

Culture as Cure? The Protective Function of Māori Cultural Efficacy on Psychological Distress

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Māori, the indigenous peoples of New Zealand, continue to experience health disparities in comparison to other ethnic groups. Previous research suggests Māori who affiliate jointly as Māori and Pākehā (New Zealand European) tend to experience different psychological outcomes than those who solely identify as Māori. Using a culturally-specific approach we propose and test an Efficacy-Distress Buffering Model, which posits that high levels of Māori Cultural Efficacy should have a *buffering* function, protecting Māori against Psychological Distress ($N = 632$). Our findings indicate that Māori with a *higher level of Cultural Efficacy* showed greater psychological resilience. In contrast, increased rates of psychological distress were documented amongst those who were *lower in Cultural Efficacy* and this effect was most pronounced among individuals who identified solely as Māori. Our results support a 'culture-as-cure' perspective and indicate that increased Māori Cultural Efficacy has a direct protective effect for those who may be at risk of negative psychological outcomes and associated risk factors.

Keywords: Māori, protective factors, resilience, stress-buffer, psychological distress, mental health.

“Kia mau koe ki ngā kupu ā ōu tūpuna, kia mau ki to Māoritanga,”
“Hold fast the words of your ancestors,
hold fast your Māori culture.”
– Māori whakataukī

Māori are the indigenous people who comprise 15% of the population in Aotearoa, New Zealand (Statistics New Zealand, 2013). Māori continue to experience health disparities compared to the European or *Pākehā* majority (Robson & Reid, 2001; Borrel, McCreanor, Jensen & Barnes, 2009; Sibley, Harré, Hoverd & Houkamau, 2011; Houkamau & Sibley, 2011). Māori clinicians and researchers tend to emphasise that interventions meant to benefit Māori must be culturally appropriate and address Māori cultural needs in order to be effective (e.g. Durie, 1985, 1986, 1997, 2001). The reasoning behind the view that 'culture is cure' is based on both theory and practice which suggests that greater access to,

awareness of and engagement in Māori cultural traditions (e.g. *Tikanga Māori, Te Reo Māori, Whanaungatanga*) can serve as a protective factor against a range of negative outcomes faced by Māori (e.g. Borell, 2005; Durie, 1994, 1997; Houkamau & Sibley, 2011; Mead, S, 1999; Mead, H, 2003). Contextually, enculturation is not readily available to many Māori due to the intersecting forces of racism, mass deculturation, assimilation and other remnants of colonisation (see: Houkamau & Sibley, 2011). Additionally, previous research suggests Māori who affiliate jointly as Māori and Pākehā (from here on referred to as *mixed Māori-Europeans*) experience different psychological outcomes to those who solely identify as Māori (Houkamau & Sibley, 2011; Marie, Boden & Fergusson, 2008). With this in mind this study investigates the buffering effects of Māori enculturation using a within-culture measure, 'Cultural Efficacy', which was designed specifically for Māori from

Houkamau and Sibley's (2010, 2015) Multi-Dimensional Model of Māori Identity and Cultural Engagement.

In this study we propose an Efficacy-Distress Buffering Model of Māori identity which addresses the theoretical discrepancy between research identifying the protective function of enculturation (measured as 'Cultural Efficacy') and the documented differences in psychological outcomes experienced by sole-identifying Māori relative to mixed Māori-Europeans (e.g. Ward, 2006; Marie et al., 2008; Houkamau & Sibley, 2014). Our model posits that high levels of Cultural Efficacy should have a *buffering* function which protects Māori against psychological distress. We anticipate that higher levels of Cultural Efficacy will have a more pronounced effect on sole-identifying Māori, relative to their mixed Māori-European counterparts. Thus, our model asserts that sole-identifying Māori who are *high* in Cultural Efficacy will show greater psychological resilience than sole-identifying Māori with lower levels. Indeed, our model explores the possibility that sole-identifying Māori who are high in Cultural Efficacy may experience better psychological outcomes than mixed Māori-Europeans regardless of the latter group's Cultural Efficacy. We test our model using data from the New Zealand Attitudes and Values Study, a national probability postal survey.

