Hōmai te Waiora ki Ahau: te ara whakamua - towards the establishment of construct validity

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Tuwhera ki a Ranginui
Taamaua ki a Papatuanuku
Tauawhia te tipua e whakaata mai nei
Hokia te maunga tapu whakatau ai
He mihi atu ki te manawhenua o Kirikiriroa me ngā rangatira ma
Tēnā ra koutou katoa
Ko Moehau te maunga
Ko Tikapa te moana
Ko Ngāti Porou, Ngaiterangi, Marutuahu ngā iwi
Ko Paora te Putu raua ko Iritekura akū tipuna rangatira
No ngā whānau a Harrison, Hikitapua raua ko Hale
Ko Harataunga ki Hauraki takū kainga noho
He mihi ano ki a koutou katoa

Hōmai te Waiora ki Ahau: te ara whakamua, is about the development of a tool to measure psychological wellbeing among Māori. Why is it relevant? Because a quick look at the June 2002 edition of New Zealand's Journal of Psychology will show you that the wellbeing measures being used in this country:

- Are not responsive to the needs of Māori.
- Are not based on Māori concepts or constructs.
- Do not facilitate Māori participation in te ao Māori.
- Do not provide pathways through which Māori can develop a positive Māori identity.

It is highly unlikely that the tools which psychologists use to measure wellbeing among Māori will help Māori to experience whānau ora and that, as we all know, is the paramount health objective for Māori (Ministry of Health, 2002). In this regard, it would seem that the powers that be in psychology are failing to meet their Treaty obligations to Māori. Therefore, Hōmai te Waiora ki Ahau simply aims to assist change. This presentation will briefly describe the context of the development of this measure, the methodologies used to develop this tool, the outcomes of a small pilot-study, and current challenges and future directions for Hōmai te Waiora ki Ahau.

Context

My PhD looked at psycho-social mediators of Māori childbirth experience. New Zealand literature continues to be grossly deficient on this issue. In contrast, the international literature has identified a range of likely mediators (Allen, 1998; Campero et al., 1998; Cheung, 1994; Dunkel-Schetter, Sagrestano, Feldman & Killingsworth, 1996; Kennell, Likaus, McGrath, Robertson & Hinkley, 1991; Lidderdale & Walsh, 1998; Oakley 1993; Slade, Escott, Spiby, Henderson & Fraser, 2000.

In particular, key studies by these and other authors have clearly demonstrated the beneficial influence of several prenatal variables, notably:

- Social support.

- Cognitive mediators, such as feelings of trust, confidence, control, and/or positive expectations.
- Coping strategies, either cognitive or behavioural.
- Culture or ethnicity.

It seems that such variables can not only mediate both physiological and psychological indicators of birth outcome, but also predict the quality of the childbirth experience. For example, quality may be indicated by the use obstetric technology, perinatal health, and maternal postpartum perceptions. This is not to say that intellectual capital about psycho-social mediators of childbirth experience was not progressing in Aotearoa. Indeed, those involved in the Māori maternity debate over the last decade or so (e.g., Bryant, 1994; Ellis, 1998; Harris, 1994; Māori Working Group, 1995; Ministry of Health, 2001; National Health Committee, 1999a, 1999b; Ora Toa Health Unit ,1992; Ratima, Ratima, Durie & Potaka, 1994; Rolleston, 1991; Ropiha & Middleton, 1993) have consistently highlighted the importance of:

- Cultural safety.
- Whānau oriented services.
- Access to te Ao Māori childbirth resources.

In addition, within the Department of Psychology at the University of Waikato, where I was employed in the early 90s, many of us had a firm commitment to the development of Kaupapa Māori research methodologies (see: Palmer, 1991; Hikitapua, 1992). Within this environment my PhD research was driven by two underlying themes:

- The desire to implement a research design which would have relevance for Māori.
- An awareness that psycho-social mediators of childbirth outcome were similar to constructs which had been associated with the concept of psychological wellbeing (see: Bowling, 1991).

