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Christian Yao Kaye Thorn Zheng Duan Nazim Taskin

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Workplace stress in a foreign environment: Chinese migrants in New Zealand

Christian Yao, Kaye Thorn, Zheng Duan and Nazim Taskin
School of Management, Massey University, Auckland, New Zealand

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Abstract

Purpose – The purpose of this paper is to examine the relevance of personal and organisational factors contributing to workplace stress among Chinese migrants in New Zealand.

Design/methodology/approach – The study is based on surveys of 88 participants using the theoretical model of person-environment fit.

Findings – The results reveal that perceived fit of organisational factors has a significant impact on workplace stress outcomes including emotional well-being, work-related health, job performance and intention to quit. Further analysis also shows that personal factors, some as a result of acculturation, play a moderating effect on the perceived relationship between the organisation and workplace stress. Education, advanced language skills and building networks in the new community are all important factors to minimise stress.

Originality/value – From an organisational perspective, the study highlights the importance of understanding the factors that cause workplace stress, especially with a culturally diverse working population. This cross-sectional study could be furthered through the use of alternative cultural samples, and through the development of a longitudinal design. In short, this study of the work stress of Chinese migrants in New Zealand contributes to the field of knowledge providing exploratory insights for work stress research in human resource management.

Keywords Culture, Immigrants, Stress, Work, Chinese workers

Paper type Research paper

Introduction

Understanding and managing employees' stress at work remains a major stream in the talent management literature because satisfied and motivated employees contribute directly to a company's competitive advantage, and excessive stress can be costly for both individuals and their organisations (Al Aris *et al.*, 2014). At the individual level, stress could be related to a number of physical, psychological and behavioural factors such as major illness, depression (Anderson, 2008), absenteeism (Cooper and Dewe, 2008), substance abuse (Frone, 2008) and a greater risk of workplace accidents (Kalia, 2002). Sobocki *et al.* (2006) found that the annual total direct organisational cost of workplace stress in the European Union was €41 billion, with €77 billion in terms of productivity losses to the various economies. It is therefore important to address the causes of workplace stress to minimise individual and organisational losses.

One of the most significant limitations in the research field of workplace stress is that most studies have focused solely on employees from homogeneous contexts (e.g. employees in a specific industry or occupation) (Soylu, 2007) and little is known about how workplace stress differs across culturally diverse populations. This paper addresses this gap by examining Chinese migrant workers in New Zealand, where migrants are defined as "individuals who move from one country or place of residence to settle in another" (Razum and Samkange-Zeeb, 2008, p. 420). Further, while a few studies have examined the acculturative stress of migrants (see, e.g. Hiott *et al.*, 2008), most of the literature fails to adequately examine both acculturative and work-related stressors of migrants in



host countries. Using a contextual approach, our quantitative study explores the factors contributing to workplace stress and the social mechanisms migrants develop to cope. Bridging the literature of both migration and workplace stress, this paper identifies specific configurations of factors that contribute to migrant stress, incorporating the different levels of society, organisations, families and individuals. Within a culturally diverse workforce, such an understanding is useful to enhance equality, inclusion and assimilation into the host country.

Perceived organisational factors and stress

Studies exploring determinants of workplace stress generally focus on individual socio-demographic factors, individual job characteristics or on predisposing personality traits (Edwards *et al.*, 2000). Yet, recent research has expanded the theoretical stress framework to include perceived organisational sources of stress. A useful approach to is to take a contextual view on the causes of workplace stress. For example, Lasalvia *et al.* (2009) use a mediation model to investigate the perceived organisational factors on psychiatric workplace stress. When considering stress in the organisational context, it is important to note that the relationship between a stimulus (e.g. a manager's racist behaviour) and a response (e.g. increased stress) is not linear, and is moderated by other processes (e.g. language skills) (Cooper and Dewe, 2008). Therefore, work stress can be viewed as a cycle of processes consisting of demands, moderating factors and responses. While the contextual factors can be evaluated either subjectively or objectively (Kristof-Brown and Guay, 2011), the current study considers only subjective or perceived organisational factors (e.g. individual assessment of the organisational support). Therefore, our aim is to subject these often-mentioned workplace variables to empirical scrutiny.