A brief review of Māori diversity

Research on indigenous identity in Aotearoa has been limited in capturing the unique characteristics and diverse range of experiences which constitute 'being Māori' (e.g. Cormack & Robson, 2010; Durie, 1994; Houkamau, 2006; Houkamau & Sibley, 2011; Kukutai, 2004; Kukutai & Zealand, 2008,

Kukutai & Callister, 2009; Moeke-Pickering, 1996; Mikaere, 2004; Poata-Smith, 2013). In the past, Māori have often been homogenised into a mono-dimensional and essentialised group identity which overlooks and erases the vast diversity among Māori at both a national and tribal level. In *Te Ao Māori* (The Māori World), Māori traditionally affiliate to subgroups such as *iwi* (tribe), *hapū* (sub-tribe) and *whānau* (family). Today some Māori have formed a variety of new identities which resonate with the subcultures of their various geographical locations (i.e. 'Southside pride') where access to Te Ao Māori may be limited (e.g. Borrel, 2005). The variation in how Māori affiliate is often overlooked when Māori identity is considered solely on the basis of Māori culture (Borrel, 2005; Houkamau & Sibley, 2014, Ramsden, 1993). Although today nearly 20% of Māori are unable to identify their *hapū* or *iwi* affiliations (Statistics New Zealand, 2013) it is important to recognise Māori identities are constructed within the diversity of a complex, colonised reality.

Researchers have often distinguished Māori identities in relation to the way Māori engage with and/or have access to Māori culture (Houkamau & Sibley, 2011, 2014; Marie, et al., 2008). This approach is consistent with many decades of *kōrero* (discussion) dedicated to exploring the protective role Māori culture may play in increasing and maintaining the wellbeing of Māori (see: Durie, 1985, 2004). However, it is problematic to assume that Māori wellbeing is enabled solely by full enculturation in Te Ao Māori. Due to colonisation, access to one's culture is limited by context rather than choice. This said, ethnic affiliation appears to be a matter of choice for some. Studies suggest self-identifying as solely Māori or mixed Māori-European may be oriented by choice (or 'prioritisation') based on one's experiences – and presumably their connectedness to Te Ao Māori (Kukutai & Callister, 2009; Houkamau & Sibley, 2014). By investigating Māori diversity within the measures of our study we hope to recognise that Māori with higher levels of Cultural Efficacy may be more psychologically resilient. In exploring this possibility we also aim

to identify those at risk of psychological distress and we hope to show further support for the *kaupapa* that Māori culture promotes Māori well-being.

He aha te raruraru? What is the problem for Māori today?

In recent years several researchers have explored the apparent differences in health, socio-economic, education and corrections outcomes between sole-identifying Māori and mixed Māori-Europeans (e.g., Cormack & Robson, 2010; Houkamau & Sibley, 2014; Kukutai, 2004; Mikaere, 1999; Pihama, 2001). The distinction between these two groups has been subject of debate due to the fluidity and generational diversity of Māori identities in Aotearoa (Callister, 2004). Studies indicate that sole-identifying Māori are more likely to experience overt racism in their interactions with Pākehā (Nairn & McCreanor, 1991; Pihama, 2001; Thomas & Nikora, 1995). It is important to understand this point of difference as racism is a widely-acknowledged key determinant of detrimental outcomes for Māori internally, interpersonally, institutionally and societally (Moewaka-Barnes, Taiapa, Borell and McCreanor, 2013).

Mixed Māori-Europeans appear to be at an advantage due to their affiliation with the Pākehā majority. Limited research has focused on the realities of Mixed Māori-Europeans, but studies in this area seem to be evolving (e.g. Gibson, 1999; Houkamau & Sibley, 2014; Kukutai & Zealand, 2008; Paterson, 2010; Ward, 2006). Research suggests that mixed Māori-Europeans often possess the ability to draw upon a larger range of resources which are available to Māori and Pākehā for support and navigation in Pākehā society (Houkamau & Sibley, 2014; Marie et al., 2008). Following this it is possible that the absence of cultural connection may affect mixed Māori-Europeans less than that it does for their sole-Māori counterparts, though mixed Māori-Europeans encounter their own unique struggles (see: Webber, 2008). Some researchers suggest that mixed Māori-Europeans possess the ability to be 'ethnically mobile' which may position them at an advantage compared to sole-identifying Māori

(e.g. Borell, McCreanor, Jensen & Barnes, 2009; Cormack & Robson, 2010; Gibson, 1999; Houkamau & Sibley, 2014; Kukutai, 2004; Leonardo, 2004; Storrs, 1999). This said, recent research suggests that even with this 'advantage' mixed Māori-Europeans still suffer similar negative outcomes as sole-identifying Māori, which are vastly disproportionate to the outcomes of the European majority (Houkamau & Sibley, 2014).

