

Organizational Climate and Well-being: A Multi-Level Mediated Analysis within New Zealand Academic Institutions

Abstract

Higher education institutions have undergone massive changes, which leads to a greater focus on accountability, effectiveness, and efficiency. Hence, institutional staff face heightened burdens due to external and internal environmental pressures to enhance student learning and grow employee productivity. This managerial focus leads to a lack of trust in academics and teachers as professionals, and a lack of understanding of the nature and value of their work. Furthermore, other research has shown that following the adoption of a managerialist approach in higher education institutes, non-academic staff also experienced an increasing level of work-related stressors and incivility. We used the Conservation of Resources, Spillover and Organisational Support theories to develop a multi-level mediation model to test the positive impact of organisational climate on employee wellbeing in a sample of higher education institutes in New Zealand (N=2,694 academic and non-academic staff). The hypotheses were tested using *MLWin* software. This paper makes three contributions. First, we explore organizational climate as a core antecedent of employee wellbeing at the institutional-level. Second, we examine the influence of a number of potential mediators: hindrance stressors, bullying, and work-family conflict, on fatigue as the employee wellbeing outcome. Third, we find strong empirical evidence that while organizational climate dimensions are related to individual fatigue, they are best understood as operating via hindrance stressors, bullying, and work-family conflict. Implications are discussed in relation to how senior management could maximise employees' wellbeing in the higher education institutions.

Keywords: organizational climate, resources, demands, fatigue, wellbeing, multi-level analysis.

A Multi-Level Exploration of Organizational Climate and Job Outcomes: A Mediated Analysis within New Zealand Academic Institutions

Introduction

Universities within the Australasian region have undergone massive changes (Pop-Vasileva, Baird, & Blair, 2014), namely in regard to having a greater commercial focus (MacGregor, Rix, Aylward, & Glynn, 2006). Hood (1995) argued this leads to a greater focus on accountability, effectiveness, and efficiency. Education within this region is largely funded by the State or Government, and thus the argument has been that Governments are seeking accountability for the large levels of funding. For example, New Zealand Treasury (2017) reports that New Zealand spent around 5.2% of GDP on education (all levels), with around \$4.2 billion spent on tertiary education, which is around 1.7% of GDP. The higher education sector has been characterised by a culture of long working hours and work intensification as reported by several studies (e.g., Australia: Pick, Teo & Yeung, 2012; UK: Sang, Powell, Finkel, & Richards, 2015). Work conditions have been shown to impact negatively on the physical and psychological wellbeing of employees.

Australasian institutions faced heightened burdens to enhance productivity (e.g., Abbott & Doucouliagos, 2009). New Zealand tertiary institutions also face scrutiny by a government body - The New Zealand Productivity Commission (2016, p. iii), which state “The tertiary education sector has adapted to significant change in the last two decades, with growing and changing demand for and participation in higher education, growing internationalisation, and the increasing importance of skills in the economy”. The draft report says that sector staff have raised “concerns about viewing tertiary education as a business” (p. 157) and an expectation for higher education institutes to behave “like businesses”, and this aligns with others who argue a managerial culture is ever expanding in academia (Bridgman, 2007; Zepke, 2012; Pick et al., 2012).

Both academic and non-academic staff reported an increasing level of negative work outcomes, including job dis-satisfaction and stress (e.g., Winefield, Boyd, Saebel, & Pignata, 2008). This managerial focus leads to “a lack of trust in academics and teachers as professionals, and a lack of understanding of the nature and value of their work” (New Zealand Productivity Commission, 2016, p. 157). The report also alludes to other issues such as less autonomy and poor communication, and complex decision-making processes. Using a longitudinal study within Australasia, Harman (2001) found while job satisfaction was high, respondents were critical of their work environment, especially around stress. Similarly, a study into the work experience of non-academic staff in Australian universities reported an increase in their job-related stressors which was negatively related to job satisfaction, although these effects were mediated by employee participation, communication and social support (Pick et al., 2012).

According to Winefield, Boyd, and Winefield (2014), little is known about whether the work environment in higher education institutions had any impact on the wellbeing of academic and non-academic employees. Furthermore, little is known about whether the work environment impacts on employee wellbeing via stressors (hindrance stressors and workplace bullying) and work-family conflict (WFC) in higher education institutions. WFC in higher education institutions has continued to receive much interest among scholars (Fox, Fonseca, & Bao, 2011; Sang, Powell, Finkel, & Richards, 2015; Tytherleigh et al., 2005) and practitioners (Times Higher Education, 2018). WFC is defined as a “form of role conflict in which the pressures from work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, p. 76). Consequently, the present paper seeks to explore

the wellbeing of higher education institutions staff and focus on how organizational climate set out to minimise the negative outcomes of these factors.

The paper makes three contributions. First, we explore organizational climate as a core antecedent of employee wellbeing at the institutional-level. Thus, we apply a multi-level approach to the analysis. Second, while we ultimately focus on fatigue as our well-being outcome, we include three potential mediators: hindrance stressors, bullying, and WFC. Third, we find strong empirical evidence that while organizational climate dimensions are related to individual fatigue, they are best understood as operating via hindrance stressors, bullying, and WFC (in that order of mediation).