Another key question is what constitutes the environment in the context of stress. While the term of environment tends to be loosely defined in the context of workplace stress, a majority of studies focus on more specific contexts within a workplace. For example, an environment has been used with a focus on a person's attributes and the job requirements (Edwards, 1991), or as organisational factors including structures, values, goals and culture (Nasurdin *et al.*, 2009). Recently, the environment has referred to the fit with the social environment (Kim and Stoner, 2008) referring to individuals, groups, organisations or vocations. This later extension is particularly important in the context of migration, since the integration of a migrant within a group of local employees is never a natural fit, and this can result in an exacerbation of stress. Hence, this study takes a systems approach (Jackson, 2006), recognising the interplay between the many factors that impact on the well-being of workers in the organisation.

Migrants and workplace stress

International migration has increased over the decades to become an important stream of the global workforce (Weishaar, 2008), particularly in receiving countries like New Zealand, Canada and Australia. Foreign-born residents in New Zealand totalled about 30 per cent of the country's population in 2013 with Chinese ranked as the second largest group of overseas-born residents (Ministry of Business, Innovation and Employment, 2013). The importance of migrant workers also hinges on their economic contribution, providing an annual fiscal contribution to New Zealand of NZ\$3.3 billion and around 25 per cent of government revenue (Slack *et al.*, 2007). It is important to note that the benefits of migrants are not only reflected directly in the fiscal figures, but also in their knowledge which is valuable for global competition in today's knowledge economy.

Work stress is defined as “the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope” (Leka *et al.*, 2004, p. 3). Migrants, like other people, may suffer work stress. Compounding this, however, is that incidences of migrant abuse in the workplace are not uncommon, and there are numerous cases of excessive workloads, low pay, deskilling and poor working conditions (see, e.g. Weishaar, 2008). It is also concerning that there are more migrant workers than local workers who report industrial accidents and injuries in the construction and public works industries in many western European countries (Carballo and Nerukar, 2001), perhaps as a result of the longer working hours. Research investigating potential organisational factors on individual stress identifies variables including organisational commitment, organisational support, leadership, organisational culture and social networks at work (Djurkovic *et al.*, 2008; Kristensen *et al.*, 2005). The current study focuses on these variables within the organisational environment taking a systems approach. Many studies show that organisational commitment plays a significant moderating role in the perception of work stress. Employees who perceive that the organisation cares about them, experience greater job satisfaction, a reciprocated commitment to the organisation, greater mental and physical well-being and a resultant increase in performance (e.g. Lu *et al.*, 2010). Further, organisational commitment has been found to partially mediate the relationship between employee engagement and turnover intentions (Brunetto *et al.*, 2012).

Migrant’s workplace stress might also be exacerbated by acculturative stress caused by the process of adjusting to a new socio-cultural environment (Lueck and Wilson, 2010). Migration adjustment can involve psychological distress particularly when the cultural distance is large. As national culture is an integral part of organisational culture (Gerhart, 2009), the workplace is particularly challenging as migrants adjust to both organisational and national culture. In short, migrants may experience intensive stress in the workplace because they not only have to deal with daily work issues but also because they face the difficulty of a new country and a new organisation.

Cultural values are an important determinant of work stress and therefore the individual well-being (Ip, 2009). This is especially relevant to Chinese migrants who settle in western countries with very different cultures. For example, in contrast to western values, Chinese culture emphasises collectivism, fatalism and harmony in the workplace (Leong *et al.*, 2014). For the Chinese worker, this translates into a high level of commitment to their organisation (Yang *et al.*, 2012), avoidance of confrontation, respect for authority and an acceptance of unequal distribution of power (Chen *et al.*, 2014). These attributes migrate with the worker into the new work environment and have significant implications for how Chinese migrants interact with others in the workplace (Yao, 2014).