Te Ahurea, te Tuariki, me te Hauora Hinengaro – Culture, Identity and Māori Mental Health

Most research identifies Māori as the ethnic group with the greatest prevalence of issues relating to psychological health and wellbeing (Baxter, Kokaua, Wells, McGee, Oakley Brown, 2006; Edmonds, Williams & Walsh, 2000). Māori Mental Health (or *Hauora Hinengaro*) has been primarily investigated through qualitative frameworks addressing the theory and practice of culture as a protective resource (see: Durie, 1985, 2004). Many Māori (academics and communities alike) have identified factors which promote positive Māori mental health (e.g. Durie 1985, 1991, 2001; Harris, Tobias, Jeffreys, Waldegrove, Karlsen & Nazaroo, 2006, Harris, Cormack & Stanley, 2013). Unfortunately, much of this remains in theory rather than practice (Mathieson, Mihaere, Collings, Dowell & Stanley, 2012). Researchers have explored a number of associated factors when it comes to Māori Mental Health. Harris and colleague. (2013) shared some critical insights in their study of Māori Mental Health where they suggest socially-assigned ethnicity (rather than self-identified ethnicity) held a powerful relationship with mental health for all Māori. Social factors like these remain largely unaddressed by a dominant and culturally incompatible Western framework (DeSouza, 2008; Pihama, Smith, Taki, & Lee, 2004; Wilson, 2008).

Recent studies have drawn a variety of conclusions regarding the differences between sole-identifying Māori relative mixed Māori-Europeans and their comparative mental health outcomes. Marie and colleagues' (2008)

analysis of data from the Christchurch longitudinal study of mental health ($N = 1265$) reported that sole-identifying Māori had 1.3x worse mental health outcomes (i.e. higher prevalence of anxiety, depression) than non-Māori. Comparatively, their results suggested that mixed Māori-Europeans were even worse off with 1.6x higher rates of mental illnesses than non-Māori. This study proposed that 'cultural identification' may be the buffer to negative mental-health outcomes, hypothesising that those higher in cultural identification would experience lower rates of mental disorder (assessed using scales specific to Anxiety, Major Depression, Substance Abuse and 'suicide related behaviour'). Furthermore, Marie and colleagues (2008) proposed that sole-Māori were more likely to be in possession of a 'secure Māori identity', seemingly overlooking that many sole-identifying Māori may lack vital access to their Māori culture and identity.

The findings by Marie and colleagues (2008) provide a different perspective to more recent studies which situate mixed Māori-Europeans at an advantage with regards to mental health (e.g. Harris et al., 2013; Houkamau & Sibley, 2014). Nonetheless, the differing results emphasise a need for clarification in what constitutes 'ethnic identity' and the relationship between identification/affiliation and Māori culture. We hope to clarify this with our measures. Marie and colleagues' (2008) appeared to combine cultural identity with a type of cultural efficacy, implying that the blending of these measures exist as a parsimonious and unvarying unit for all sole-identifying Māori. This idea overlooks the subordinate, and arguably most vulnerable, group of Māori who identify solely as Māori but lack access to Māori culture. For this reason it seems that the resources sole-identifying Māori may access to protect their health against instances of adversity are of considerable importance. In a society subjected to colonisation and its ongoing effects, a focus on protective factors for sole-identifying Māori and their health is not only interesting, but necessary.

The current study investigates Māori mental health, or *hauora hinengaro*,

as indexed by the cross-cultural measure for Psychological Distress, the Kessler-6 (K-6) (Houkamau & Sibley, 2013; Kessler, Andrews, Colpe, Hiripi, Mroczek, Normand, Walters & Zaslavsky, 2002; Krynen, Osborne, Duck, Sibley & Houkamau, 2013). Psychological Distress is a well-known antecedent to poor mental health and/or disorder which is commonly explored through the administration of the Kessler-6 test (Kessler et al., 2002). This test has been widely distributed throughout health practices in Aotearoa in both the Kessler-6 and Kessler-10 versions of the measure (Bécares, Cormack & Harris, 2013; Harris et al., 2013; Krynen et al., 2013). Interestingly, the K6 has been suggested as an inappropriate tool for some indigenous peoples such as Indigenous Australians for whom an abbreviated 'K5' test is used – erasing the 'worthless' dimension from the scale (Stolk, Kaplan & Szwork, 2014).