Theoretical Background and Hypotheses

The Conservation of Resources (COR) Theory (Hobfoll, 1989, 2002) has been well-utilized in the I/O Psychology and organizational literatures (e.g., Ten Brummelhuis & Bakker, 2012). Hobfoll (1989) defines the COR theory as an integrated model of stress, where employees pursue the acquiring, maintaining, and retaining of resources. Within COR theory, acquiring new resources is beneficial while losing resources is deemed detrimental. Resources are wide-ranging and can be utilized to enhance resources, reduce demands, and finally enable greater performance (Voydanoff, 2004). Hobfoll (2001, p. 339) defined resources as “those objects, personal characteristics, conditions, or energies that are valued in their own right, or that are valued because they act as conduits to the achievement or protection of valued resources”. In his list of 74 resources, Hobfoll (2001) identified time as a factor multiple times, including: free time, time with loved ones, quality sleep-time, and time for work.

COR theory aligns well with our wellbeing focus on fatigue. Pisarski and Barbour (2014, p. 773) defined fatigue “as a decline in physical and/or mental performance as a result of sleep disturbances”, while Barton, Spelten, Totterdell, Smith, Folkard, and Costa (1995, p. 11) defined fatigue as “a general tiredness and lack of energy irrespective of whether an individual has not had enough sleep or has been working hard...”. Under the COR model an employee with high demands from the workplace, may reduce the quality time that employees have for roles outside of the workplace, leaving them ultimately fatigued.

Organisations who provide support or positive direction to its employees, might provide greater resources, including more financial resources, greater self-esteem, friendship and purpose (Hobfoll, 2001). Within the tertiary education sector, resources might relate to doing worthy work, being well paid (relatively), opportunities for advancement and training, and having a purpose - especially the status of working in a role valued by society. Within the theoretical approach towards the detrimental side of resources, would be excessive workloads and trying to do more within limited time. Feeling that work requires additional time (resources) in the evenings and weekends leads to feelings that resources are being lost and thus are detrimental under the COR approach.

Complementing COR theory, the present study also incorporates Spillover theory (Carlson, Kacmar, Wayne & Grzywacz, 2006) as another way of understanding how a negative work environment could spill-over into the personal, family domain of the employees. Spillover theory maintains that the moods, attitudes, and behaviors of a person acting in one role, spill over into the execution of another role. Therefore, employees who experience any work-related stressors would use their family as the place to recuperate from the stressors arising from work. Recent studies (e.g., Chen, 2016) have noted that there is a positive direct relationship between work stressors and WFC as employees reported a deterioration of the time available for spending with their family. Haar (2006) found employees reporting greater WFC where work roles spillover into the home, led to them reporting greater emotional exhaustion from their work. Aligned with the COR theory, this spillover effect shows that the loss of resources from one role (say losing resources – work

hours – by, for example, doing marking work through a weekend) can spillover into the family domain, leading to conflict with family, where family roles (e.g., a weekend away as a family) have to be modified to cope with the workplace demands. In turn, under COR, this might also represent loss of family time (another resource) further highlighting the issue for employees. We suggest these two theories work well together, especially in relation to understand employees in complex work environments, like the tertiary education sector. The present study focuses firstly upon organizational climate, and then includes potential mediating factors associated with workplace bullying, work stressors and conflict between work and family roles.

Consequences of Organizational climate

Schneider, Ehrhart and Macey (2013) defined organizational climate as the meanings people attach to bundles of interrelated experiences at work. On the other hand, organizational culture can be defined as a system of shared values and beliefs that guide employees in the place they work, organizational climate incorporates a broad assortment of evaluations of the work environment - made by individual employees - via an extensive set of characteristics (Hellriegel & Slocum, 1974). In his critique of the research fields, Denison (1996) noted that empirical studies of organizational climate and organizational cultures were “virtually indistinguishable” (p. 620) despite them being distinct. However, Denison (1996) noted that researchers exploring organizational climate “typically placed greater emphasis on organizational members' perceptions of “observable” practices and procedures that are closer to the “surface” of organizational life” (p. 622). Thus, the focus on organizational climate research is a more pragmatic and observable focus than a more esoteric and abstract ‘organizational culture’ approach.

Pritchard and Karasick (1973) proffered five points about organizational climate: (1) it can be thought of as the quality of an organization’s internal environment, which is distinct from other organizations; (2) it results from the policies, behaviours, and values its members (employees) - especially managers and senior leaders of the organization; (3) it is perceived and influenced by employees of the organization; (4) it is the underpinning of interpreting the situation; and (5) generates force for directing actions and activities of employees. Overall, there is much evidence to suggest that organizational climate can be beneficial with regards to employee outcomes (Luthans, Norman, Avolio & Avey, 2008; Rogg, Schmidt, Shull & Schmitt, 2001). Denison (1996, p. 644) stated that organisational “climate refers to a situation and its link to thoughts, feelings, and behaviours of organisational members. Thus, it is temporal, subjective, and often subject to direct manipulation by people with power and influence”. Ferris, Arthur, Berkson, Kaplan, Harrell-Cook and Frink (1998) provided a theoretical model and suggested that organisational climate would have a direct influence on employee attitudes and behaviors. Ferris et al. (1998) conceptualise organisational climate as a set of shared (amongst employees in the organization) attitudes, values, and beliefs about how an organization operates. Rogg et al. (2001) noted that unlike organisational culture, these collective employee perceptions are temporary and thus changeable.