Further, personal circumstances are important factors often neglected in the research on migrant stress. The absence of a strong social network, family support, a lack of adequate language skills and issues around security of residency all impact on a migrant’s ability to cope with stress and integrate into a new cultural environment (Soylu, 2007).

The person-environment (P-E) fit model and research questions

A useful theoretical approach emphasising the interactions between the person and the workplace is the P-E fit model (French *et al.*, 1982) which suggests that job-related stress is the result of a misfit between the characteristics of the person (e.g. value and abilities) and the work environment (e.g. workload and support). The core premise of the P-E fit theory is that stress arises not from the person or

environment separately, but rather by their fit or congruence or lack thereof, with one another (Soylu, 2007).

In this paper, we investigate the organisational environment focusing on the perceptions (subjective judgement) of organisational factors (the “E” component of the fit) and on migrant workers’ personal characteristics as a result of acculturation (the “P” component of the fit), and whether and how these factors contributes to workplace stress. Specifically, we examine two questions:

- RQ1.* Are the organisational factors that emerge from western studies of workplace stress applicable to Chinese migrant workers?
- RQ2.* Is the migrant’s workplace stress exacerbated by factors resulting from the process of migration?

We examine workplace stress outcomes focusing on physiological (namely work-related health), psychological (emotional well-being) and behavioural responses (job performance and intention to quit) individually. These equate to the environmental factors within an organisational context. While the literature usually interchanges these three responses (see, e.g. McShane and Travaglione, 2003), it is our view that behavioural responses are induced by physiological (such as back pain and headache) and psychological outcomes (such as anxiety and depression) of stress. Behavioural responses have direct impacts on organisations such as poor performance, and turnover, but among all the stress outcomes, they receive the least attention. As established earlier, the better the fit between workers and the perceived organisational environment, the lower the levels of workplace stress experienced by individuals. In this cross-cultural context, we would still expect to find a similar relationship between the organisation and the employee and therefore hypothesise:

- H1.* Migrants’ perceptions of the organisational environment will be positively related to emotional well-being.
- H2.* Migrants’ perceptions of the organisational environment will be positively related to work-related health.
- H3.* Migrants’ perceptions of the organisational environment will be positively related to job performance.
- H4.* Migrants’ perceptions of the organisational environment will be negatively related to intention to quit.

The second research question leads us to take a more exploratory approach and to investigate the personal and social factors as a result of migration. The nature of the relationship between acculturation and workplace stress is not clearly established (Peeters and Oerlemans, 2009) but it is particularly important in the migrant context. We examine the personal factors, (namely duration in New Zealand, education level, percentage of Chinese employees in the organisation, language skills and number of Kiwi/local friends) and the role they might play in the interactions between the organisation and the individual.

Subjects and methods

Participants

The population was Chinese individuals (excluding those born in New Zealand) who were currently working in New Zealand. It is widely acknowledged that conducting research

with Chinese is challenging, especially for studies related to sensitive personal information and evaluation of organisations (Fang, 2011). Study participants were therefore recruited using a combination of convenience (personal networks) and self-selected sampling (through advertisements on a major leading social media site for the Chinese community in New Zealand) methods. In total, 88 individuals who participated in the study provided complete data on the focal variables. The mean age of participants was under 30 years, with half female, and 60 per cent partnered. Education ranged from no formal qualifications through to doctorates, with 75 per cent having at least a bachelor's degree. The participants represent a diverse sample of Chinese migrant workers in New Zealand and a more detailed breakdown can be provided on request.

Procedure

An electronic survey including 96 items was created. The survey was prepared in both Mandarin and English to overcome language barriers. We asked respondents to rate the importance that they placed on each item in relation to workplace stress, in most cases using a seven-point Likert scale anchored at one end by "not at all important" and at the other by "very important".