More specifically, the four key objectives of the research were:

1. To improve understanding of the manner in which Māori women develop and use psycho-social variables known to have a beneficial influence on the quality of childbirth experience.
2. To examine the relationship between these variables and look at their influence on qualitative and quantitative indicators of birth outcome among Māori.
3. To develop and pilot-test a tool for the measurement of psychological wellbeing, or waiora, among Māori.
4. To test whether waiora is a mediator or predictor of Māori childbirth outcomes.

Methodologies

In the early 90s, when the methodologies for my research were being developed, there were four main models of Māori wellbeing: te whare tapa whā; te wheke; a model developed by Te Rōpu Āwhina o Tokanui; and ngā pou māna. Table 1 presents the key components of each model.

Table 1.
Main Models of Māori Wellbeing in the Early 90's.

Te Whare Tapa Whā	Te Wheke
Whānau	Whānaungatanga
Wairua	Wairuatanga
Hinengaro	Hinengaro
Tinana	Tinana
	Mana Ake / Mana Mauri
	Hā / taonga tuku iho
	Whatumanawa
Te Rōpu Āwhina o Tokanui	**Ngā Pou Mana**
Whānau	Whānaungatanga
Wairua	Taonga Tuku Iho
Hinengaro	Te Ao Tūroa
Tinana	Tūrangawaewae
Whenua	
Tikanga	
Māoritanga	
Pākehātanga	
Tangata	

Te Whare Tapa Whā had evolved during discussions with the Māori Women's Welfare League in the early 80s (Durie, 1994). Te Wheke was developed by Rangimarie Rose Pere during the 80s and early 90s (Pere, 1982, 1984, 1987, 1991). Bob Elliot and his colleagues at Te Rōpu Āwhina o Tokanui first presented their eloquent art gallery of life during the mid-80's, and the origins of Nga Pou Mana

can be traced to the Royal Commission on Social Policy in the late 80s (Royal Commission on Social Policy, 1988; Te Rōpu Āwhina o Tokanui, 1986). However, it was Rose Pere who introduced the powerful notion of waiora as a river of life-giving forces.

With mentorship from a range of people in academic and community settings, it was decided Hōmai te Waiora ki Ahau would simply aim to reflect the common threads and themes that are within these four main models of Māori wellbeing. Hōmai te Waiora ki Ahau, therefore, comprised twelve components: taha whānau; taha tinana; taha wairua; taha hinengaro; taha whatumanawa; taha mauri; taha whenua; taha mana; taha tikanga (this was presented as tikanga Māori and tikanga Pākehā); te ao tawhito; and te ao hou.

In retrospect, I have issues with the way in which these components were presented within the tool. For example, I wonder whether taha tikanga should have been separated into Māori and Pākehā components? Should whenua and tūrangawaewae be presented as two separate components? Should te ao hou have been te ao turoa? Should te ao tawhito have been taonga tuku iho? Notwithstanding the importance of such concerns, this is the way the tool was presented during the pilot study.

The development of Hōmai te Waiora ki Ahau was driven by the desire to use Māori constructs, and involved a move away from conventional scales, that is, the typical 1 to 5 / good-bad continuums. The scale itself was presented as a pathway between Uenuku-a-rangi: the atua, rainbow and almost universal symbol of complete and utter wellbeing, and Te Kore: which among Māori, at least, could reasonably be seen to represent a realm of unrealised potential. Respondents were asked: "To what extent is [*each component*] a source of waiora for you? Can you mark your place along the pathway between Uenuku and Te Kore?". In addition, this tool contained a thirteenth item which asked respondents to self-rate their overall feelings of waiora. It was envisaged, the scores for each component would be derived by measuring the distance between Te Kore and the respondent's mark along the pathway to Uenuku. The total score for this measure would be the sum of all components. In psychological parlance, this combination of techniques translated into the equivalent of a self-rated, uni-dimensional, 13-point Likert scale with a concurrent validity check.