Māori are prevalent clients in Aotearoa's mental health system and are overrepresented in diagnoses of mental illness (e.g. Harris et al., 2013; Mathieson et al., 2012; Ring & Brown, 2003; Sachdev, 1990, 1997, 1998). In general, Māori appear to be at higher risk for developing several mental disorders including Anxiety, Major Depression, Substance Disorders and 'suicide-related behaviour' (Marie et al., 2008; Sachdev, 1998). The young Māori population are particularly at risk for psychological distress (Kukutai & Zealand, 2008; Kukutai & Calister, 2009; Marie et al., 2008; van Meijl, 2006). In his writing on Māori Illness and Healing, Marsden (1998) identifies that cultural intrusion and exploitation pose the most 'serious threats' to Māori mental and spiritual health. Despite decades of expansion to the field (see: Durie, 1985 to present) Māori approaches to mental health are vastly underused by practitioners. We anticipate this study will provide some meaningful findings as to why cultural pedagogies for *hauora hinengaro* may, and should, be encouraged to improve Māori mental health.

Overview and Guiding Hypotheses

The current study proposes an Efficacy-Distress Buffering Model of Psychological Distress for Māori. Buffering models explore the conditions under which certain resources may protect or *buffer* people from negative outcomes. In Western psychology, Cohen and Wills (1985) famously proposed a buffering model investigating how high or low levels of social support might play a buffering role in the relationship between stress and wellbeing. Cohen and Wills' (1985) buffering hypothesis was confirmed and their results provided the basis for encouraging greater social support to be provided for those who were at risk of high levels of stress. Furthermore, many others have replicated these findings (e.g. Kornblith et al., 2001; Salanova, Llorens, Cifre, Martínez, & Schaufeli, 2003; Terry, Neilsen & Perchard, 1993; Viswesvaran et al., 1999). Within Psychology buffering models have been used as appropriate tools to explore factors which may protect those most at risk of adverse outcomes.

The Efficacy-Distress buffering model we propose states that, for Māori, levels of Cultural Efficacy should function as a key protective factor that 'buffers' or 'breaks' the link between Ethnic Affiliation and levels of Psychological Distress. We tested this Efficacy-Distress buffering hypothesis using Houkamau and Sibley's (2010, 2015) Multi-Dimensional Model of Māori Identity and Cultural Engagement (MMM-ICE 2) and data from the New Zealand Attitudes and Values Study (NZAVS) Māori focus sample from 2012. The current study follows through on Houkamau and Sibley's (2014) research into the differences in outcomes between sole-identifying and mixed Māori-Europeans. Houkamau & Sibley (2014) suggested that these groups differed in fundamental ways relating to their attitudes as Māori as well as their economic and social wellbeing. This study extends on this work with the aim of understanding *why* such differences occur with reference to the protective function of Māori Cultural Efficacy (Houkamau & Sibley, 2010, 2011, 2015).

We argue that high levels of Cultural Efficacy will significantly buffer levels of psychological distress for sole-identifying Māori and mixed Māori-Europeans. We expect the effect to be more pronounced among sole-identifying Māori based on the notion that mixed-Māori-Europeans may generally be able to access more resources to cope with the risk of Psychological Distress. We test our model by assessing whether Cultural Efficacy buffers or ameliorates the increased rates of psychological distress reported by solely-identified Māori relative to Māori who affiliate jointly with Māori and European ancestry. Stated formally, our model predicts that Cultural Efficacy should moderate the difference in psychological distress between sole-identifying Māori and mixed Māori-Europeans; such increased rates of psychological distress documented amongst those who identify solely as Māori occur only for individuals who are *also low in Cultural Efficacy*.

Method

Participants

The NZAVS Māori Focus questionnaire contained responses from 632 participants (398 Female, 234 Male) who identified as Māori and/or having Māori ancestry. Participants all answered "Yes" to the question "Do you identify as Māori and/or have ancestors who are Māori?" This follows the inclusion criteria for administering the MMM-ICE recommended by Houkamau and Sibley (2010, 2015). Participants were sorted by their selection of both ancestral affiliation (aforementioned) and ethnic affiliation as 'Māori' and/or 'NZ European'. From these self-reported measures two main ethnic affiliations emerged; those who answered yes to Māori ancestry and ticked 'Māori' as their only ethnic identification emerged as 'Sole-identified Māori' ($N = 269$) and those who answered yes to Māori ancestry and ticked both 'Māori' and 'NZ European' comprised the second affiliation: 'Mixed Māori-European' ($N = 363$). Participants ranged from 18 to 69 years ($M = 44.15$, $SD = 13.0$) and roughly two thirds were employed (426 Employed, 206 Unemployed). As well as this, participants ranged in

levels of deprivation with the majority being on the more deprived of the scale which ranged from 1-10 (1 being low deprivation, 10 being high deprivation) as indexed by The NZ Deprivation Index ($M = 6.35$, $SD = 2.871$).