Measures

The development of measures was guided by the theoretical model of P-E fit proposed earlier. These variables were assessed with widely used and validated instruments. The organisational factors included organisational commitment using Meyer and Allen's (1997) measure of affective, continuance and normative commitment, perceived organisational support using Djurkovic *et al.*'s (2008) instrument, leadership using the Multifactor Leadership Questionnaire (Avolio *et al.*, 1999) and work climate with the Copenhagen Psychosocial Questionnaire (Kristensen *et al.*, 2005). The measure of work-related (physiological) health was the General Health Questionnaire (Goldberg, 1972). Participants' psychosocial condition was assessed using Warr's (1990) instrument. The measure of behavioural outcomes utilised Kessler's (2003) questions on job performance, O'Driscoll and Beehr's questions on turnover intentions and Bentley *et al.*'s (2009) question on absenteeism. More detail, including sample items, is provided in Appendix.

Personal and social characteristics of migrant workers were assessed using migrant stress survey items by Hiott *et al.* (2008). Some items were removed (e.g. questions on years worked in agriculture) or adjusted (e.g. questions on the number of host country friends) to suit the context of the current study.

SPSS version 20 and WarpPLS 4, a structural equation modelling (SEM)-based analysis, were used to evaluate theoretical and measurement models at the same time (Chin *et al.*, 2003). PLS works well with multiple indicators and variables (Kline, 1998), and is considered superior in terms of predicting capability even with small sample sizes (Chin, 1998).

In the analysis, both first-order and second-order factors were used. The first-order constructs (organisational factors, emotional well-being, work-related health, performance and intention to quit) were modelled with multiple variables. Following the first-order constructs approach (Li *et al.*, 2008), we have confirmatory factor analysis for the second-order model as developed in the adopted studies in addition to validity (construct and discriminant validities) (Haynes *et al.*, 1995) and reliability tests (Cronbach's α and composite reliability (Fornell and Larcker, 1981) on all constructs. In the interests of brevity, we have not included the inter-item correlations and the factor loadings and reliability measures for the first-order analysis but they are available from the authors.

Data analysis and results

Prior to testing the hypotheses, validity and reliability tests were conducted as part of psychometric properties of the scale measuring construct validity, discriminant validity, Cronbach's α and composite reliability. Construct validity is "[...] the degree to which an assessment instrument measures the targeted construct" (Haynes *et al.*, 1995, p. 239), and is commonly tested via exploratory or confirmatory factor analysis as well as SEM (Rubio *et al.*, 2003). Values above 0.5 in a confirmatory factor analysis indicate acceptable construct validity (Hair *et al.*, 2006). Adequate discriminant validity requires all items to load higher on their related factor. Table I shows that all variables loaded as required on their related factors indicating adequate construct and discriminant validities. Further, the table shows that all Cronbach's α and composite reliability measures are above 0.7 indicating acceptability in terms of internal consistency and reliability (Kline, 1998).

Another criterion for discriminant validity is checking the inter-item correlations and average variance extracted (AVE). Our results show that all items except performance and intention to quit are positively and significantly correlated to each other. Furthermore, the square roots of AVE values, shown in diagonal in Table II are greater than the correlations related to the same construct. This indicates acceptable discriminant validity.

After conducting validity and reliability tests, we tested the hypotheses using the PLS model. Focusing first on the environmental components of the P-E fit model, Figure 1 reports the path coefficients, sign and significance of these values as well as the variance (R^2) for the constructs. The results show that organisational factors are significantly and positively related with emotional well-being at work

