Developing *Mahi Oranga*: A Culturally Responsive Measure of Māori Occupational Stress and Wellbeing

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This research developed a culturally responsive measure of occupational stress for Māori staff called *Mahi Oranga*. With a focus on Māori working in the Aotearoa New Zealand Health sector, and following consultation with 13 Māori participants in the sector, the questionnaire was developed and made available online for respondents to complete. The data from 108 respondents indicated that as workplace constraints, role overload and interpersonal conflict increased, Māori staff reported using more coping strategies to deal with those demands. With greater reported use of coping strategies, perceptions of individual and job-related strain decreased, and as individual strain increased, so too did job-related strain. Respondents working in urban work settings reported higher job-related strain than their rural counterparts, and those working in a kaupapa Māori environment reported higher levels of cultural safety, more organisational constraints, more role overload, and more interpersonal conflict, but also reported using more coping strategies than their counterparts working in a mainstream environment. The present research adds to the limited research about occupational stress among Māori, and reveals that while Māori staff experience occupational stress in some of the same ways as their non-Māori counterparts, they also experience it in uniquely different ways as well.

Keywords: Māori, health sector, stress, wellbeing

Introduction

Very little Aotearoa New Zealand research has been published on occupational stress among Māori. The most direct and comprehensive published research on occupational stress was conducted by Sisley and Waititi (1997) with Māori working in the tertiary education sector. Victoria Simon (2004) did some pilot research with Māori nurses, which identified high levels of occupational stress related to work overload and cultural safety, however few details of those findings have yet been published. Also in the health and disability sector, but not directly related to occupational stress, was research conducted by Ratima et al. (2007) for the Ministry of Health about recruitment and retention issues for Māori staff.

Key findings from Sisley and Waititi's (1997) and Ratima et al's. (2007) research provided context for the development of *Mahi Oranga*, the measure of factors related to occupational stress that was the focus of the present research. In particular, the existing research revealed that many Māori experience occupational stress in different ways from non-Māori, especially in relation to experiences of institutional racism. Such experiences usually arise from the conflict between Māori cultural values, Pākehā western beliefs, and the values of the mainstream, government-established education and health systems. Such experiences can result in a lack of cultural safety for Māori health practitioners as well as clients.

Cultural safety is defined as "the effective psychological education and practice as applied to a person, family or group from another culture, and as determined by that person, family or group" (New Zealand Psychologists Board, 2011, p.15). Furthermore, unsafe cultural practice "comprises any action which diminishes, demeans or disempowers the cultural identity and wellbeing of an individual, family or group" (New Zealand Psychologists Board, 2011, p. 15). Cultural safety has been formally recognised in the health and disability sector in Aotearoa New Zealand since 1992, and its focus is the experience of the client or patient, and whether a service provided is respectful of and allows dignity to that client or patient. From a Māori health worker focus, cultural safety also includes the experience of interactions with their non-Māori colleagues.

Other stressors for Māori staff revealed by Sisley and Waititi's (1997) and Ratima et al's. (2007) research include job descriptions and remuneration that do not adequately reflect the differing nature of work for Māori and non-Māori staff. For instance, many Māori staff hold dual obligations and accountabilities to their iwi (tribe) and employer, and are formally or informally tasked with providing advice on tikanga Māori (Māori customs and protocols) and te reo Māori (the Māori language) in addition to their other duties. The aims and aspirations of many Māori in the workplace can include making a difference to and being a role model for Māori, but low numbers of Māori staff in many sectors result in higher workloads for existing Māori staff, often due to the lack of or low levels of Māori cultural competence of non-Māori staff along with a lack of or limited access to cultural competency training for non-Māori staff. Māori staff may also lack access to cultural support or supervision, and feel isolated from other Māori staff in the workplace. On a positive note, Sisley and Waititi's (1997) and Ratima

et al's. (2007) research indicated that some Māori staff were optimistic about their work because they felt they were making a positive contribution to advancing Māori clients' needs, they felt nurtured and sustained by working with Māori colleagues and students, and their whānau (family) gave them the strength to continue. Since little published research exists about occupational stress and wellbeing for Māori, the aims of the present research were twofold. In Phase 1, the first author consulted with Māori working in the health and disability sector. The primary aim of the consultation phase was to establish whether there would be support for, or a need at 'flax roots' level within the health and disability sector for a Māori-specific measure of occupational stress and healthy work. Secondary aims of this first phase were to ensure the resulting measure (*Mahi Oranga*) would have cultural and practical validity with Māori health and disability sector employees, be designed to meet the needs of those employees, and have support for the development and piloting phases. Phase 2 aimed to work towards a better understanding of occupational stress and wellbeing for Māori working in the health and disability sector by developing a culturally responsive and valid measure.

Phase 1: Consultation with Māori

Method

Participants were 13 Māori urban health and disability sector employees. Three participants were male and ten were female. The work environments of the participants included three from urban kaupapa Māori, eight from urban mainstream, and two from rural kaupapa Māori. In this context, mainstream refers to government established health institutions that provide services to all ethnicities within the Aotearoa New Zealand community, as opposed to kaupapa Māori health services which specialise in providing services to the Māori community in a culturally responsive way. The thirteen participants self-identified (according to the job title displayed on their business card) as belonging to either the nursing (3 participants), mental health (6 participants), community health (2 participants), or Māori Health Promotion (2 participants) disciplines. Participants were recruited through the researcher's personal, whānau and professional networks.