Organisational climate might be viewed as being less stable over time. In this regard, an organisational climate might be perceived as collegial and supportive, with a high role status that leads to numerous additional resources under COR. However, a change of Government and tertiary funding changes, might mean that budgets are quickly cut and workers are expected to do more with less. This might lead to time issues – and work strains – that result in a loss of resources. Importantly, this might change relatively quickly, for example, from one year to the next.

Overall, there is strong empirical support for organisational climate influencing employee job outcomes (Stone, Larson, Mooney-Kane, Smolowitz, Lin & Dick, 2006; Rogg et al., 2001). Hence, workers who perceive their organisational climate as positive – for

example, supportive of its workers – lead to happier, more productive workers, who perform well and want to stay. Conversely, a poor organisational climate – perhaps one predicated on authoritarian rules and little collegiality, might be much more detrimental, with workers having lower job satisfaction, commitment and performance, and seeking job opportunities elsewhere. In addition, positive relationships have been found between organisational climate and wellbeing indicators (Hemingway & Smith, 1999). In the meta-analysis by Carr, Schmidt, Ford and DeShon (2003), they found organisational climate dimensions to be positively related to employee wellbeing. On the other hand, a negative organisational climate was found to result in stress and reduced wellbeing (Piiirainen, Rasanen, & Kivimaki, 2003). The present study focuses specifically on fatigue, due to the potentially catastrophic outcomes associated with fatigue.

Pisarski and Barbour (2014, p. 773) stated that “many highly publicised disasters such as Chernobyl, Three Mile Island, Bhopal, Exxon Valdez and the Estonia Ferry disasters occurred in the early hours of the morning”, with Folkard and Lombardi (2006) noting that subsequent investigations “concluded that in each case they were at least partially attributable to human fatigue and/or error” (p. 954). A more recent disaster - the BP Deepwater Horizon drilling rig explosion in the Gulf of Mexico, cited fatigue as a potential issue (National Commission to the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). As such, one of the strongest contributing factors towards workplace errors and disasters is human fatigue. While academia is unlikely to lead to such high-level disasters, at a basic level, workers make poorer decisions when they are fatigued, and as such is likely to be detrimental to themselves, their employers and their customers.

The present study seeks to explore three aspects of organizational climate, focusing on the role of leadership, and specifically *participative leadership*, which is defined as one where organizational leaders seek the equal distribution of power and sharing problem-solving with subordinates, for example through seeking employee opinions before making a decision (Bass, 1990; Kahai, Sosik, & Avolio, 2004; Ogbonna & Harris, 2000). A participative leadership climate is likely to develop positive self-efficacy of participants, building their confidence and positive judgement about how well they can do their job (Bandura, 1982).

Within the higher education context, the job satisfaction of non-academic professional staff in the context of change could be enhanced by being given the opportunity to participate in decision-making and being provided with information about change (Pick et al., 2011). UK HEI staff were stressed when they were “not being involved in decisions affecting their jobs and resources” and “not being kept informed about what was going on in their organizations” (Tytherleigh et al., 2005, p. 54). Consequently, this type of climate is likely to enable employees to manage their work without the need for details on solving problems (Kahai, et al., 2004), leading to positive employee outcomes (Kahai et al., 2004; Silverthorne, 2001).

We also explore *professional development*, as tertiary institutions have a strong focus on the development of staff, whether research and conference funding for academic staff, or free study for allied or professional staff, we also expect this to be beneficial. Work around the involvement climate (Huang, Niu, Lee, & Ashford, 2012) has a specific dimension on knowledge, which Vandenberg, Richardson, and Eastman (1999) note relates to training and development opportunities focused at the individual employees. They state “training can play an important role in creating and reinforcing high involvement work processes” (p. 309), ultimately leading to positive employee outcomes including positive employee outcomes (Vandenberg et al., 1999) and wellbeing outcomes (Huang et al., 2012).

Our final climate dimension is *collegial support*, because Dutton and Heaphy (2003) argue that high-quality supportive relationships are vital for enhanced wellbeing. Supportive relationships – whether at work or home – are fundamental to minimising health risks, with Helgeson and Lopez (2010) arguing supportive workplace support can have benefits towards

psychological wellbeing, and we think this applies especially towards fatigue. Thompson and Prottas (2005) found support from colleagues was beneficial and we suggest a climate focusing on strong collegial support will benefit employees. Co-worker social support has also been found to reduce change-related stressors and enhance job satisfaction of non-academic, professional staff in a recent study (Pick et al., 2011). Consequently, we expect our organizational climate dimensions in the New Zealand tertiary sector to be beneficial to wellbeing, leading to lower fatigue. Thus, employees who perceive their organization has a climate of positive participative leadership, where personal development opportunities are supportive, and co-workers offer a helping hand where needed, are likely to report lower fatigue with their work. This leads to our first hypothesis.

Hypothesis 1. Organizational climate dimensions (institutional-level) will be negatively related to employee fatigue (individual-level).