Sampling Procedure

Participants were part of the Time 4 of the New Zealand Attitudes and Values Study ($N=12,183$). This phase of the NZAVS included a booster sample aimed specifically at recruiting Māori participants (Frame 5 of the Time 4 NZAVS). To recruit Māori into the sample 9,000 people were randomly selected from those who indicated on the 2012 Electoral Roll that they were of Māori ancestry. A total of 690 Māori participants responded to this booster sample.

When adjusting for the overall address accuracy of the electoral roll as a whole, this represents an (adjusted) response rate of 7.78%. It should be noted that this response rate is lower than that observed for the main (full random probability) sample frames used in the NZAVS, which give response rates of approximately 16%. The low response rate for this sample likely indicates a combination of factors relating to Māori. Among the most influential of factors is the overall reduced likelihood of Māori participants responding to postal surveys in general, combined with the possibility that contact details for Māori in the electoral roll may (on average) have a lower level of accuracy. It is likely that this relatively low response rate was also partially affected by the longitudinal nature of the study as participants are asked to provide their contact details for the next 15 years and indicate that they were willing to be contacted to complete similar questionnaires in the future.

To efficiently test this target demographic group, questions specifically designed for Māori were administered for these participants amongst the general Time 4 Questionnaire. The cover letter introduced the survey as a 'The New Zealand Attitudes and Values Study – Māori Identity Focus Questionnaire.' The lead researcher and primary point of contact for this sample frame was the second author, who is of Māori descent, and was introduced to participants in the

cover letter by listing Iwi affiliations. This approach reiterates the kaupapa of *tika* (respectful relationships), *aroha ki te tangata* (respect for the people) and connectedness with whānau, hapu and the wider Māori community (Durie, 1998; Pihama, 2012; Smith, 1999). Māori participants were informed that they had been randomly sampled for this study when they indicated that they were of Māori descent on the electoral roll. The questionnaire was similar in format and content to the standard NZAVS questionnaire, with the exception that it included approximately 2 pages of questions revised specifically to assess aspects of identity and wellbeing specifically for Māori, and in Māori cultural context.

Questionnaire Measures

Participants completed the Cultural Efficacy subscale of the revised MMM-ICE-2 (Houkamau & Sibley, 2014). The Cultural Efficacy subscale, formally named *Cultural Efficacy and Active Identity Engagement* (CEAIE) "refers to the extent to which the individual perceives they have the personal resources required... to engage appropriately with other Māori in Māori social and cultural contexts" (Houkamau & Sibley, 2010 p.13). This measure represents 'cultural competency' as an appropriate and important dimension of Māori identity which varies among different Māori and their various experiences. The Cultural Efficacy factor has been rigorously statistically validated using exploratory and confirmatory factor analysis as well as item response theory (Houkamau & Sibley, 2010, 2015, Sibley & Houkamau, 2013).

Cultural Efficacy was assessed by asking participants rated how strongly they agreed or disagreed with eight statements on a scale from 1 (strongly disagree) to 7 (strongly agree). Reverse-worded items were recoded, so that a higher score represented higher levels of cultural efficacy. Rating of each item were then averaged to give an overall scale score, with 1 representing a low level of cultural efficacy and 7 representing a high level ($M = 4.74$, $SD = 1.37$, $\alpha = .85$).

Items included in the Cultural Efficacy and Active Identity Engagement

subscale include 'I don't know how to act like a real Māori on a marae. (reverse coded)', 'I can't do Māori cultural stuff properly.(reverse coded)', 'I can't do Māori culture or speak Māori.(reverse coded)', 'I know how to act the right way when I am on a marae.', 'I'm comfortable doing Māori cultural stuff when I need to.', 'I have a clear sense of my Māori heritage and what it means for me.', 'I try to kōrero (speak) Māori whenever I can.', 'I sometimes feel that I don't fit in with other Māori' (reverse coded).

Psychological distress was assessed using the Kessler-6 (or K6). The Kessler-6 is a self-report measure of non-specific psychological distress and is widely used throughout Western populations to assess mental health (Kessler et al., 2002; see also Krynen et al., 2013, for validation information in the NZAVS). The Kessler-6 and Kessler-10 are regularly used as assessment tools in mental health in New Zealand, both for Māori and non-Māori (Bécares et al., 2013; Mathieson et al., 2012). Participants read the item stem 'during the last 30 days, how often did...' and then rated the six items below on a scale from 0 (none of the time) to 4 (all of the time). Rating of each item were then averaged to give an overall scale score, with 0 representing a low level of psychological distress and 4 representing a high level ($M = .92$, $SD = .79$, $\alpha = .88$).