Constructs	OrgFact	IntQuit	Performance	EmotWelB	Work health	Cronbach's α	Composite reliability	AVE
<i>OF_A</i>	0.730	-0.418	-0.045	0.079	-0.030	0.895	0.918	0.617
<i>OF_B</i>	0.847	-0.257	-0.107	-0.103	0.082			
<i>OF_C1</i>	0.831	0.131	0.006	0.247	0.096			
<i>OF_C2</i>	0.773	0.108	-0.072	-0.092	0.043			
<i>OF_D</i>	0.698	0.294	0.033	-0.044	-0.047			
<i>OF_E1</i>	0.853	0.042	0.055	-0.041	-0.020			
<i>OF_E2</i>	0.752	0.117	0.138	-0.052	-0.147			
<i>IntQuit1</i>	0.012	0.912	0.020	0.057	-0.100	0.915	0.946	0.855
<i>IntQuit2</i>	-0.007	0.926	-0.057	-0.075	0.109			
<i>IntQuit3</i>	-0.004	0.936	0.036	0.019	-0.011			
<i>Performance1</i>	0.117	-0.011	0.727	-0.026	-0.369	0.768	0.844	0.523
<i>Performance2</i>	-0.058	-0.068	0.785	0.048	-0.080			
<i>Performance3</i>	-0.070	0.040	0.833	-0.032	-0.110			
<i>Performance4</i>	-0.092	0.040	0.611	0.003	0.314			
<i>Performance5</i>	0.118	0.005	0.634	0.009	0.364			
<i>EmotWelBA</i>	-0.141	0.018	-0.122	0.905	-0.129	0.780	0.901	0.820
<i>EmotWelBB</i>	0.141	-0.018	0.122	0.905	0.129			
<i>WorkHealth1</i>	-0.147	0.064	0.058	0.179	0.711	0.710	0.822	0.540
<i>WorkHealth2</i>	0.050	-0.186	0.094	-0.444	0.775			
<i>WorkHealth3</i>	-0.168	0.038	-0.020	-0.047	0.837			
<i>WorkHealth4</i>	0.347	0.112	-0.164	0.431	0.592			

Notes: Orgfact, organisational factors; EmotWelB, emotional well-being at work; IntQuit, intention to quit the job; work health, work-related health; performance: job performance of individuals

Table I.
Factor loadings and
reliability measures

Table II.
Inter-item
correlations and
square root of AVEs

Construct	Organisational factors	Intention to quit	Performance	Emotional well-being	Work health
<i>Organisational FACTORS</i>	(0.786)				
<i>Intention to quit</i>	-0.568***	(0.925)			
<i>Performance</i>	0.243**	-0.043	(0.723)		
<i>Emotional well-being</i>	0.538***	-0.494***	-0.056	(0.905)	
<i>Work health</i>	0.450***	-0.291***	0.207**	0.190*	(0.735)

Notes: Square root of AVEs are placed in the diagonal, in parenthesis. *, **, ***Correlation is significant at the 0.10, 0.05 and 0.01 levels, respectively (two-tailed)

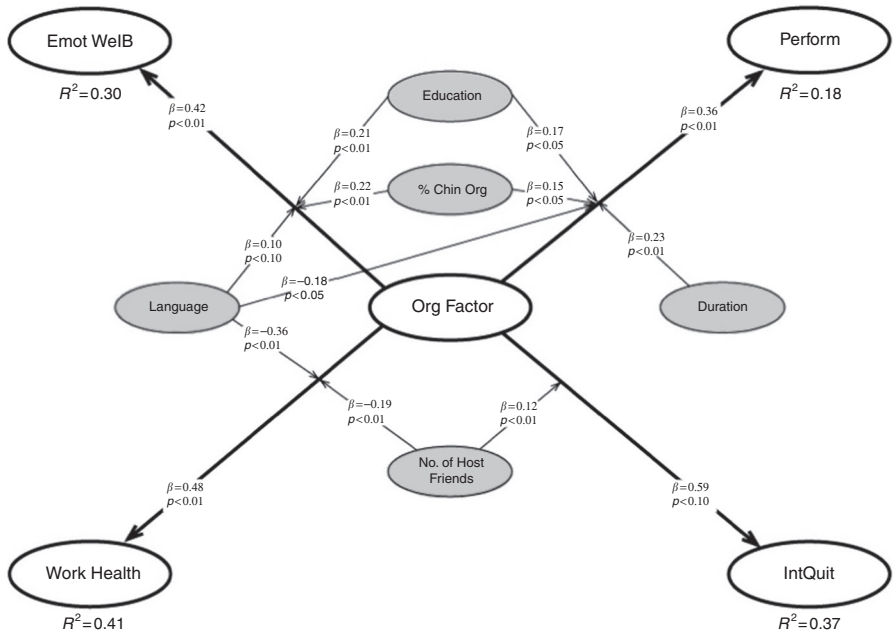


Figure 1.
Research model and
path coefficients

Notes: Orgfactor, organisational factors; EmotWelb, emotional well-being at work; work health, work-related health; IntQuit, intention to quit the job; perform, job performance of individuals