Mediation Hypotheses

In addition to the direct effects of organizational climate, we also test a mediation model of path variables related to employee fatigue, being hindrance stressors, bullying, and WFC. Cavanaugh, Boswell, Roehling, and Boudreau (2000) defined hindrance stressors as “stress associated with job demands or work circumstances that involve excessive or undesirable constraints that interfere with or hinder an individual's ability to achieve valued goals (demands that produce distress)” (p. 67). In their meta-analysis on hindrance stressors, Lepine, Podsakoff, and Lepine (2005) found that hindrance stressor was positively related to strains, which they defined as including job burnout, depression and anxiety. Hindrance stressors such as workload has been found to be positively associated with fatigue in a sample of teachers and support staff (Iles, Huth, Ryan & Dimotakis, 2015).

In Thomas's (2015) study of a small sample of non-academic staff in the UK, workplace bullying resulted in a number of negative consequences including fatigue/listlessness, and stress. Bullying at work, is defined as harassing, offending, socially excluding someone, or negatively affecting their work (Glasø, Matthiesen, Nielsen, & Einarsen, 2007). Mikkelsen and Einarsen (2001) noted that bullying is dissimilar from typical workplace conflicts because it is commonly sustained and recurrent violations of the personal dignity of an employee. Indeed, bullying frequently constitutes a number of tactics, such as hostile communications and behaviours, are used to harm others (Tracy, Lutgen-Sandvik, & Alberts, 2006). This is typically done in a purposeful and deliberate manner. Within the education context, Thirlwall and Haar (2010) noted this was a fertile area for bullying occurrences. Agervold and Mikkelsen (2004) reported that poor psychosocial factors at work including lack of job control, poor management style, and lack of social climate determine the prevalence of workplace bullying. In their study, bullied employees reported significantly more symptoms of mental fatigue. This finding was corroborated by the meta-analysis by Bowling and Beehr (2006), who found bullying was detrimentally linked to wellbeing, suggesting a positive link to fatigue. Consequently, we suggest that employees reporting bullying occurrences will similarly report higher fatigue.

Our final mediator is WFC, and there is strong meta-analytic support for WFC being detrimental to wellbeing (Allen, Herst, Bruck, & Sutton, 2000). WFC has been found to be relevant in the higher education context. Beigi, Shirmohammadi, and Kim (2015) noted that academics in Iran have to balance multiple work demands and family responsibilities, which may generate WFC. In UK, higher education academic and non-academic staff reported Tytherleigh et al. (2005) noted that HEI staff were stressed by the lack of work-life balance (work interfering with home and personal life). However, the literature has not been conclusive regarding the direction of the relationship between WFC and fatigue. Some

studies (e.g., Haar, Roche, & Taylor, 2012; Tayfur & Arslan, 2013) noted the incompatibility of work and family roles can lead to fatigue. Others such as Iles et al. (2015) noted that employees in the school system in the USA reported that physical, cognitive and emotional fatigue at work leads to WFC. The relationship from WFC to fatigue could be explained using Spillover theory (Carlson, Kacmar, Wayne, & Grzywacz, 2006) which stipulated that when employees experienced WFC, there is a spill over into the execution of their role at home. As the present study is adopting Spillover theory, we will test the relationship from WFC to fatigue. As such, those employees reporting issues from their workplace spilling over into the home are likely to report higher fatigue. This leads to our next hypothesis.

Hypotheses 2. Hindrance stressors (2a), bullying (2b), and WFC (2c) will be positively related to fatigue.

There is also theoretical and empirical evidence (Carr et al., 2003; Bowling & Beehr, 2006) to suggest that psychosocial work factors (such as hindrance stressors, workplace bullying and WFC) are influenced by organizational climate dimensions under COR theory. As climate will retain resources and be beneficial, it is likely to be negatively related to these psychosocial work factors, creating a workplace with less bullying, and reduced pressures on work and family. Furthermore, a supportive organizational climate will reduce employees' perception of work-related hindrance stressors as explained by organizational support theory (Kurtessis, Eisenberger, Ford, Buffardi, Stewart, & Adis, 2016). Consequently, we follow the theoretical literature that suggests that while climate might influence an employee outcome like fatigue, this is likely to operate through a process. Bowling and Beehr (2006) suggested climate influences stressors, which in turn influence bullying and then employee outcomes including well-being. This aligns with more recent meta-analytical reviews (see Nixon, Mazzola, Bauer, Krueger, & Spector, 2011; Nielsen & Einarsen, 2012), regarding the other factors (stressors, bullying, and work-family conflict) are strong predictors of wellbeing. Consequently, we test a mediation model where the influence of organizational climate is best understood as working through hindrance stressors, and then bullying (Bowling & Beehr, 2006), and then onto WFC and ultimately fatigue. Overall, organizational climate influences hindrance stressors, which in turn predict bullying, and thus bullying mediates the effect of climate on hindrance stressors; bullying influences WFC and WFC mediates the influence of climate on bullying. Finally, WFC influence fatigue and this effect mediates the influence of climate on WFC. We also expect the effects of the mediators to mediate each other, thus: climate → hindrance stressors → bullying → WFC → fatigue. Hence, we posit the following.

Hypotheses 3. Organizational climate dimensions (institutional-level) will be negatively related to hindrance stressors (3a), bullying (3b), and WFC (3c).