Participants were interviewed individually. A brief background to the topic of occupational stress was provided, and included an overview of the need to consider organisational factors, personality (individual difference) factors, and coping strategies. The potential need for a measure which incorporated the Māori model of health and wellbeing, Te Whare Tapa Whā, to contribute information to better enable management to deal with occupational stress was discussed, including possibilities of raising awareness of the financial, organisational, and human costs of maintaining the status quo.

Data was collected by means of semi-structured interviews. Interview questions explored the potential value of research into occupational stress and wellbeing for Māori health professionals, the proposed development of a self-report measure, and potential uses for the measure. Each issue was explored in detail. A feedback report was provided to all participants once interviews had been completed.

Data were analysed using the six phases of Braun and Clarke's (2006) method of thematic analysis, which include: familiarisation with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and producing the report.

Results

Four themes emerged. The first was around the motivations or aspirations of Māori health and disability sector employees, as regards improving health outcomes for tangata whaiora (Māori people seeking positive health outcomes). Participants felt a strong need to reduce health disparities for Māori, and to improve services. A second theme related to occupational stress. Participants identified the high levels of work demands, such as demands intrinsic to the job (especially the isolation and travel demands of rural work); the need for professional development (lack of management skills, non- Māori colleagues' lack of cultural competence); the nature of work in the sector (leadership issues, the expectation that Māori health professions will deal with 'anything Māori'); and relationships at work (conflict with colleagues, expectations of clients and their whānau, unrealistic work expectations). Participants reported experiencing institutional racism, lack of recognition, workplace support, and lack of appropriate cultural or professional supervision. Stress, burnout and high rates of turnover among Māori staff were key negative outcomes of high work demands. The third theme concerned ways to create healthy workplaces. Key issues raised were the need for educating stakeholders (including policymakers, management, non-Māori colleagues, and Māori staff) about the different ways in which Māori and non-Māori experience occupational stress, the need for Māori leadership in the sector, the need for culturally responsive models and measures, and the opportunity to help Māori increase their self-awareness of occupational stress issues for themselves and others. Organisational change was also highlighted in terms of the need for organisational accountability, workforce development, and attention to Māori involvement in organisations. The fourth and final theme concerned practical issues related to developing *Mahi Oranga*. Key points were the need for brevity and ease of completion, quantitative and qualitative information, equal representation of Te Whare Tapa Whā quadrants, and the inclusion of kupu Māori (Māori words). Specific questions were also suggested.

Discussion

Many of the occupational stress issues for these Māori health practitioners were similar to those reported in Sisley and Waititi's (1997) research. Examples include the aspirations of Māori staff to provide appropriate services to Māori end users (either students or patients) to improve educational or health outcomes; institutional racism and lack of cultural safety, and lack of recognition and

appropriate remuneration for Māori cultural competencies. There were also similarities with Ratima et al's. (2007) findings in terms of low levels of Māori cultural competence among non-Māori staff, insufficient access to Māori cultural support and/or supervision, and institutionalised racism.

Māori who are working in the health and disability sector experience some aspects of occupational stress in the same way as non-Māori, although the impact on Māori may be more acute because they are under-represented in the workforce, while Māori remain over-represented in the health statistics. Stressors which are widely experienced include budgetary constraints resulting in staffing constraints and high workloads, unrealistic job expectations, lack of management skills and a lack of appropriate professional development. In addition, some aspects of work such as emergency department nursing, isolation and travel in the rural sector, and the negative outcomes of stress for individuals and organisations were also common for all health and disability sector employees.

However, Māori staff also experience occupational stress in different ways from non-Māori. Differences include institutional racism and lack of cultural safety, and a failure of non-Māori to value Māori cultural competencies. In many instances, Māori employees are often expected to deal with 'Māori' issues, perhaps in part because their non-Māori colleagues lack the cultural competence or desire to do so. Finally, the expectations of whānau, hapu and iwi, along with tribalism, were Māori-specific issues that contribute to differing experiences of occupational stress.

Together these findings provide evidence not only that Māori experience occupational stress differently from their non-Māori colleagues, but of ways in which those experiences differ. There is clearly a need for further research into occupational stress and wellbeing among Māori staff, and *Mahi Oranga* was developed as a further step to explore Māori perspectives of workplace health and wellbeing. *Mahi Oranga* was also developed to address the need identified by the Māori health practitioners consulted for a culturally responsive and valid measure of occupational stress and wellbeing for Māori working in the health and disability sector.

Phase 2: Development of Mahi Oranga

Consultation in Phase 1 identified the need for appropriate and valid measures of occupational health and wellbeing. Four steps were undertaken. The first was to find an appropriate theoretical occupational stress framework, the second was to incorporate an established model of Māori health and wellbeing, the third was to develop items, and the fourth was an initial study of item validity and reliability.