($\beta = 0.42, p < 0.01$), work-related health ($\beta = 0.48, p < 0.01$) and performance ($\beta = 0.36, p < 0.01$). They are significantly and negatively ($\beta = -0.59, p < 0.01$) related to intention to quit. The variance explained for the endogenous variables are 0.30 for emotional well-being at work, 0.41 for work-related health, 0.18 for performance and 0.37 for intention to quit.

Additional analysis were conducted after testing the main PLS model. The model was expanded to include five moderating variables identified above, although for simplicity, only the significant relationships have been demonstrated (shown in grey in Figure 1). The risk of multicollinearity is low, suggesting a good model fit (collinearity

tables are also available if desired). Our results show the following interactions, summarised in Table III:

- (1) Migrants' language skills, education levels and the percentage of Chinese employees in the organisation positively affect the relationship between organisational factors and emotional well-being at work.
- (2) Duration in New Zealand and education level positively affects the relationship between organisational factors and performance of the individuals, while language skills, and percentage of Chinese employees in the organisation has a negative effect.
- (3) Language skills and number of host country friends negatively affect the relationship between organisational factors and work-related health.
- (4) The number of host country friends positively affects the relationship between organisational factors and intention to quit, which are negatively associated. In other words, the magnitude of the negative relationship between organisational factors and intention to quit will increase as the Chinese employees have more friends outside work.

In variance-based SEM analysis, such as PLS, the average path coefficient (APC), average R^2 (ARS), average adjusted R^2 (AARS) and variance inflation factor (VIF) are good indicators of fit and quality of the model tested (Kock, 2011). The results in Table IV

Table III.
Path coefficients,
reliability, AVE and
VIF values for
moderating variables

	Language	Duration	% Chinese in Org	Education	No. of host friends
<i>Organisational factors</i>					
IntQuit	-0.042	-0.068	-0.015	-0.007	0.117*
Performance	-0.175**	0.228***	-0.147**	-0.167**	-0.099
EmotWelB	0.102*	-0.006	0.222***	-0.212***	-0.010
Work Health	-0.362***	-0.070	0.066	-0.061	-0.189***
<i>Composite reliability</i>	0.970	0.893	0.931	0.904	0.956
<i>Cronbach's α</i>	0.968	0.858	0.913	0.868	0.946
<i>AVE</i>	0.537	0.548	0.662	0.593	0.755
<i>VIFs</i>	1.979	1.539	1.387	1.553	1.507

Table IV.
Comparison of
model fit and
latent variable
coefficients with
and without
moderating
variables

Models	Tests	Orgfactor	EmotWelB	Work Health	IntQuit	Perform
Model 1 – without moderators	R^2 coefficients		0.334	0.225	0.386	0.083
	Full collinearity VIFs	2.111	1.594	1.280	1.610	1.138
	Q^2 coefficients		0.339	0.232	0.391	0.087
	Model fit and quality	APC		ARS		AARS
		0.490 ($p < 0.001$)		0.257 ($p = 0.003$)		0.248 ($p = 0.004$)
Model 2 – with moderators	R^2 coefficients		0.297	0.408	0.368	0.182
	Full collinearity VIFs	2.618	1.820	1.575	1.936	1.254
	Q^2 coefficients		0.422	0.364	0.422	0.267
	Model fit and quality	APC		ARS		AARS
		0.175 ($p = 0.022$)*		0.314 ($p < 0.001$)		0.263 ($p < 0.001$)
		0.268 ($p < 0.05$)				