Hypotheses 4. The influence of organizational climate dimensions (institutional-level) on fatigue will be mediated by [in order of] hindrance stressors (4a), bullying (4b), and WFC (4c).

In summary, the present study seeks to test the impact of psychosocial work factors (including hindrance stressors, bullying, and WFC) on fatigue, with organizational climate as the core antecedent. Our study model (and associated hypotheses) are shown in Figure 1.

Insert Figure 1 about here

Methods

Sample and Participants

Data were collected from a Tertiary Education Union commissioned study. A large number of emails were sent across the sector seeking respondents and from some 20,000 emails, resulting in a total of approximately 2,694 respondents generated, including both employees in academic ($n=1,614$, 59.9%) and non-academic roles ($n=1,080$, 40.1%). Respondents came from 28 tertiary institutions, including all eight universities and a number of Polytechnics and Wananga (indigenous place of learning). Overall, respondents were on average female (56%), parent (63%), and with job tenure of 8 years ($SD=7$ years) and organizational tenure of 12 years ($SD=9$ years). Age ranged from 19 years to 77 years, with the average at 51 years ($SD=11$ years). The majority were permanent full-time employees (73%). By ethnicity, the largest group was New Zealand Europeans (60%), but with a wide range of other ethnicities represented, including 7% Maori.

Measures

Fatigue was measured using Beehr, Walsh, and Taber (1976) three-item scale, coded '1'=never to '5'=very often. This scale has also been used in the New Zealand context to operationalize employee well-being (see Boxall & Mackey, 2015). A sample item is "I feel completely worn out at the end of each day" ($\alpha = .82$). Organizational Climate was assessed with 17 items created for this study. These were co-developed with the sponsor of the project, the primary union in the sector. They were also derived from the broad literature on motivational approach to leadership and perceived organizational support. Our three factors and their sources were: *participative leadership* (Bass, 1990; Ogbonna & Harris, 2000; Kahai et al., 2004; Silverthorne, 2001); *professional development* (Huang, Niu, Lee, & Ashford, 2012; Vandenberg et al., 1999); and *collegial support* (Dutton & Heaphy, 2003; Helgeson & Lopez, 2010; Thompson & Prottas, 2005; Kurtessis et al., 2016). Items followed the stem "At your institution..." and responses were coded '1'=strongly disagree to '6'=strongly agree. We conducted an exploratory factor analysis (principal components, varimax rotation), which resulted in a three factor solution (with eigenvalues of greater than 1.0), and the details are shown in Table 1. The three factors are Participative Leadership, Professional Development and Collegial Support and they all had good reliability ($\alpha \geq .76$). These were operationalized as level 2 variables in the multi-level modelling.

Insert Table 1 about here

Hindrance Stressors were measured using the 5-item scale developed by Cavanaugh et al. (2000), coded '1'=no stress to '5'=great deal of stress. Questions followed the stem: "Things that cause you stress" and sample question is "The amount of red tape I need to go through to get my job done" ($\alpha = .78$). Bullying was measured using the Negative Acts Questionnaire (NAQ)-Revised, 22-item measure (Einarsen, Hoel, & Notelaers, 2009), coded '1'=never to '5'=daily. A sample item is "Having insulting or offensive remarks made about your person, attitudes or your private life" ($\alpha = .94$). Work-Family Conflict was measured using the 6-item construct by Frone and Yardley (1996), coded '1'= never to '5'=very often. A sample item is "My work takes up time that I'd like to spend with family or friends" ($\alpha = .94$). We also controlled for variables typical within the well-being literature: Age (years), Gender (1=female, 2=male), Ethnicity (1=white, 0=other), and Job Tenure (years).

Data Analysis

Following Podsakoff and colleagues (2003), we conducted a Harmon's single factor test to check for common method bias due to the cross sectional design and the reliance of single respondents in the present study. Unrotated factor analysis produced eight factors with the single largest factor extracted 14.7% of the variance. This result suggests that common method bias is not a major concern in this study.

Prior to undertaking multi-level modelling analysis, we computed the inter-correlation coefficient indices for each of the scales at the individual level prior to aggregating the scales for multi-level modelling. The analysis showed that the three climate dimensions all met the criteria for aggregating at the organizational level. For participative leadership (ICC= .93), professional development (ICC= .86) and collegial support (ICC= .73). This satisfied the minimum recommended for undertaking multi-level analysis as there was sufficient variance between organisations. Hypotheses were tested using multi-level modelling with *MLwiN* version 2.10 software (Rasbash, Charlton, Browne, Healy, & Cameron, 2009). Control variables and the employee-level variables were centred to the grand mean, while the organizational climate dimensions were centred at the institutional-level.

Results

Descriptive statistics of the variables utilized in this study are shown in Table 2. Table 2 shows that all the variables are significantly correlated with each other in the expected directions, all at $p < .01$.

Insert Tables 2 about here

Results of the multi-level analysis are shown in Tables 3 and 4. Table 3 shows that of the three organizational climate dimensions, participative leadership is significantly and negatively related to hindrance stressors ($\beta = -.37, p=.000$), bullying ($\beta = -.21, p=.000$), and WFC ($\beta = -.22, p=.000$), as is the dimension of professional development: hindrance stressors ($\beta = -.12, p=.001$), bullying ($\beta = -.07, p=.010$), and WFC ($\beta = -.09, p=.012$). Finally, collegial support is only significantly related to bullying ($\beta = -.12, p=.000$), and WFC ($\beta = -.11, p=.003$). There was partial support for Hypotheses 1, 3a and 3b.