One well-established theoretical occupational stress framework which is comprehensive, incorporates individual and situational factors, and allows for both negative and positive outcomes is the transactional model of Lazarus and Folkman (1984). This model formed the basis for the present study. Three components are important in the model: demands, processes and outcomes. Demands (potential stressors) require effort to address them, and are appraised in terms of whether sufficient resources are available to deal with them. Processes refers to coping, the cognitive affective and behavioural strategies used to address demands. Short-term outcomes include the immediate emotions or actions in response to a demand, while long-term outcomes include wellbeing or distress. What distinguished the transactional model of occupational stress is the inclusion of appraisal and coping as mediating processes, as well as the focus on dynamic, ongoing interactions between person and environment.

The present study focused on three domains that aligned with the transactional model: demands (workplace characteristics), resources (coping strategies), and strain outcomes. In order to ensure that *Mahi Oranga* would be culturally responsive, two approaches were taken to integrate a Māori focus with the transactional model. The first was to ensure that Te Whare Tapa Whā, a well-recognised model of Māori health and wellbeing, was included within *Mahi Oranga*, and the second was to focus item development on specific aspects of Te Whare Tapa Whā.

Te Whare Tapa Whā is a model of Māori health in which four essential components of health are symbolised by the four walls of a house: taha wairua (the spiritual side); taha hinengaro (the thoughts and feelings side); taha tinana (the physical side); and taha whānau (the extended family side) (Durie, 1998). All four quadrants are necessary for strength and balance, although Durie (1998) asserts that Māori generally feel that taha wairua is the most essential requirement for health.

In developing *Hua Oranga*, which is a Māori measure of general mental health, Kingi and Durie (2000) developed a Māori Outcomes Dimension Framework (MODF), so that the key aspects of wairua, hinengaro, tinana, and whānau could be captured. This framework appeared flexible enough for use outside the general mental health context that it had originally been developed for, and was therefore used to guide item development for *Mahi Oranga*. Table 1 shows how components of the MODF framework align with the four quadrants or walls

Table 1: Māori Outcome Dimension Framework (MODF) (Kingi & Durie, 2000, p. 34).

Wairua	Hinengaro	Tinana	Whānau
dignity, respect	motivation	mobility/pain	communication
cultural identity	cognition/behaviour	opportunity for enhanced health	relationships
personal contentment	management of emotions, thinking	mind and body links	mutuality (reciprocity)
Spirituality (non-physical experience)	understanding	physical health status	social participation

of Te Whare Tapa Whā.

To develop *Mahi Oranga*, decisions were needed about its overall framework. It was decided to include the following three broad domains: 'demands/work characteristics' (conceptualised as sources of stress that drain resources), 'resources/coping strategies' (conceptualised as culturally relevant coping strategies), and 'strain outcomes' (conceptualised as individual strain and job-related strain). It was important to ensure that the three broad domains were aligned with the four walls of Te Whare Tapa Whā and the components of the MODF. The decisions about which dimensions to include within each of the three broad domains, and the MODF components to include within each dimension, were based on a review of the, Western literature on workplace stress and wellbeing, the existing Māori literature on occupational stress, Māori mental health, and consultation with Māori health practitioners in Phase 1. The finalised *Mahi Oranga* framework, including the domains, dimensions, MODF components and conceptualisations are shown in Figure 1.

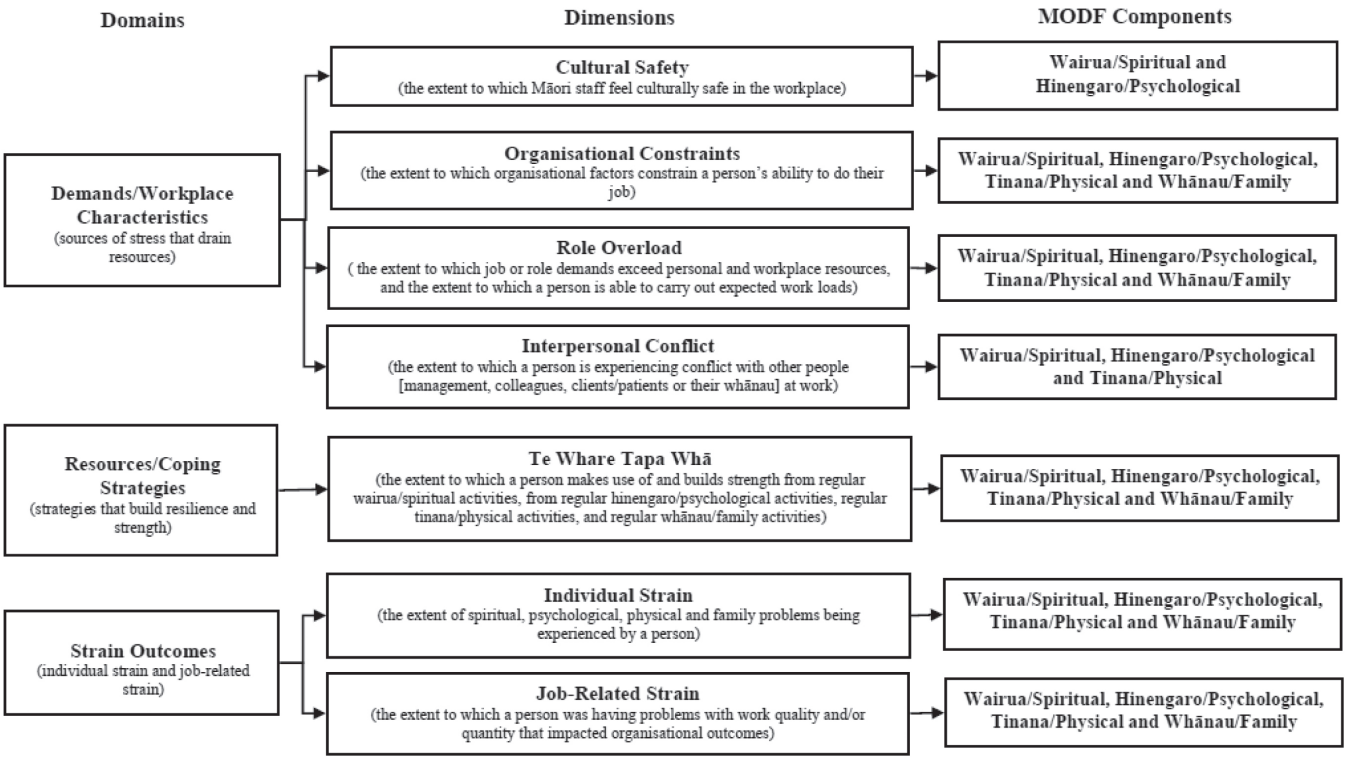
The first column in Figure 1 shows the three broad domains of *Mahi Oranga*. The second column, shows the dimensions that were included within each broad domain, while the third column establishes which of the walls of Te Whare Tapa Whā (and therefore which of the MODF components) were included.

