2014, notwithstanding that there was also a concomitant increase of around 4 percent in both total employment and wage and salary earners in 2014. Nonetheless, as employment has increased during the economic recovery, union membership numbers have been virtually static. One possible explanation for this phenomenon lies in the age distribution of union members. That is, some have suggested that unions have failed in the past several years to attract young people to their ranks to replace older members as they retire and that union membership is, therefore, effectively aging faster than both the workforce in general and the country's population.

[1] In this regard, CLEW asks respondents to its survey to account for their 'total financial membership'. MBIE, on the other hand, ask for 'total membership' by industry (at level 1 ANZSIC) and gender. CLEW further asks for the composition of the membership (as a percentage) by gender, by industry (at level 2 ANZSIC) and by ethnicity.

[2] See http://www.societies.govt.nz/cms/registered-unions/register-of-unions.

Although similar data is not currently available for New Zealand, recent data published by the Australian Statistics Bureau[3], which includes a breakdown of age structure of union membership and union density, suggests it is more likely that those in employment aged 55-64 are trade union members than is the case for younger workers across the ditch. To this end, whereas more than one-fifth (21 percent) of employed Australians in the 55-64 age group belong to a union for their main job, only 15.7 percent of Australian workers in the 35-44 age group and 11 percent in the 25-34 age group are union members. Moreover, while the union density is higher in the older age-groups, more than one fifth (22 percent) of trade union members are aged 20-34 years, and half of Australian trade union members are aged 35-54.

Table 1: Trade Unions, Membership and Union Density 1991-2014

Year	Union membership	Number of unions	Potential union membership		Union Density	
			Total employed labour force[2]	Wage and salary earners[2]	(1) / (3) %	(1) / (4) %
	(1)	(2)	(3)	(4)	(5)	(6)
Dec 1991	514325	66	1509400	1199000	34.1	42.9
Dec 1992	428160	58	1514200	1190500	28.3	36.0
Dec 1993	409112	67	1545400	1215300	26.5	33.7
Dec 1994	375906	82	1612000	1269600	23.3	29.6
Dec 1995	362200	82	1686600	1331700	21.5	27.2
Dec 1996	338967	83	1741200	1375100	19.5	24.7
Dec 1997	327800	80	1750600	1401700	18.7	23.4
Dec 1998	306687	83	1739300	1387000	17.6	22.1
Dec 1999	302405	82	1766400	1395600	17.1	21.7
Dec 2000	318519	134	1800000	1425200	17.7	22.3
Dec 2001	329919	165	1846100	1482200	17.9	22.3
Dec 2002	334783	174	1906500	1540100	17.6	21.7
Dec 2003	341631	181	1955900	1579700	17.5	21.6
Dec 2004	354058	170	2024100	1637900	17.5	21.6
Dec 2005	377348	175	2084800	1702100	18.1	22.2
Dec 2006	382538	166	2134700	1759700	17.9	21.7
Mar 2008[1]	373327	147	2173000	1792000	17.2	20.8
Dec 2008	384777	141	2175900	1798000	17.7	21.4
Dec 2009	385280	145	2147000	1791800	17.9	21.5
Dec 2010	386276	145	2156600	1804100	17.9	21.4
Dec 2011	372891	134	2188200	1819100	17.0	20.5
Dec 2012	369200	133	2183500	1817000	16.9	20.3
Dec 2013	365927	126	2226900	1881400	16.4	19.4
Dec 2014	361419	125	2305300	1951600	15.7	18.5

Source: HLFS - Persons Employed by Sex by Employment Status (Annual-Dec) Table reference: HLF005AA; Centre for Labour, Employment and Work Survey 2014.

Notes: [1]The 2007 figures are from the DOL Union Membership Return Data.

[2]Figures in column 3, 4, 5, & 6 are different from those reported in previous years due to the population rebase by Statistics New Zealand to take account of the latest census results.

The large decrease in membership overall is largely a result of one Union changing the way they categorise 'membership' so that only 'financial' members are reported, a reduction of approx. 4000 members.