Insert Table 3 about here

In Table 4, we show the results of the multi-level model with fatigue as the dependent variable. The first model includes only the organizational climate dimensions, and then the additional three models (model 2 to 4) show the addition of each mediator, in the order of hindrance stressors (model 2), bullying (model 3) and WFC (model 4). The first model shows that of the three organizational climate dimensions, only participative leadership ($\beta = -.26, p=.000$) and professional development ($\beta = -.14, p=.000$) are significantly and negatively related to fatigue. However, as expected, as we move across the additional models adding potential mediators, there are consistent partial mediation effects.

Insert Table 4 about here

In model 2, hindrance stressors is significantly related to fatigue ($\beta = .38, p=.000$) and this reduces the strength of the effects from participative leadership (from $\beta = -.26, p=.000$ to $-.12, p=.001$) and professional development ($\beta = -.14, p=.000$ to $\beta = -.10, p=.0004$). In model 3, bullying is significantly related to fatigue ($\beta = .28, p=.000$) and this also reduces (partially mediates) the influence of hindrance stressors (from $\beta = .38, p=.000$ to $.27, p=.000$). Bullying also further partially mediates the influence from climate on fatigue: participative leadership (from $\beta = -.12, p=.001$ to $-.11, p=.004$) and professional development ($\beta = -.10, p=.0004$ to $\beta = -.08, p=.008$). Finally, in model 4, WFC is significantly related to fatigue ($\beta = .45, p=.000$) and this also reduces (partially mediates) the influence of hindrance stressors (from $\beta = .27, p=.000$ to $.21, p=.000$) and bullying (from $\beta = .28, p=.000$ to $.18, p=.000$). WFC (in conjunction with hindrance stressors and bullying) ultimately fully mediates the influence from climate on fatigue of participative leadership (from $\beta = -.11, p=.004$ to $-.04, p=.127$) and partially mediates professional development ($\beta = -.08, p=.008$ to $\beta = -.07, p=.012$).

Overall, the multi-level analysis provides support for our theoretical model, with two out of the three organizational climate dimensions predicting fatigue, and that is best understood as working through (sequentially): hindrance stressors, bullying and then work-family conflict. The exception was the influence of supportive collegial support on fatigue, which was supported at the correlation-level of analysis but did not significant predict fatigue due to the stronger influence of the other two climate dimensions.

Discussion and Implications

The aim of this study was to investigate how organizational climate impacted on employee wellbeing, characterized by fatigue. While organizational climate research is well-developed, there have been few such studies in New Zealand and scant attention to the tertiary education sector. As such, our study provides much needed insights into the importance of an organizational climate. Three different dimensions of organizational climate were found in these higher education institutes, namely participative leadership, professional development, and collegial support.

Given the importance of the higher education sector in New Zealand and the financial commitment given to the sector, the results provide some useful evidence. For example, the influence of the organizational climate dimensions shows that participative leadership – where leaders seek the equal distribution of power and sharing problem-solving (Bass, 1990), appears to be the dominant dimension, significantly predicting all factors at levels (regression beta weights) stronger than the other two dimensions. Importantly though, when we examine the mean scores for the organizational climate dimensions (range 1-6, midpoint 3.5), they show that on average, participative leadership is well-below the midpoint ($M=3.0$), indicating that while respondents see this as the most valuable climate dimension, it is the least common. Further analysis showed that only 30% of respondents rated their participative leadership at this mid-point level, compared to 61% of respondents for the collegiality support dimension. Given the consistent importance of participative leadership, it highlights that New Zealand institutions have more work to do towards developing these perceptions amongst employees, perhaps through greater communication and shared engagement with workers. Across the other constructs, the mean scores suggest low levels of bullying (Thirlwall & Haar, 2010) which is a positive result, while stressors are at typical levels (Hollebeek & Haar, 2012) and WFC and Fatigue levels are slightly higher than normal (e.g. Haar, 2006).

These findings highlight that greater understanding of climate dimensions and the way institutions build and enhance them, might be a solution to encourage more positive workplace factors by driving down stressors. For example, if higher education institutions truly developed a more participative leadership climate – through sharing decisions and better

communication – this would likely help reduce stressors, bullying behaviour, and conflict between work and family roles, enhancing the wellbeing of staff. Perhaps institutions could focus more on involving staff in decision-making and providing better training to ensure managers are more competent and better communicators. Furthermore, hindrance stressors are a combination of factors that institutions might readily remedy. For example, excessive red tape, career stalling, and internal politics are core components of hindrance stressors but unfortunately are all associated with higher education institutions. Better training around career opportunities and trajectories and minimising the high levels of bureaucracy, are some of the ways institutions can tackle hindrance stressors.