A key challenge in the development of this measure was the need for a technique which would give Māori the opportunity to respond even when they felt they had little or no understanding of te reo Māori. For this reason, Hōmai te Waiora ki Ahau is presented as a series of pictures. The artists were Robyn Kahukiwa, Tumohe Clarke, and Elizabeth Anderson. Robyn had been commissioned by Department of Health to depict the components of whare tapa wha in the mid-80s and her pictures were widely disseminated. The illustrations by Tumohe and Elizabeth were drawn specifically for this purpose. They also did some beautiful manaia, or bone carvings, which were given to each participant as a whakaaro for taking part in this research. The illustrations are available at: www.publichealth.massey.ac.nz/homai/homai.htm or you can see them in the thesis itself (Palmer, 2002). However, in general the pictures aimed to describe each component as a source of waiora and some did this by drawing a contrast between ideal and less than ideal experience. Table 2 briefly summarises key features of the illustrations for each component.

Remembering that this tool was intended for use among ngā wāhine hapū, Hōmai te Waiora ki Ahau was pre-tested on a small sample of ten women, aged 16-65 years. This showed that it was able to be administered, sensitive to individual difference, and Chronbach's α at 0.69 suggested the measure had an acceptable level of internal consistency. A significant correlation was also found between the aggregate and self-rated waiora scores (r = 0.91, $p<0.05$) which provided an indicator of concurrent validity. In a further test of criterion validity the pre-test participants were given a mainstream measure of psychological wellbeing, the Affectometer 2. No correlation was found between the Affectometer 2 and aggregate waiora scores. This provided an indicator of divergent validity. In other words, Hōmai

te Waiora ki Ahau was indeed different from a mainstream measure of psychological wellbeing. Collectively, such findings suggested it was reasonable to proceed to the pilot study.

Table 2.

Key Features of the Illustrations For Each Component in Hōmai te Waiora ki Aha

Component	Key features of the illustration(s) depicting each component
Whānau	Contrast between ideal and actual experience: support, aroha, understanding and support versus alienation, conflict, misunderstanding, pain.
Tinana	The gift of a fully functioning body, transformation through life-cycles, pursuit of good health at our own pace.
Hinengaro	Mind, thinking, intellect, wisdom, knowledge, foresight, particularly associated with women, who often seem to carry the burden of responsibility.
Wairua	Continual presence, balance between two forces – spiritual/physical, maternal/paternal, good/bad, use of rituals for wairuatanga.
Whenua	Papa-tu-a-nuku, local and global, land and placenta, tūrangawaewae and ahi kā.
Mana	Multiple sources – inherent/inherited/acquired – contextual relevance, ascribed/perceived by others.
Tikanga	Protocols, behaviours, code of conduct, rituals; traditional and modern, doing what is right for the occasion; flexibility; oriented towards the collective or group; capacity to cleanse, renew, separate, whakatapu and noa; often faced with the choice between Māori and Pākehā protocols; emergence of new tikanga and different ways of doing things.
Whatumanawa	Emotional life, all emotions have a place, need for balance.
Mauri	Life force, capacity to move into inanimate objects, connectedness.
Te Ao Tawhito	Personal right; derived from whakapapa; ancestral knowledge; many sources and ways to integrate such knowledge in everyday life.
Te Ao Hou	Promise of opportunity, hope, prosperity; often fraught with hardship and disadvantage.

Pilot study outcomes

Thirty-one ngā wāhine hapū from Hauraki, aged 16-34 years, took part in the pilot study of Hōmai te Waiora ki Ahau. The tool was administered during the 3rd trimester of pregnancy. Thorough analyses of the pilot-study data were conducted (with considerable help from Professor Mary Foster, Department of Psychology, University of Waikato) and I am very keen to learn about the way in which psychometric techniques can help Māori to develop world-class tests and tools.

In general, participants were willing to respond, understood the procedure and the tool was able to be administered. Mean scores ranged from 5 to 10 with standard deviations from 2.39 to 4.07. It is interesting to note that mauri, tikanga Māori, and te ao tawhito displayed the highest means which suggests these components were perceived to provide the most waiora among women in this sample. In contrast, tikanga Pākehā and te ao hou yielded the lowest means and/or provided the least waiora. A correlation was, once again, present between aggregate and self-rated waiora scores ($r = .49$, $p<0.05$) and no relationship with Affectometer 2 was evident.