[3] Australia Bureau of Statistics *Characteristics of Employment, Australia, August 2014*, Cat. No. 63330DO010_201408. http://www.abs.gov.au/ausstats/abs@.nsf/mf/6333.0

Industry Spread of trade union membership

Union membership remains predominantly in the public sector and community services industries with 62 percent of union members employed in these parts of the economy (see Appendix Table 2). A quarter of union members in New Zealand work in health care or social assistance, and just over a fifth (22 percent) work in education and training. Outside of these predominantly public sector industries, union membership remains highest in manufacturing, and transport, postal and warehousing, all of which represent a far smaller share of the economy than was the case three decades ago. Furthermore, with the exception of education and training, the largest numeric drop in union membership in the year to 31 December 2014 has occurred in healthcare and social assistance, and professional, scientific, technical and administrative services (business services). Construction also experienced a large drop in union membership (11.2 percent) in 2014, despite employment in the industry growing 12.6 percent over that 12 month period.

Despite these trends, a number of industries saw growth in union membership in the year to 31 December 2014. Union membership in the wholesale trade industry, for instance, grew by 70 percent, albeit off a very small level of membership and low industry union density (approximately 1 percent). The 'utilities' industries and information media and communications industry group – at 16.8 percent and 13.9 percent, respectively – both experienced substantial growth in union membership during 2014, and both of these increases are at a greater rate than the growth in employment in these parts of the labour force. This was also true for a number of industries located in the private sector, including manufacturing, retail trade and accommodation, financial and insurance services, and rental, hiring and real estate services. Nevertheless, public sector union membership decreased over that period, during which time the number of people employed in the sector increased, hence resulting in a fairly substantial decline in public sector union density in the 12 months to the end of December 2014.

Union density

Overall, union density in New Zealand fell from 19.1 percent to 18.5 percent of wage and salary employees in the year to 31 December 2014, after sitting at 20 percent two years earlier, at the end of 2012 (see Tables 3 and 5). The country's public service still maintains the highest levels of union density with close to two-fifths of employees in that sector belonging to a union. However, over the last five years, union density in New Zealand's public sector has fallen, as growth in employment has outstripped that in union membership.

Furthermore, the only private sector industry that comes close to matching public sector union density is transport, postal and warehousing (38 percent). Mining (26.5 percent), manufacturing (21.5 percent), and utilities services (20 percent) are the only other parts of the private sector where union density is greater than one in ten. It is also of concern for unions that their areas of greatest numbers are those where total employment is, in fact, decreasing. For that matter, it is this, rather than an increase in union membership, that is driving increased density in those parts of the labour force. In order to keep pace overall, therefore, unions will need to grow their membership numbers at least at the same pace as employment in the growing technology and service industries.

Table 3: Change in union density across industry groupings 2013-2014

Industry Group	Approx. density 2013 (%)	Approx. density 2014 (%)
Agriculture, Forestry and Fishing	2.9	2.6
Mining	29.3	26.5
Manufacturing	21.2	21.4
Electricity, Gas, Water and Waste Services	19.9	20.0
Construction	5.2	4.1
Wholesale Trade	0.6	1.0
Retail Trade and Accomodation	6.2	6.2
Transport, Postal and Warehousing	36.2	38.1
Information Media and Telecommunications[1]	7.2	8.6
Financial and Insurance Services	5.2	6.1
Rental, Hiring and Real Estate Services	1.1	1.3
Prof'l, scientific, technical, admin. and support serv's	3.1	2.6
Arts, Recreation and Other Services	8.1	7.5
Public and community services	43.2	41.4
Public Administration and Safety	*41.5*	*39.8*
Education and Training	*46.5*	*43.8*
Health Care and Social Assistance	*41.4*	*40.1*
Overall Density	19.1	18.5

Source: Centre for Labour, Employment and Work Union Survey 2013 and 2014.
HLFS 2013 and 2014 (December quarter)