Organizational climate such as participative leadership and professional development were found to reduce the experience of hindrance stressors faced by New Zealand higher education institute employees. As stated by Denison (1996), organizational climate could be manipulated by those who held power and influence within an organisation. As such, it is not surprising that when employees of higher education institutes perceived that the presence of a climate that exhibits participative leadership and support for professional development, this would result in a decrease in the level of hindrance stressors in their work. This finding corroborates the less than favourable managerial climate within the higher education sector, as reported by the New Zealand Productivity Commission (2016). Participative climate could minimise employees' experience of hindrance stressors such as role stress and role conflict (Newton & Jimmieson, 2008), as the sector continued to face on-going changes to its operating environment (The New Zealand Productivity Commission, 2016) and rising managerialism within the sector (Bridgman, 2007; Zepke, 2012). While a collegial supportive climate did not have any direct impact in minimising hindrance stressors, a climate of professional development had a positive impact. When employees are given the opportunity to develop themselves in how they perform at work, this opportunity grants them the necessary job control in minimising work-related hindrance stressors.

Our findings from the multi-level modelling analysis show that employees with higher perceptions of organizational climate (more participative leadership, developmental opportunities and supportive colleagues) reported fundamentally better wellbeing, through lower fatigue. Respondents also reported lower hindrance stressors, less bullying and conflict between work and family roles, and ultimately this reduced fatigue. Given the fact that fatigue is a detrimental wellbeing construct that is also linked to poor decision-making and potentially dangerous actions (Pisarski & Barbour, 2014; Folkard & Lombardi, 2006), our findings highlight the role the institution can play in reducing this outcome. We contribute to Bowling and Beehr's (2006) suggestion that climate influences stressors, which in turn influence bullying and then employee outcomes including wellbeing. Furthermore, the mediators explored in the present study, namely, hindrance stressors, bullying and WFC, all have meta-analytic support for detrimental influences on employees beyond wellbeing. These factors are linked to poorer performance, higher turnover and absenteeism. In the present study, we also found that if negative workplace experiences were not managed effectively, these would negatively impact on employee wellbeing.

Our findings could be explained using Hobfoll's (1989) COR theory. A participative and developmental oriented organizational climate can be treated as an organizational resource, provided by the employers. It can then be used to minimise any workplace-related hindrance stressors, create a workplace with less bullying, and reduce the pressures from work and family domain. The presence of the three dimensions of organizational climate identified in the present study can be explained by organizational support theory (Kurtessis et al., 2016). Supportive organizational climate could reduce employees' perception of work-related hindrance stressors, workplace bullying and minimise the spillover of work into family domain. As noted in the literature (see Dutton & Heaphy, 2003; Helgeson & Lopez,

2010), high-quality supportive relationships contribute towards enhanced employee wellbeing. Our present study shows that organizational climate dimensions such as participative leadership and professional development, both impacted on fatigue via the three sequential mediators.

Practical Implications

There are bound to be wider implications for tertiary education as further reviews of education and employment relations gather pace under the newly elected Labour-led government. Minister of Education, Chris Hipkins, announced a wide-ranging review of education in February 2018 and this followed the introduction of fee-free tertiary studies for most first-year New Zealand students by the start of the 2018 education year. The Labour-led government has also focused on fair employment practices, which has already seen several of its election promises about employee protection being introduced (see Foster & Rasmussen, 2017). While the media focus has been on collective bargaining changes (the so-called 'Fair Pay Agreements') there are also concerns about the widespread use of short-term and casual employment arrangements and of organizational restructuring (Smollan & Pio, 2017). The continuous restructuring of tertiary education institutions surfaced in the survey's wellbeing questions and may also be associated with the limited support amongst the respondents in respects of the actual existence of participative leadership in tertiary education.

Limitations and Future Implications

This study has several limitations and future research implications. The participants in this study were predominately union members from a cross sectional sample of academics and non-academics. While the study could be affected by common method bias, a Harmon's single factor test was conducted prior to undertaking the statistical analysis. Future studies could focus on collecting data on the school/department/faculty level. This is because organizational climate could be different at the school/department/faculty level.

In this study, WFC was operationalised using the scale by Frone and Yardley (1996). Future studies could measure WFC with all three forms of WFC (that is, time, strain and behaviour) and the bi-directions of WFC (work interference with family and family interference with work (see Ohta et al., 2011). Future study could also theorise the effect of co-worker collegial support to predict family-work conflict, instead of treating WFC as a global scale (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011). Furthermore, fatigue data could be obtained from the focal participant's spouse or partner or peer, similar to the study by Jackson and Maslach (1982). This would reduce the potential common method bias with single source data collection at one point in time.

Conclusion

In summary, the present study provides an improved empirical and theoretical understanding of the process by which organizational climate can influence employee wellbeing, in particular, minimising employees' fatigue in New Zealand higher education institutions. While there were three dimensions of organizational climate, only participative leadership and professional development had a direct impact on fatigue. While organizational climate was found to play an important role in reducing fatigue, it is best understood as operating through hindrance stressors, then bullying, and finally through work-family conflict. This path analysis approach confirming mediating effects provides much greater understanding of the process towards employee wellbeing at work.