Components of Mahi Oranga

A wide range of sources was used for guidance on the development of the *Mahi Oranga* dimensions. As well as the consultation in Phase 1 and the review of Western and Māori-focused research on workplace strain and wellbeing, a range of literature, including existing measures and scales was reviewed to gain insight into the types of issues and questions asked, so that decisions could be made about their relevance to the health and disability sector, and their cultural appropriateness for Māori. Literature that discussed development of scales included Hart, Wearing and Headley (1993), who discussed the development of the Police Daily Hassles and Uplifts Scales, and Spector and Jex (1998) who discussed the development of the Interpersonal Conflict at Work Scale, the Organizational Constraints Scale, the Quantitative Workload Inventory, and the Physical Symptoms Inventory. The measures and scales reviewed included Pearlin and Schooler's (1978) Occupational Strain, Occupational Stress, and Occupational Coping scales, Cohen, Kamarck and Mermelstein's (1983) Perceived Stress Scale, Nowack's (1990) Stress Assessment Inventory and Cognitive Hardiness Scales, Roesch and Rowley's (2005) Stress Appraisal Measure, and Carver's (1997) Brief COPE. Finally Skinner and Brewer's (2002) Cognitive Appraisal Scales, Sarason, Levine, Basham and Sarason's (1983) and Sarason, Sarason, Shearin and Pierce's (1987) Social Support Questionnaire, and Osipow and Spokane's (1992) revised Occupational Stess Inventory (OSI-R). This literature was assessed to determine whether it was relevant to *Mahi Oranga*, but measure and scale concepts (rather than items) were used to guide question development for *Mahi Oranga*.

Within the domain of demands/workplace characteristics, because institutional racism and a lack of

Figure 1. *Mahi Oranga* framework, including domains, dimensions, MODF components and conceptualisations.



cultural safety featured so strongly in the Māori literature and the consultation in Phase 1, it was decided to include a dimension called *cultural safety* (New Zealand Psychologists Board, 2011; Nursing Council of New Zealand, 2005). The dimension *organisational constraints* was included based on Phase 1 consultation and the work of Cooper and Marshall (1976). The dimension *role overload* was included as it has been widely recognised as a work demand (e.g. Jamal, 1984; Moore & Cooper, 1996; Simon, 2004), along with the dimension *interpersonal conflict,* also recognised as a key source of occupational stress (Bentley etal., 2009; Cooper & Marshall, 1976; Foster, Mackie & Barnett, 2004); McKenna, Smith, Poole & Coverdale, 2003).

For resources/coping strategies, it was decided to include dimensions reflecting the four quadrants of Te Whare Tapa Whā (wairua, hinengaro, tinana, whānau). The Personal Resources Questionnaire (PRQ) of the OSI-R includes the concepts of 'recreation', 'self-care', 'social support', and 'rational/cognitive coping', which appeared compatible with Te Whare Tapa Whā and culturally appropriate for *Mahi Oranga*. The conceptualisation of this Te Whare Tapa Whā dimension was developed to mean the extent to which a person makes use of and builds strength from regular wairua/spiritual, from regular hinengaro/psychological activities, regular tinana/physical activities, and regular whānau/family activities.

For strain outcomes, the broader literature as well as the Personal Strain Questionnaire (PSQ) of the OSI-R suggested two dimensions: *individual strain* (the extent of spiritual, psychological, physical and family problems being experienced by the individual) and *job-related strain* (the extent to which a person is having problems with work quality and/or quantity that impacts organisational outcomes). In this case, organisational outcomes refers to, but is not limited to, constructs such as job performance, organisational commitment, organisational citizenship behaviours, turnover, and absenteeism.