Table 4a: Public, private and not for profit union membership,

Sector	2014	2013	Change 2013-2014 (No.)	Change 2013-2014 (%)
Private Sector	149536	149807	-271	0%
Public Sector	204351	209465	-5114	-2%
Not for profit	7122	6144	978	16%

Source: Centre for Labour, Employment and Work Survey 2014

Table 4b: Historical Union Membership by Sector

	Private Sector	Public Sector
2000	153200	165300
2001	159577	170342
2002	158105	176678
2003	160208	181423
2004	163927	190131
2005	175415	201933
2006	185143	197395
2008	184066	200711
2009	171617	211908
2010	176049	210227
2011	134444	238447
2012	156367	212350
2013	155952	209465
2014	156658	204351

Source: Centre for Labour, Employment and Work Survey 2000-2014

Despite this gloomy picture for its unions, New Zealand is not alone in experiencing a declining trend in trade union density. Of the four countries that we monitor for trade union membership levels (Australia, UK, USA and Canada), only Canada has maintained union density (30.5 percent) across the last five years. Australia, where union density among wage and salary workers currently stands at around 16.7 percent, has experienced a similar rate of decline in union membership and density to New Zealand over the past three years.

Union membership in the public and private sectors

Underscoring the fact that union membership in New Zealand – much like in most other OECD countries – remains primarily a public sector phenomenon, 59 percent of wage-and- salary employees in the country's public sector belong to a trade union, while only 12 percent of private sector employees are unionised (see table 5). Also, as in 2013, 57 percent of trade union members in New Zealand work in the public sector, despite a fall of 2 percent for total union membership in that sector.

The higher level of union density in the public sector is common across the four comparator countries to which we refer in Table 5. Canada has the highest concentration of union members in the public sector, with three quarters of such employees in that country belonging to a union. As for Australia, a media release accompanying the August 2014 release of the Australian Bureau of Statistics' *Characteristics of Employment in Australia* notes, "...a higher proportion of public servants were trade union members in their main job (39 percent) compared to those in the private sector (11 percent)." Only the USA has fewer union members who work in the public sector than in the private sector. But, for the other countries in our comparison, there is 30- 40 percent more public sector union members than private sector.

Table 5: Public/private sector union density – international comparisons 2014

Country	Union density	Public sector	Private sector	Public/private ratio[6]
New Zealand[1]	18.5%	59.0%	12.0%	1.30
Australia[2]	16.7%	n/a	n/a	n/a
UK[3]	25.0%	54.3%	14.2%	1.39
USA[4]	11.1%	35.7%	6.6%	0.97
Canada[5]	30.6%	75.8%	16.5%	1.42

Sources:

[1]Statistics NZ, QES, Table QEX018AA Dec 2014 - *Filled jobs by sector by status in employment*;
HLFS - Persons Employed by Sex by Employment Status (Annual-Dec 2014) Table HLF005AA; CLEW Survey 2014;

[2]Australia Bureau of Statistics, *Characteristics of Employment, Australia,* August 2014. (uses the denominator 'total employees').

[3]Department for Business, Innovation and Skills, *Trade Union Membership 2014: Statistical Bulletin*, June 2015.

[4]United States Department of Labour, Bureau of Labour Statistics, *Economic News Release: Union Members 2014,* 23 Jan 2015

[5] Statistics Canada, Table 282-0077: *Labour force survey estimates (LFS), employees by union coverage, North American Industry Classification System (NAICS), sex and age group, unadjusted for seasonality*, CANSIM (database) June 2014.

[6] This ratio is the total public sector union membership divided by the private sector union membership.

Size of Unions

There is very little change in the spread of union membership across different size of unions in New Zealand from that which we last reported for the year to 31 December 2013 (see Table 6). One union that had previously reported a membership of more than 10,000 members is now just under that figure, thus increasing the proportion of unions who have a membership in the range 5000 to 9999.