Items included in the Kessler-6 scale corresponded to the statement 'During the last 30 days, how often did'; '... you feel nervous?', '... you feel hopeless?', '... you feel restless or fidgety?', '... you feel so depressed that nothing could cheer you up?', '... you feel that everything was an effort?' and '... you feel worthless?'

New Zealand Deprivation Index

We included an index of deprivation as a covariate in our analyses. We measured the deprivation of participants' immediate (small area) neighborhood using the New Zealand Deprivation Index (Salmond, Crampton & Atkinson, 2007). New Zealand is unusual in having rich census information about each area unit/neighborhood of the country available for research purposes. The smallest of these area units are

meshblocks. Statistics New Zealand (2006) defined a meshblock as 'a defined geographic area, varying in size from part of a city block to large areas of rural land. Each meshblock abuts against another to form a network covering all of New Zealand including coasts and inlets, and extending out to the two hundred mile economic zone. The geographical size of these meshblock units differs depending on population density, but each unit tends to cover a region containing a median of roughly 90 residents ($M = 103$, $SD = 72$, range = 3-1,431).

The 2006 New Zealand Deprivation Index (Salmond et al., 2007) uses aggregate census information about the residents of each meshblock to assign a decile-rank index from 1 (least deprived) to 10 (most deprived) to each meshblock unit. Because it is a decile-ranked index, the 10% of meshblocks that most deprived areas are given a score of 1, the next 10% a score of 2, and so on. The index is based on a principal components analysis of the following nine variables (in weighted order): proportion of adults who received a means-tested benefit, household income, proportion not owning own home, proportion single-parent families, proportion unemployed, proportion lacking qualifications, proportion household crowding, proportion no telephone access, and proportion no car access.

The New Zealand Deprivation Index thus reflects the average level of deprivation for small neighborhood-type units (or small community areas) across the entire country. The index is a well-validated index of the level of deprivation of small area units, and has been widely used in health and social policy research examining numerous health outcomes, including mortality, rates of hospitalization, smoking, cot death, and access to health care, to name just a few examples (e.g., Crampton, Salmond, Woodward & Reid, 2000; Salmond & Crampton, 2000; Stewart, Salmond & Crampton, 2000). The index is also widely used in service planning by government and local council, and is a key indicator used identify high needs areas and allocate resources such as health funding (see Salmond & Crampton, 2012, White, Gunston,

Salmond, Atkinson, & Crampton, 2008, for review). The current sample had a mean deprivation index of 6.35 ($SD = 2.87$).

Results

Overview of analyses

The Efficacy-Distress buffering model was tested using moderated regression analyses. To do this we assessed the extent to which differences in psychological distress (indexed by Kessler-6 scores) between 'Sole-Māori' and 'mixed Māori-Europeans' were moderated by differences in Cultural Efficacy. Specifically, a model was tested in which ethnic affiliation as Sole-identified Māori or Mixed Māori-European, scores on the Cultural Efficacy subscale of the MMM-ICE 2, and the interaction of these two variables predicted Kessler-6 scores.

To investigate the Efficacy-Distress Buffering Model moderated regression analyses were conducted using data from the New Zealand Attitudes and Values Study (NZAVS) Māori focus sample ($N = 632$). To complete these analyses an interaction or product term was created by multiplying (dummy coded) ethnic affiliation as either Sole or Mixed Māori-European with continuous (centred) scores on the MMM-ICE2 measure of Cultural Efficacy. In this model, ethnic affiliation was the predictor variable, Cultural Efficacy was the buffer or moderating variable and psychological distress was the criterion or outcome variable. The predictor (Ethnic Affiliation), moderator (Cultural Efficacy) and the interaction term were entered as simultaneous predictors of the outcome variable (Psychological Distress). If the model holds, then the interaction term should predict unique variance in K6 scores beyond that explained by the simple linear combination of the predictor and moderator. If this hypothesized interaction was significant, then analyses would indicate a moderated effect, where the extent to which one variable is linked with the outcome depends on the level of the other (moderating) variable. Other demographics such as gender, age, neighbourhood deprivation (NZDep) and employment status were also included as covariates in the model.

Including these covariates provided a more stringent test of the hypothesized interaction by statistically adjusting for the main effects of these demographic factors on Kessler-6 scores.