Having decided on seven domains to include in *Mahi Oranga*, it was important to then ensure that items for each domain were focussed on Māori-specific aspects of occupational wellbeing. MODF components were the focus when developing the items, so decisions needed to be made about which MODF components should be included in each dimension. Within the 'demands/work characteristics' domain, for the dimensions of 'role overload' and 'role conflict', all four components of the MODF were considered to be affected by demands/work characteristics, and were included. For 'interpersonal conflict', only the wairua, hinengaro and tinana components of the MODF were included as the whānau component was regarded as an implicit component affected by interpersonal conflict. For 'cultural safety', only the wairua and hinengaro components of the MODF were included. With respect to the tinana and whānau MODF components of the 'cultural safety' dimension, feedback from the first author's consultation with Māori health professionals as well as personal experience indicated that cultural safety predominantly impacts the wairua and hinengaro quadrants of Te Whare Tapa Whā. It was therefore decided not to include the tinana and whānau MODF components in the 'cultural safety' dimension. Within the 'resources/coping strategies' domain, all four MODF components were included. Within the 'strain outcomes' domain, for the dimensions of 'individual strain' and 'job-related strain' all four MODF components were included. These dimension and MODF components decisions and inclusions are presented in Figure 1.

Method

Items to measure each of the MODF components in each of the seven dimensions were developed through an iterative process of consultation. As a first step, a table was developed indicating the main areas (domains and dimensions) as set out in Figure 1 and this was sent out to those Phase 1 participants who had indicated interest in contributing to the project. Participants were invited to suggest questions to include in *Mahi Oranga* for each dimension. These were then compiled into the survey, and further items were developed as required to ensure each dimension was comprehensively covered. A wide range of literature and published scales was assessed to determine relevance. Measure and scale concepts (rather than items) were used to guide item development for *Mahi Oranga*. When developing the items, Māori cultural perspectives and kupu Māori (Māori words) were incorporated as necessary. The completed *Mahi Oranga* survey was then distributed to a wider range of participants as outlined below.

Procedure

Potential participants were identified through the first author's personal whānau, snowball contacts from participants in Phase 1, and contact with Māori health organisations identified through an internet search. Potential participants were sent an email containing a link to an online version of *Mahi Oranga*, an invitation to participate, and an invitation to forward the email to other Māori health professionals who might be interested in participating.

Respondents

There were 180 respondents who provided usable data. Of these, 50 completed only the demographics section of *Mahi Oranga* and were excluded from any analysis. A further 22 completed the demographic and part of the demands/workplace characteristics sections but not the resources/coping strategies and strain outcomes sections of *Mahi Oranga*, so were excluded from the quantitative analysis, leaving 108 respondents. The majority of respondents were female, aged between 40 – 59 years. The age range of respondents was 20 – 29 years to 70+ years. There was a much higher proportion of respondents from an urban work setting than from a rural work setting, and a slightly higher proportion of respondents from a kaupapa Māori work environment than from a mainstream environment. There were approximately equal numbers of respondents from the kaupapa Māori and mainstream work environments in the urban setting, but the rural work setting was under-represented in the sample (Table 2).

Respondents represented a range of disciplines within the health and disability sector, including nursing, mental health, alcohol and other drugs (AOD), community health, health promotion, general practitioner, dental therapy, social work, rongoā (traditional Māori healing) practitioners, health researchers, and a lecturer in nursing education. Respondents were located from across Aotearoa New Zealand.

Table 2: Gender, age, work setting, work environment, and work setting of respondents.

n = 108	Number	Percentage
Gender		
Male	20	18%
Female	85	79%
Missing responses	3	3%
Age		
20 - 29 years	7	6%
30 – 39 years	16	15%
40 – 49 years	38	35%
50 – 59 years	32	30%
60 – 69 years	11	10%
70+ years	2	2%
Missing responses	2	2%
Work Setting		
Urban	86	80%
Rural	19	17%
Missing responses	3	3%
Work Environment		
Kaupapa Māori	60	56%
Mainstream	46	42%
Missing responses	2	2%
Work Setting		
Urban/Kaupapa Māori	45	42%
Urban/Mainstream	41	38%
Rural/Kaupapa Māori	14	13%
Rural/Mainstream	5	5%
Missing responses	3	2%

Measures

Mahi Oranga included 123 quantitative items. Respondents were asked to rate how true each item was on a scale from 1 (rarely or never true) to 5 (true most of the time), with a 'not applicable' option. Factor analysis of the items and alpha reliability of the scales derived from *Mahi Oranga* are reported in the Results section.

For the 63 demands/workplace characteristics items, the *cultural safety* scale comprised 10 items (e.g. "I have sufficient cultural supervision to ensure my cultural safety at mahi"); the *organisational constraints* scale comprised 20 items (e.g. "Organisational rules and procedures allow me to perform at my best"); the *role overload* scale comprised 20 items (e.g. "The amount of mahi I am expected to do is unreasonable"); and the *interpersonal conflict* scale comprised 13 items (e.g. "I experience rude treatment from management and/or colleagues at mahi").