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Table 1. Results of Exploratory Factor Analysis for both Samples

	Factor Loadings		
	Participative Leadership	Professional Development	Collegial Support
1. A willingness to genuinely share power and authority with employees	<u>.849</u>		
2. A clear commitment from management to be a good employer	<u>.828</u>		
3. Sufficient staff involvement in decision making and policy development	<u>.820</u>		
4. Good communication from management about any proposed changes	<u>.812</u>		
5. Competent leadership among top-level managers	<u>.806</u>		
6. Good communication between management and staff	<u>.779</u>		
7. Collegiality in decision-making processes	<u>.737</u>		
8. Good relations between management and unions	<u>.713</u>		
9. Sufficient managerial support for academic freedom	<u>.659</u>		
10. Adequate student voice in determining policy that affects them	<u>.545</u>		
11. Adequate support for flexible work arrangements	<u>.498</u>		
12. Sufficient professional development opportunities for teaching duties		<u>.850</u>	
13. Sufficient professional development opportunities for research duties		<u>.811</u>	
14. Sufficient professional development opportunities for general, administrative or management duties		<u>.769</u>	
15. A supportive attitude among general/allied staff towards teaching activities			<u>.873</u>
16. A supportive attitude among general/allied staff towards research activities			<u>.842</u>
17. A supportive attitude among academic staff towards administrative activities			<u>.580</u>
Eigenvalues	6.403	2.756	2.362
Percentage variance	37.7%	16.2%	13.9%
Number of items in measures	11-items	3-items	3-items
Cronbach's Alpha	.94	.87	.76

Questions followed the stem "At your institution..." and were coded 1=strongly disagree, 6=strongly agree

Table 2. Descriptive Statistics and Correlations

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. Age	50.6	10.7	--								
2. Job Tenure	8.1	7.1	.39**	--							
3. Participative Leadership	3.0	1.1	-.09**	-.10**	--						
4. Professional Development	3.5	1.2	-.03	.03	.60**	--					
5. Collegial Support	4.0	1.1	-.01	.04	.48**	.49**	--				
6. Hindrance Stressors	2.7	.94	-.03	-.03	-.53**	-.46**	-.34**	--			
7. Bullying	1.5	.57	-.01	.00	-.46**	-.39**	-.36**	.56**	--		
8. Work-Family Conflict	3.0	.99	.04*	-.04	-.35**	-.30**	-.29**	.40**	.40**	--	
9. Fatigue	2.8	.91	-.08**	-.06**	-.41**	-.37**	-.29**	.48**	.44**	.62**	--

N=2694, *p< .05, **p< .01

Table 3. Multilevel Results of Organizational Climate Dimensions to Outcomes

	Model 1 Hindrance Stressors		Model 2 Bullying		Model 3 Work-Family Conflict	
	β	<i>SE</i>	B	<i>SE</i>	β	<i>SE</i>
Intercept	2.914***	.05	1.646***	.04	3.318***	.06
<i>Controls:</i>						
Age	-.00	.00	-.00	.00	-.01*	.00
Gender	-.15*	.07	-.08*	.05	-.11	.08
Ethnicity	.00	.00	.00	.00	.00	.00
Job Tenure	.00	.01	.00	.00	.01	.01
<i>Org Climate Predictors:</i>						
Participative Leadership	-.37***	.04	-.21***	.03	-.22***	.05
Professional Development	-.12**	.04	-.07*	.03	-.09*	.04
Collegial Support	-.05	.04	-.12***	.03	-.11**	.04
Variance level 2 (I)	.11	.12	.07	.06	.26*	.13
Variance level 1 (E)	.56***	.13	.27***	.06	.52***	.13
-2 Log Likelihood	1350.163		931.679		1430.850	

Note: * $p < .05$; ** $p < .01$; *** $p < .001$. Note: I=Institutional-Level, E=Employee-Level

Table 4. Multilevel Results of Mediation Effects to Fatigue

	Model 1 Fatigue		Model 2 Model 1 + Hindrance Stressors		Model 3 Model 2 + Bullying		Model 4 Model 3 + Work-Family Conflict	
	β	<i>SE</i>	B	β	β	<i>SE</i>	β	<i>SE</i>
Intercept	2.970***	.05	2.901***	.05	2.892***	.05	2.793***	.04
<i>Controls:</i>								
Age	-.00	.00	-.00	.00	-.00	.00	-.01*	.00
Gender	-.19**	.07	-.12*	.07	-.11*	.07	-.11*	.06
Ethnicity	.00	.00	.00	.00	.00	.00	.00	.00
Job Tenure	.00	.01	.00	.01	.00	.01	.01*	.00
<i>Org Climate Predictors:</i>								
Participative Leadership	-.26***	.04	-.12**	.03	-.11**	.04	-.04	.04
Professional Development	-.14***	.04	-.10**	.03	-.08*	.03	-.07*	.03
Collegial Support	-.00	.04	.02	.04	.04	.04	.06	.03
<i>Mediators:</i>								
Hindrance Stressors			.38***	.04	.27***	.04	.21***	.04
Bullying					.28***	.06	.18***	.05
Work-Family Conflict							.45***	.03
Variance level 2 (I)	.18	.11	.01	.10	.05	.10	.08	.07
Variance level 1 (E)	.47***	.11	.54***	.11	.48***	.10	.30***	.07
-2 Log Likelihood	1329.459		1236.168		1157.186		978.728	

Note: *p < .05; **p < .01; ***p < .001. Note: I=Institutional-Level, E=Employee-Level

Figure 1. Study Model

Level 2: Institutional-Level

Key: straight line=direct effect
Dotted line=mediated effect