Table 6: Membership by union size 1991 – 2014, selected years

Membership	Dec 1991			Dec 1999			Dec 2005			Dec 2013			Dec 2014		
range	#	Members	%	#	Members	%	#	Members	%	#	Members	%	#	Members	%
Under 1000	4	2750	1	48	12703	4	140	19436	5	93	16811	5	92	16434	5
1000 - 4999	39	87119	17	22	43709	14	23	56801	15	21	47237	13	21	48117	13
5000 - 9999	9	76489	15	3	19669	7	4	30050	8	2	13746	4	3	23981	7
10000+	14	347967	68	9	226324	75	8	271061	72	10	288133	79	9	272887	76
Totals	66	514325		82	302405		175	377348		126	365927		125	361419	
Av. Size		7793			3688			2156			2904			2891	

Source: Industrial Relations Centre Surveys 1991, 1999, and 2005; Centre for Labour Employment and Work Surveys 2013 and 2014.

While the average size of a New Zealand trade union, based on those who returned surveys, is 2891 members, the median is only 145 members. It would have to be questioned, though, as to how unions with such a small membership are able to sustain a level of service to their members such as is required in today's workplace. Forty-five unions (36 percent of the total) have a membership of under 100 members, 31 of which are private sector unions, 10 are in local government and local government trading organisations, and 4 are in central government. Many of these small unions are clearly only operating in one workplace or with one employer. It is also likely that most are reliant on the goodwill of volunteers to service their membership or that the union exists only to ensure the continuation of a collective agreement.

Despite the significant number of relatively small unions, 83 percent of union members in New Zealand belong to one of twelve unions. This implies that the vast majority of employees who belong to a union in this country are members of unions with a solid membership base and which are likely to be well-resourced organisations. As would be expected from the earlier discussion of dominance of the public sector with regard to union membership, of the four unions with a membership greater than 30,000 members, only one is in the private sector.

Union amalgamation is also likely to continue as a trend in the face of declining overall union membership. In the past few years the Tertiary Education Union was formed with the amalgamation of the unions for university staff and polytechnic staff; FIRST Union was formed from the FINSEC and NDU amalgamation; and the Engineering, Printing and Manufacturing Union (EPMU) merged with the NZ Building Trades Union. Although not covered in our 2014 survey year, in 2015 the NZ Public Service Association has merged with Southern Local Government Officers Union and E Tū was formed from the amalgamation of the Service and Food Workers Union and the EPMU. Preparations are also well underway for the Flight Attendants and Related Services Association (FARSA) to join E Tū and bring its membership to more than 50,000.

Gender

As has been the case for more than a decade, a majority of union members in New Zealand (57.5 percent) are female (see Table 7). Nevertheless, female membership is largely concentrated in the three large state sector unions – the Public Service Association, the NZ Nurses Organisation (NZNO) and NZEI (primary teachers union). These are also the three largest unions in New Zealand at 31 Dec 2014, and among them is 60 percent of the total female union membership in the country. In addition, smaller unions tend to have higher male membership. Only twenty-four of the eighty-four unions with less than 500 members have a majority of female members, and only 35 percent of the total membership in unions with less than 500 members is female. In contrast, eight of the fourteen unions with more than 4000 members have a majority of female members and 61 percent of the total membership of these unions is female.

Table 7: Female union membership 2004-2013

Year	%Female
2004	52.0
2006	54.9
2008	55.3
2009	55.5
2010	56.9
2011	58.8
2012	57.0
2013	57.8
2014	57.5

Source: Industrial Relations Centre Surveys 2004 to 2012. Centre for Labour, Employment and Work Survey 2013 & 2014

NZ Council of Trade Unions (NZCTU) affiliation

The number of unions affiliated to the NZCTU has also decreased in the past year, as has the percentage of union members who are affiliated (through their union) to the CTU (see Table 8). However, the change in reporting of the NZCTU-affiliated education union's membership has impacted these figures. The NZCTU affiliated unions tend to be the larger unions. Of the 84 unions with less than 500 members only seven are affiliated to the NZCTU and three of those affiliated unions have more than 400 members. With the exception of one union, all the unions with membership over 4000 (a total of 14 unions) are affiliated to the CTU.