There were 20 items for resources/coping strategies. The *wairua/spiritual* sub-scale comprised 5 items (e.g. "I do things that help reconnect me to and restore my wairua"); the *hinengaro/psychological* sub-scale comprised 5 items (e.g. "I recognise when I am feeling stressed about mahi"); the *tinana/physical* sub-scale comprised 5 items (e.g. "I regularly participate in activities that keep me physically active"); and the *whānau/family* sub-scale comprised 5 items (e.g. "I feel more energised when I have spent time with friends or whānau").

There were 40 items for strain outcomes. *Individual strain* comprised 20 items (e.g. "I feel good about myself because of the mahi I do", reverse coded). The *job-related strain* scale, comprised 20 items (e.g. "I have reduced my effort at mahi").

Data analysis

As this was a preliminary analysis, exploratory factor analysis was conducted, with principal axis factoring. As the questions were based on Te Whare Tapa Whā, in which the four quadrants are correlated, an oblique approach to factor rotation was used. Promax rotation produced a clearer data structure than direct oblimin, therefore the results of the analysis using promax rotation are reported below. Analysis was conducted separately for each dimension. Factors were identified by observation of screeplots and Kaiser's criterion of retaining factors with eigenvalues over 1 for further examination. Since *Mahi Oranga* was under development, it was decided that factors with at least two items would be extracted. Bivariate relationships were explored using correlation, and group comparisons were carried out using independent samples t-tests.

Results

The KMO measure of sampling adequacy (ranging from .778 to .966) and Bartlett's test of sphericity ($p<.001$) confirmed that the sample was adequate for conducting an exploratory factor analysis (EFA) of *Mahi Oranga*.

For workplace characteristics, two factors were identified for cultural safety accounting for 66.6% of the variance. These were labeled 'supportive organisational systems' and 'cultural safety behaviours'. Four factors were identified for organisational constraints accounting for 60.4% of the variance. These were labeled 'unsupportive organisational behaviours', 'role

ambiguity', 'work environment', and 'perceived quality of management'. Five factors measuring role overload accounting for 70.5% of the variance were labeled 'work overload', 'lack of workplace social support', 'lack of organisational systems', 'lack of physical safety', and 'work-life balance'. Three factors measuring interpersonal conflict accounting for 61.6 % of the variance were labeled 'disrespect from peers or clients', 'disrespect from management', and 'lack of trust'. For coping strategies, the five factors measuring Te Whare Tapa Whā accounting for 65.7% of the variance were labeled 'hinengaro', 'whānau support – peers and family', 'wairua support', 'tinana support – management', and 'tinana – own behaviours'. For strain outcomes, the five factors measuring individual strain accounting for 71.8% of the variance were labeled 'hinengaro strain', 'wairua strain', 'whānau strain from isolation', 'whānau strain from conflict', and 'tinana strain'; and there was a single factor that measured job-related strain which accounted for 96.1% of the variance.

The number of items, percentage of variance explained and coefficient alpha scores for factor analysed scales and sub-scales are presented in Table 3.

Table 3: *Mahi Oranga* scale statistics.

Scale domain, dimension and subscale label	No. of Items	Percentage of variance explained	Coefficient α
Demands/Workplace Characteristics			
Cultural Safety	10		.91
Supportive Organisational Systems	5	54.9%	.88
Cultural Safety Behaviours	5	11.7%	.86
Organisational Constraints	13		.85
Unsupportive Organisational Behaviours	5	35.4%	.84
Role Ambiguity	3	10.4%	.74
Work Environment	3	7.6%	.64
Perceived Quality of Management	2	7.0%	.63
Role Overload	19		.84
Work Overload	4	27.5%	.86
Lack of Workplace Social Support	6	22.8%	.85
Lack of Organisational Systems	3	9.0%	.69
Lack of Physical Safety	4	5.9%	.69
Work-Life Balance	2	5.3%	.91
Interpersonal Conflict	8		.85
Disrespect from Peers or Clients	4	40.4%	83
Disrespect from Management	2	12.7%	.64
Lack of Trust	2	8.5%	.66
Resources/Coping Strategies			
Te Whare Tapa Whā	15		.84
Hinengaro	4	34.6%	.72
Whānau Support – Peers and Family	3	11.0%	.77
Wairua Support	3	7.3%	.73
Tinana Support – Management	3	7.1%	.75
Tinana – Own Behaviours	2	5.7%	.70
Strain Outcomes			
Individual Strain	19		.92
Hinengaro Strain	7	41.7%	.97
Wairua Strain	3	10.5%	.88
Whānau Strain from Isolation	4	8.1%	.84
Whānau Strain from Conflict	3	6.4%	.66
Tinana Strain	2	5.1%	.77
Job-Related Strain	20	96.1%	.93

Building the scales

Factor analysis identified 24 subscales (Table 3). Given the constraints of sample size, further analysis explored the seven main *Mahi Oranga* dimensions (Table 4) rather than the sub-scales identified from factor analysis. This more detailed analysis based on the sub-scales awaits further research. Scales were computed as the means of items.