Note: *Calculated for the variables/constructs shown in the figure for the second model

reveal that both models have good fit within the recommended values (APC $p < 0.05$, ARS $p < 0.01$ and AARS $p < 0.01$). The increased coefficients and significance values of ARS (as well as individual R^2 coefficients), AARS and VIFs (VIF values less than 10 (Hair *et al.*, 1998) or more conservatively less than 3.3 (Kock and Lynn, 2012)) are acceptable and indicate no threat for multicollinearity and show an improved fit for the model when the moderators are added. The APC value was decreased when the moderators are added, but this was expected considering the increased number of paths that have relatively small coefficients, especially for the moderators. Furthermore, Q^2 coefficients have increased when the moderators were included in the model reflecting the predictive validity of each exogenous variable over the endogenous variable. Any positive value of Q^2 coefficient is considered as having acceptable predictive validity (Kock and Gaskins, 2014). As Table IV indicates, both models have acceptable predictive validity with the values increasing for the model with moderators.

Discussion and conclusions

Our findings indicate that the hypotheses are supported and that for these Chinese migrant workers, a perceived effective organisational environment can reduce work stress. These findings are in line with the literature, and hence, the first contribution offered here is that the P-E fit model is appropriate in the context of Chinese migrants in New Zealand. Our SEM model clearly showed that the individual's perception of organisational factors directly influenced work performance and intention to quit.

The inclusion of the personal moderating factors does, however, offer new insights into the broader workplace stress arena. Education is clearly an important factor in managing stress. In this research, the higher the level of education, the more positive the relationship between organisational factors and both emotional well-being and job performance. One explanation for this might be that the process of education contributes to the coping resources of the individual, providing a broader base from which to address the challenges of the new country and the new work environment. Similarly, and not surprisingly, better language skills also facilitate the relationship between organisational factors and emotional well-being. A lack of understanding about what is happening in the work environment will lead to greater uncertainty, impacting on the way an employee feels about themselves.

However, language skills negatively influence the relationship between organisational factors and both work health and performance. In this context of Chinese workers, it is important to recognise the link between education and English language skills (Yi *et al.*, 2010). Although English is taught at all levels, an English proficiency certificate must be awarded before university graduation. Further investigation of our sample reveals that around 80 per cent had university qualifications, and therefore, English language skills, but about the same percentage were employed in non-managerial positions, suggesting that there may be significant talent waste for these migrants. Talent waste and its impact on life satisfaction is certainly a concern in the migration literature (see e.g. Al Aris *et al.*, 2014; Carr *et al.*, 2005), but here the direct connection between underemployment and work stress is apparent.

The networks that these Chinese immigrants had, both in the workplace and outside, also had a bearing on work stress. The percentage of Chinese in the organisation clearly results in the perception of a supportive work environment, and a positive effect on emotional well-being. Further, as the number of host country friends increase, and

perhaps also their assimilation into the new country, the propensity to quit decreases. Friends may be a proxy for assimilation, and the migrants are beginning to feel more comfortable, the work satisfaction may also increase.

The contributions of this study are therefore, both empirical and theoretical. It is the first empirical study examining the relevance of organisational factors of workplace stress of migrant workers using a specific Chinese sample. It verifies the appropriateness of the P-E fit model to a non-western sample. Further, it concludes that personal factors do influence levels of workplace stress. Those migrants best able to minimise this stress, and enhance the work experience, would have a good education, advanced language skills and a willingness to pursue friendships with host country citizens. This study not only confirms this theoretical assumption that better P-E fit will result in less workplace stress, but also provides specific detail on what constitutes both the environment and the person, and their interactions, for these migrant workers.