Various indicators suggested this measure was reasonably reliable. The scores, for example, were normally distributed, there was no significant skewness or kurtosis, no disparity between the mean and median and r_{itot} values were less than 7. At 0.65, Chronbach's α was slightly lower than in the pre-test, and would not have improved with the removal of items. Nevertheless, it suggested that the measure was largely comprised of internally consistent items. In addition,

both a one-way ANOVA ($F_{(30,11)}$ = 9.4559, p<.05) and Hotelling's T-squared ($F_{(11,20)}$ = 4.3069, p<.05) were significant. This suggested the measure was sensitive to individual difference.

However, the item analysis provided reason for concern. In particular, three items were not in the middle zone, the difference between item mean and median was greater than one on six items, six items were significantly skewed and one item had significant kurtosis. Variability was also low on five items as responses were clustered too closely together. In other words, participants tended to score towards the upper end of the scale and did not utilize the full range of score alternatives.

In summary, the pilot-study outcomes showed evidence of irregular score distribution, borderline robustness and reliability and variance in the distribution of scores was not fully explained. Notwithstanding the need to address such inadequacies, the psychometric properties of Hōmai te Waiora ki Ahau were sufficient to test the role of waiora, as a mediator or predictor of Māori birth outcomes. Such tests provided evidence to suggest that waiora may be a psycho-social resource and mediator of childbirth experience. Among this group of women, significant parametric and/or non-parametric correlations were found between waiora and:

- Prenatal social support, i.e., perceptions on the amount of korero, awhi, tautoko.
- Prenatal cognitive mediators, i.e., the development of control perceptions and positive expectations.
- Obstetric technology, i.e., the use of pethidine and CTG in labour.
- Length of labour.
- The presence of whānau members during labour.

Correlations were also present between specific waiora components, notably whatumanawa, hinengaro, whenua, and mauri, and a range of prenatal and perinatal variables (for example: the adequacy of prenatal obstetric care; the amount of prenatal social support; the use of cognitive mediators, coping strategies, and obstetric technology; perinatal health; and maternal postpartum perceptions). On the basis of this information, a theoretical model about the role of waiora as a predictor of Māori birth outcomes was proposed. In general, this model suggests that waiora is among the several reciprocal causal relationships that mediate birth outcomes, and that the quality of childbirth experience may have a long-term impact on not only post-partum psychological wellbeing but also the development and use of psycho-social resources during subsequent pregnancies.

Current Challenges and Future Directions

This fledgling attempt to develop a tool for the measurement of psychological wellbeing among Māori has exciting long-term implications. For example, it is clear that Hōmai te Waiora ki Ahau has the capacity to:

- Assist a transformation of consciousness towards psychological constructs and concepts which have relevance for Māori.
- Be used as a measurement tool, health outcome measure, and/or technique for performance review.
- Provide both uni-dimensional and multi-dimensional information which may identify pathways for development and change.
- Within the context of Māori maternity service delivery, promote the development of strategies which facilitate experience of waiora among ngā wāhine hapū.

However, in the short-term there is the need to address the psychometric limitations of this measure. In particular, there is not only the need to improve reliability and develop knowledge about construct validity, but also to take advantage of the paradigms and techniques that are available within both classical and modern psychometric test theory (see: Anastasi & Urbina, 1997; Embretsen & Reise, 2000; Murphy & Davidshofer, 2001).

At the moment, our focus is on the establishment of construct validity. In order to ensure that Hōmai te Waiora ki Ahau is truly valid for use among Māori, it is critical that the content domain, or meanings associated with each component, are acceptable and perceived as relevant. In

addition, we are working towards the establishment of nomological knowledge, or causal networks, which will show whether responses to Hōmai te Waiora ki Ahau are in any way influenced by factors such as age, gender, fluency in te reo Māori, participation in te ao Māori, and/or feelings about Māori identity. Over the next few months, I will be asking a small number of groups to define the content domain for each component in this measure. Once that is achieved, I intend to survey about 2000 Māori throughout the country, through a range of conventional and electronic mediums, in an effort to gain consensus on the content domain for each component. If that is achieved, there may be the need for new illustrations and the implementation of a larger pilot-study. It is clear that the pathway towards establishment of a world-class tool for psychological measurement is slow, laborious and fraught with challenges. Nā reira, mā ngā huruhuru, te manu ka rere.

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