Scales were checked for normality and outliers. For the seven *Mahi Oranga* scales, the Kolmogorov-Smirnov scores indicated that the interpersonal conflict, individual strain, and job-related strain scales were not normally distributed. There were two outliers on the interpersonal conflict scale, with a mean of 3.23 and 5% trimmed mean very similar at 3.24, so the two cases involved were retained. There were six outliers on the individual strain scale, with a mean of 1.90 and 5% trimmed mean of 1.86, so all cases were retained. There were two outliers and one extreme case on the job-related strain scale, with a mean of 1.46 and 5% trimmed mean of 1.39. The extreme case was investigated further, and the respondent's response pattern along with qualitative comments indicated they were experiencing high levels of work demands and individual strain. Given the case concerned was genuine, and since the mean and 5% trimmed mean were still similar, all cases were retained in the analysis.

Bivariate correlations

There were no significant correlations between age and any of the seven *Mahi Oranga* scales (Table 4). There were moderate to strong positive correlations among the workplace characteristics scales. Respondents reporting higher levels of organisational constraints also reported higher levels of overload and conflict. Higher levels of cultural safety were related to reporting greater use of coping strategies and less job-related strain, but also, unexpectedly, to perceptions of more organisational constraints, more role overload and more role conflict. Individual strain was not related to cultural safety and other work characteristics but was related to participants reporting less use of coping strategies. Job-related strain was related to less cultural safety, indicating that as cultural safety increased for Māori staff, there was less job-related strain. Job-related strain was also related to less reported use of coping strategies. However, job-related strain was also related to lower, not higher, levels of organisational constraints, role

overload, and interpersonal conflict. As individual strain increased, so did job-related strain.

Table 4: *Mahi Oranga* scale correlation matrix.

Variable/Scale	1	2	3	4	5	6	7	8
1: Age	1							
2: Demands/Workplace Characteristics – Cultural Safety	.189	1						
3: Demands/Workplace Characteristics – Organisational Constraints	.016	.578**	1					
4: Demands/Workplace Characteristics – Role Overload	.117	.610**	.455**	1				
5: Demands/Workplace Characteristics – Interpersonal Conflict	.011	.556**	.550**	.619**	1			
6: Resources/Coping Strategies – Te Whare Tapa Whā	.180	.509**	.464**	.338**	.410**	1		
7: Strain Outcomes – Individual Strain	-.121	-.204	-.001	.064	-.060	-.273*	1	
8: Strain Outcomes – Job-related Strain	-.202	-.516**	-.124	-.348**	-.424**	-.459**	.748**	1
Mean	4.28	3.53	3.12	3.00	3.23	3.64	1.90	1.46
Std. Deviation	1.11	1.00	.50	.57	.48	.71	.40	.51
N	106	91	86	81	95	85	79	75

** Correlation is significant at the .01 level (2-tailed)

* Correlation is significant at the .05 level (2 tailed)

Independent samples t-tests

Respondents working in urban settings reported higher job-related strain than their rural counterparts (t_{50} = 2.87, p < .01, η^2 =.10). Compared to respondents working in a mainstream work environment, those working in a kaupapa Māori environment reported higher levels of cultural safety (t_{89} = 3.51, p < .001, η^2 = .12), more organisational constraints (t_{84} = 2.01, p < .05, η^2 = .05), more role overload (t_{79} = 2.18, p < .05, η^2 = .06), more interpersonal conflict (t_{93} = 3.95, p < .001, η^2 = .14), and more reported use of coping strategies (Te Whare Tapa Whā) (t_{81} = 1.96, p < .05, η^2 = .03). There were no significant differences in individual and job-related strain.

Discussion

To date no specific measure of Māori workplace demands, coping strategies and strain outcomes has been available to researchers and practitioners in Aotearoa New Zealand. *Mahi Oranga* provides a culturally responsive and valid measure for Māori health professionals and preliminary analysis shows promising results. Factor structures emerged that are clearly aligned with theory and other research into workplace demands, coping strategies and strain. Factor analysis identified sub-scales within each of the main dimensions, but sample size did not permit a fine-grained analysis at the sub-scale level. Analysis of the seven main dimensions provided some useful initial findings.

Further research is required including exploration of a wider range of organisational outcomes such as organisational commitment, organisational citizenship behaviours, turnover and absenteeism. In hindsight the outcomes measured by *Mahi Oranga* focussed on strain, but did not include a focus on wellbeing. Since an absence of strain does not necessarily mean the presence of wellbeing, further research needs to include a 'wellbeing outcomes' dimension and scale. It is also worth noting that including the four quadrants of Te Whare Tapa Whā as the dimensions of the coping strategies domain meant that Māori cultural coping strategies could be identified. The current analysis can only draw the conclusions around overall levels of coping strategies and coping resources; further research is required to identify situation-specific applicability of coping resources when facing workplace demands. Future research with respect to Māori cultural coping strategies could develop these findings as a theoretical model, as distinct from Western theories and models of coping strategies.

When the scales were built, the analysis was based on the seven main *Mahi Oranga* dimensions rather than the sub-scales, and it was noted that the sub-scale analysis awaits further research. Such further research may reveal why some of the bivariate correlations for workplace characteristics and individual and job-related strain went in unexpected directions. Specifically, cultural safety was related positively rather than negatively to perceptions of organisational constraints, role overload and interpersonal conflict, while showing the expected pattern of a positive relationship with self-reported coping, and a negative relationship to job-related strain. It is possible that interactions between some of the sub-scales for the workplace characteristics and individual strain and job-related strain have different directional relationships, which affect the overall results. However, it could also be possible that some of the negative correlations, while unexpected, make sense. For example, in some busy workplaces, cultural safety may be given priority while constraints, overload and conflict remain high.