From a broader perspective, this study also contributes to the advancement of research in human resource management by providing an empirically derived and validated multidimensional (contextual) measure of workplace stress which integrates the extant literature and reconciles the divergent approaches to the operationalisation of the concept. The study highlights the importance of understanding contextual factors in order to assess employees' stress levels, using a theoretical perspective of P-E fit model. We argue the findings are not limited to migrant workers and researchers should consider the overall contextual effects (not limited to organisational domain, but also individual and social environments) to investigate workplace stress. Workers are not isolated; their interactions with other workers, managers, friends, family members and the wider society have significant influence on their well-being and satisfaction within a workplace. As a result, the various predictors of workplace stress need not compete for attention in the literature, as several measures may be useful in enhancing the effectiveness of employee management.

Limitations and future research

Despite the use of two sampling techniques, the response rate was relatively low and consequently, the sample size is relatively small. A representative sampling frame could be obtained from the governmental agencies such as Immigration New Zealand and Labour Department, and a systematic method could be used to generate a larger sample in future studies. Further, and a factor of the Chinese sample, very few participants responded to the opportunity to comment in the open-ended questions so more information about specific concerns was not identified. Future research could use qualitative approaches to achieve more in-depth information to validate the findings of this study. Finally, due to the exploratory nature of the study, the selection of personal factors is not to fully represent all individual characteristics but to reflect some specific variables as a result of migration and to demonstrate the moderating effect of these personal factors. Future studies could also provide more specific discussions of how different personal/social factors (moderators) affect P-E fit of workplace stress model.

To the best of the authors' knowledge, this is the first study of the work stress of Chinese overseas migrants that has been undertaken. It would, therefore, be useful to determine if the findings are similar in other countries. Finally, this study can only represent the Chinese migrants in New Zealand, and it is not clear whether the same results can apply to other cultural groups. Replication of this research on other migrants would reveal whether they share similar issues.

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Corresponding author

Dr Christian Yao can be contacted at: c.d.yao@massey.ac.nz

Appendix

Variables	Name of scale	What it measures	Number of items	Sample items	Authors/source
Organisational factors	Affected commitment/organisational support	Relationship with and perception of support from the organisation	6	This organisation has a great deal of personal meaning for me I do not feel "part of the family" in this organisation My organisation strongly considers my goals and values	Meyer <i>et al.</i> (1993) Djurkovic <i>et al.</i> (2008)
Organisational factors	Leadership (short COPSOQ)	Perceptions of manager's leadership, communication and conflict solving	16	My organisation cares about my opinions My manager is absent when needed My manager encourages thinking along new lines My manager gives recognition for good work	Kristensen <i>et al.</i> (2005)
Organisational factors	Work climate	Perceptions of work climate/culture	3	Is there good cooperation among your colleagues at work? Do you feel part of a community at your work?	Kristensen <i>et al.</i> (2005)
Organisational factors	Social support	Perceptions of support from supervisor and work colleagues	8	Receipt of helpful information or advice, clear and helpful feedback, sympathetic understanding and concern and practical assistance from both supervisor and colleagues	O'Driscoll and Beehr (1994)
Emotional outcomes	Psychological well-being	Sense of well-being at work	15	In the last 6 months, how often has your job made you feel tense, worried, contented, gloomy, optimistic	Warr (1990)
Health outcomes	General health questionnaire	Physiological strain	12	Over the past 6 months, have you felt you were playing a useful part in things, felt you couldn't overcome your difficulties, been feeling unhappy or depressed	Goldberg (1972)
Behavioural outcomes	Absenteeism	Number of days absent from work over past 6 months	1	About how many days have you been absent unofficially from your work?	Bentley <i>et al.</i> (2009)
Behavioural outcomes	Turnover intentions	Intentions to leave the job	3	I have had thoughts about quitting this job I plan to look for a new job within the next 12 months	O'Driscoll and Beehr (1994)
Behavioural outcomes	Job performance	Perceived level of job performance	3	How would you rate your job performance over the last 6 months?	Kessler <i>et al.</i> (2003)
Acculturation factors	Demographics	Demographic and socio-cultural information	20	Age, gender, length of time in New Zealand, language abilities, education, residency status, networks	Hiott <i>et al.</i> (2008)