Finally, with many of the recent union amalgamations happening amongst NZCTU affiliated unions, it seems that future amalgamations are unlikely to impact small unions. That is, it will likely be the mid-sized and larger unions which look to amalgamate in the foreseeable. But, if the NZCTU is looking to maintain union membership, it may need to work with the smaller unions, whether they be affiliated or not, to form stronger, better resourced unions through amalgamation.

Table 8: NZCTU affiliation 1991 – 2013

Year	NZCTU Affiliate unions	Members	Percentage of total m'ship in CTU affiliates
1991	43	445116	86.5
1992	33	339261	79.2
1993	33	321119	75.8
1994	27	296959	78.9
1995	25	284383	78.5
1996	22	278463	82.2
1997	20	253578	77.4
1998	19	238262	77.7
1999	19	235744	78.0
2000	26	273570	85.9
2001	32	289732	87.8
2002	34	293466	87.7
2003	36	297440	87.1
2004	38	310451	87.7
2005	37	333395	88.4
2006	39	340281	88.9
2007	28	303569	83.9
2008	37	343017	89.4
2009	41	341637	89.4
2010	39	347453	90.0
2011	34	333956	89.6
2012	35	326753	89.6
2013	36	325412	88.9
2014	33	315867	87.4

Source: Industrial Relations Centre Surveys 1991- 2012; Centre for Labour Employment and Work Survey 2013.

Appendix 1: Table 2

Table 2: Distribution of union members and employees across industry sectors at December 2014

Industry grouping	Union membership 2014	Union membership 2013	Change in membership 2013-2014 (No.)	Change in membership 2013-2014 (%)	Change in wage and salay earners 2013-2014 (%)	Wage & salary earners 2013 (000)	Wage & salary earners 2014 (000)	Union density
Agriculture, forestry and fishing	2151	2445	-294	-12.0%	-0.9%	84.4	83.6	2.6%
Mining	1749	1816	-67	-3.7%	6.5%	6.2	6.6	26.5%
Manufacturing	47677	47313	364	0.8%	-0.6%	223.7	222.4	21.4%
Electricity, gas, water and waste services	4062	3379	683	20.2%	19.4%	17	20.3	20.0%
Construction	5834	6572	-738	-11.2%	12.6%	127.3	143.3	4.1%
Wholesale trade	835	491	344	70.1%	9.6%	78.9	86.5	1.0%
Retail trade and accomodation	19265	19328	-63	-0.3%	-0.9%	314.1	311.4	6.2%
Transport, postal and warehousing	34283	33939	344	1.0%	-3.9%	93.8	90.1	38.1%
Information media and telecommunications	3280	2825	455	16.1%	-2.6%	39.2	38.2	8.6%
Financial and insurance services	3832	3754	78	2.1%	-5.0%	65.8	62.5	6.1%
Rental, hiring and real estate services	305	280	25	8.8%	-2.8%	25	24.3	1.3%
Prof'l, scientific, technical, admin. and support serv's	5161	6162	-1001	-16.2%	0.8%	200	201.5	2.6%
Arts, recreation and other services	8587	8689	-102	-1.2%	7.3%	107.4	115.2	7.5%
Public and community services	223586	228359	-4773	-2.1%	2.3%	528.3	540.7	41.4%
Public Administration and Safety	*49325*	*48828*	497	1.0%	5.3%	117.6	123.8	39.8%
Education and Training [1]	*82174*	*86135*	-3961	-4.6%	1.3%	185.1	187.5	43.8%
Health Care and Social Assistance	*92087*	*93396*	-1309	-1.4%	1.7%	225.6	229.4	40.1%
No industry [2]	813	63						
TOTAL	361419	365415	-3996	-1.1%	0.3%	1946.6	1951.6	18.5%

Source: HLFS 2013 and 2014 (December quarter); Centre for Labour, Employment and Work Union Survey 2013 and 2014.

Note: [1] The large decrease in membership overall and in education in 2014 is largely a result of one Union changing the way in which they categorise 'membership'.

[2] Union Members not allocated to particular industries on the Union Survey return