The results of the Moderated Regression testing the predicted Efficacy-Distress Buffering model are presented in Table 1. As reported, those who affiliated as mixed Māori-European were significantly lower in psychological distress relative to those affiliating as Sole-Māori ($b =$

Māori-Europeans higher or lower in Cultural Efficacy was small but significant ($b = .183, SE = .083, t = 2.201, p = .028$).

A more striking pattern emerged for those affiliating as sole-Māori. Sole-Māori showed a large and significant difference in their reported K6 scores depending on whether they were low or high in cultural efficacy ($b = .487, SE = .110, t = 4.433, p < .001$). This difference of .487 represents roughly a half unit difference in the K6 (keeping

in Cultural Efficacy. Sole-Māori with a high level of Cultural Efficacy reported similar K6 scores to mixed Māori-Europeans in general.

Finally, as also shown in Table 1, our model included various demographic covariates that were significant in their own right. These results indicate that men were significantly lower than women in reported K6 scores ($b = -.133$). Older people reported lower K6 scores ($b = -.011$), people living in more deprived neighbourhood were higher in the K6 ($b = .032$), and people with employment were lower in the K6 ($b = -.255$).

Table 1. Multiple Regression Analyses for the Efficacy-Distress Buffering Model

	<i>b</i>	<i>se</i>	β	<i>t</i>	<i>p</i>
Intercept	1.563	.159	1.974	9.822	.001
Ethnic affiliation (0 Sole-Māori, 1 Mixed Māori-European)	-.169	.070	-.105	-2.418	.016
Cultural Efficacy	-.176	.040	-.304	-4.433	.001
Ethnic Affiliation. x Cultural Efficacy	.110	.049	.143	2.213	.027
Gender (0 women, 1 men)	-.133	.062	-.081	-2.135	.033
Age (years)	-.011	0.002	-.186	-4.759	.001
NZ Deprivation Index (1-10)	.032	0.011	.116	2.911	.004
Employment (0 unemployed, 1 employed)	-.255	.065	.151	-3.916	.001

-.169). Also, as expected, there was a main effect for Cultural Efficacy, with people who had higher levels of Cultural Efficacy having significantly lower levels of psychological distress ($b = -.176$). Critically, the hypothesized interaction between ‘Sole’ versus ‘Mixed’ ethnic affiliation and Cultural Efficacy was also significant ($b = .110$). This indicates that the extent to which affiliation was linked with psychological distress depends on one’s level of cultural efficacy.

We examined the nature of this interaction by solving our regression equation as conditional levels of Cultural Efficacy (+/- 1 SD of the mean). This allowed us to derive the extent to which Sole-Māori and mixed Māori-Europeans with lower versus higher levels of Cultural Efficacy differed in their psychological distress. This interaction is presented in Figure 1. As shown in Figure 1, mixed Māori-Europeans reported relatively low Kessler-6 scores regardless of whether they were low or high in Cultural Efficacy. The difference between scores of Psychological Distress for mixed

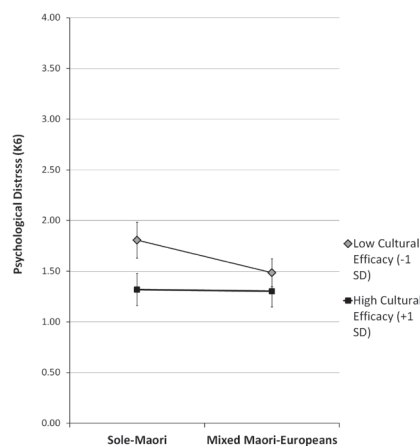


Figure 1. Regression interaction between ethnic affiliation as sole-Māori or mixed-Māori-European and cultural efficacy predicting psychological distress. Note. Scores on the K6 measure of psychological distress represented mean scores ranging from 0 (low) to 4 (high). Error bars represent the standard error of the point estimate.

in mind that the K6 ranged from 0-4). Sole-Māori who had a low level of Cultural Efficacy reported significantly higher K6 scores, relative to those high

Discussion

Research has consistently indicated that Māori face worse mental health outcomes compared to other New Zealanders. Research on how to remedy Māori psychological distress and adversity is still emerging. The study proposed and tested an Efficacy-Distress Buffering Model; a novel efficacy-stress model which explored the protective function of Māori Cultural Efficacy. We found good support for the hypothesised interaction between Ethnic Affiliation and Cultural Efficacy predicting Psychological Distress. Our study suggests that Cultural Efficacy is a strong moderator which maintains a protective and buffering function on the levels of Psychological Distress reported by sole-identifying Māori and mixed Māori-Europeans. To put this into practical terms, the model suggested that increases in Cultural Efficacy (i.e. high levels of Cultural Efficacy) were associated with lower levels of Psychological Distress among both sole-identifying Māori and mixed Māori Europeans. However, there was a greater difference between levels of psychological distress among sole-identifying Māori with high levels versus low levels of Cultural Efficacy. In contrast, Mixed Māori-Europeans showed relatively low levels of psychological distress regardless of their level of Cultural Efficacy. Our findings thus indicate that Cultural Efficacy protected sole-identifying Māori from psychological distress to a more pronounced extent than for mixed Māori-Europeans.