The biggest limitations of this study were the low sample size of 108 respondents and a low response rate from Māori working in a rural health setting, and results should be treated with caution. In addition, it is not possible to know whether those experiencing more (or less) workplace stress were disproportionately likely to respond.

Participants were predominantly female, so further exploration of gender differences within the dimensions of *Mahi Oranga* is required. The results may not be generalisable outside the public sector where government policy requires consideration of the principles of the Treaty of Waitangi. In terms of the aims of this research, all of the scales have good internal consistency, but more work needs to be done to examine the internal consistency of the sub-scales that fell below the .7 threshold. Further development work also needs to examine test-retest reliability. To some extent, cultural (face) validity has been achieved, although content validity, especially with the job-related strain scale, needs more work. Construct validity (convergent and discriminant) was not assessed during the course of the present research, so will require further research and development. Other forms of criterion-related validity will need to be established when *Mahi Oranga* begins to be used in practice. Given the small sample size, it was not considered appropriate to attempt to establish norm reference data for the various roles of Māori working in the health and disability workforce (based on job title descriptions), so that will require further research and development.

Implications for practice

Given that the scale is in the early stages of development, results need to be treated with caution. However, some of these results still highlight important implications for practice. For example, there were strong positive relationships among organisational constraints, role overload and interpersonal conflict, indicating that as one increased, so did the others, and all were related to perceptions of strain. These unsurprising results highlight the importance of organisations reducing or minimising workplace demands that are within their control in order to reduce strain outcomes for their staff. Management should take a proactive approach to stress management by reducing those workplace demands that can be reduced or minimised.

In addition, as reported use of coping strategies increased, strain decreased. Although causation cannot be established in this study, it is plausible that use of coping strategies can reduce strain, and this highlights the need for individuals to develop and use a range of coping strategies, and for organisations to do their part in providing awareness and access to culturally responsive services to help staff develop, maintain and use effective coping strategies.

As constraints, overload and conflict increased, respondents reported using more coping strategies. While this is reassuring, it provides support for the need for organisations to reduce workplace demands where possible, as well as for individuals and organisations to take responsibility for developing and maintaining a range of culturally responsive coping strategies.

More research needs to be done to find out whether urban settings are indeed more problematic in terms of job-related strain for Māori staff, and what impact this might have on workplace productivity, job performance and outcomes for Māori seeking health services in urban areas. Additional work is also needed to establish what mainstream health providers could do to bring levels of perceived cultural safety up to those reported by respondents working in a kaupapa Māori environment.

The higher levels of organisational constraints in kaupapa Māori environments could indicate that these health providers are having to do more with less funding than their mainstream counterparts. This finding appears to lend weight to the past Associate Minister of Health, the Honourable Tariana Turia, championing the need for further government funding for the Māori health and disability sector workforce in order to increase capacity and capability within that workforce (Māori health workforce funding, 2008, May 23). The higher role overload for respondents in a kaupapa Māori environment is likely to be related to the nature of the way that Māori health workers work to provide effective outcomes for Māori clients and communities. This speaks to the (perhaps) different motivations of Māori health workers, and especially those in a kaupapa Māori environment for whom there may be a strong organisational culture of achieving better health outcomes for Māori clients and patients and the wider Māori community. This finding aligns with those reported by Ratima et al. (2007) in terms of Māori staff wanting to make a contribution Māori health, working with Māori people and making a difference to their iwi/hapu and being a role model for Māori.

Managers and leaders within kaupapa Māori environments may need to raise their awareness that interpersonal conflict is potentially higher there for Māori staff and gain the skills and ability to deal effectively with such conflict. Some of the sources of interpersonal conflict in kaupapa Māori environments could be related to Māori expectations regarding levels of manaakitanga (caring and showing respect for others) and whakawhanaungatanga (relationship building) to support and sustain them, when in fact issues such as iwi/hapū conflict and tribalism may give rise to higher levels of interpersonal conflict.

Finally, the finding that respondents working in a mainstream environment reported having fewer coping strategies than their kaupapa Māori counterparts may reflect the lower access to cultural supervision and Māori peer support in mainstream environments, highlighting the importance of cultural safety in the workplace. Management in mainstream health environments need to be aware that providing a range of workplace supports for their staff, especially culturally responsive supports, will increase Māori health workers ability to cope with the workplace demands they face.

Conclusion

Occupational stress and wellbeing for Māori working in the Aotearoa New Zealand health and disability sector have to date received little research attention. According to the Ministry of Health (2006) Māori are under-represented in the health and disability workforce, but health disparities for Māori in the wider population persist. The question is, how can Māori patients or clients receive the best possible health services if our Māori health workforce are experiencing high levels of occupational stress? The present research reveals that while Māori staff experience occupational stress in some of the same ways as their non-Māori counterparts, they also

experience it in uniquely different ways as well. In developing *Mahi Oranga*, it is hoped that the challenges faced by Māori staff in the health and disability sector become more widely known about and acknowledged so that action can be taken to address those challenges. In addition, *Mahi Oranga* could be a very useful tool for organisations to identify the challenges specific to their organisation, but also to identify what they are doing well.

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