Adding to recent literature on Māori identity diversity, this study confirms a difference in wellbeing between Māori of different Ethnic Affiliations (i.e. sole-identifying Māori and mixed Māori-Europeans). Critically, sole-identifying Māori who reported lower Cultural Efficacy scores reported greater levels of Psychological Distress than sole-identifying Māori with higher Cultural Efficacy, reflecting an almost half-point difference on the Kessler scale. Such a difference could distinguish the critical distinction between 'good' psychological health and potential diagnoses of mental illness stemming from psychological distress. Sole-identifying Māori with High Cultural Efficacy shared similar levels of (lower) psychological distress as mixed Māori-Europeans regardless of the Cultural Efficacy of this latter group. Our findings suggest that mixed Māori-Europeans have generally lower levels of psychological distress because they are able to access Māori and Pākehā cultural resources to buffer and protect their mental health. Sole-identifying Māori who reported low Cultural Efficacy scores, on the other hand, presumably have limited resources to protect their mental health. As sole-identifying Māori only affiliate to one ethnic group it is possible that they have less social-ethnic (Māori) group resources to draw upon in other domains as well.

Demographic covariates were included in the final model to strengthen the overall findings of the study. Even when controlling for gender, age, deprivation and employment, Cultural Efficacy still played a significant role in moderating levels of Psychological Distress among different Māori people. Perhaps replicating more general findings among the clinical field, men exhibited lower psychological distress than women throughout the sample. Consistent with ideas surrounding *whānau* and *matauranga Māori* (Māori knowledge), older people within the sample generally exhibited lower levels of Psychological Distress. This is in line with the idea that older people or *kaumātua* (i.e. *koro* and *kuia*) contain stability and mana as the protectors of Māori people and their customs, knowledge and whakapapa.

Ultimately these findings suggest that sole identifying Māori who are young and female are at greater risk of Psychological Distress and plausibly more susceptible to a mental health diagnosis.

Employment and Deprivation covariates included in the model provided a more holistic understanding of the prevalence of Psychological Distress among the wider Māori population. Those who were employed were on average .255 lower in their score on the K6 measure of Psychological Distress relative to the unemployed. Importantly, unemployed Māori made up nearly a third of the total sample in this study. Results from the Deprivation covariate also offer vital information on the factors which could put Māori at greatest risk to Psychological Distress. The New Zealand Deprivation Index ranged from 1-10 with 1 indicating the least deprived areas and 10 indicating the most deprived. The model predicted that each one unit increase in deprivation predicted an increase in the K6 of .032 units. Framed within the scale of 1-10 this means that the predicted difference in K6 scores between Māori living in the least deprived (NZDep = 1) versus most deprived (NZDep = 10) regions was .288. Again, this is a significant and large difference. Certainly, employment status and deprivation, when coupled with being a sole-identifying Māori with low Cultural Efficacy could potentially contain the vital ingredients for high levels of psychological distress and consequent levels of mental health illnesses.

Tātau Tātau – Implications for Māori Health and Collective Responsibility

This study contributes to a longstanding literature endorsing Māori culture as a protective resource to maintain and increase Māori wellbeing. This study offers suggestions which may appeal to the institutions with the ability to investigate ways to increase Cultural Efficacy for Māori by Māori in the mental-health sector (Ruwhiu, 2009). Durie (1998) outlined that Māori health is a collective responsibility which is best addressed in Te Ao Māori, this study confirms this imperative. As Māori are already overrepresented

in most indices of mental-illnesses, the suggestion that increased Cultural Efficacy could remedy psychological distress is a hugely important finding for the reality of the most vulnerable in the Māori population.

Further research needs to be conducted alongside experts in Māori Studies who understand the cultural facets of *Hauora Hinengaro* and Māori culture generally. To put this in simple terms, Māori cultural experts, clinicians, educators, academics, *kaumātua* and *whānau* need to work together holistically in the step forward in bettering Māori mental health. Although the measures of this study give good indication into specific cultural aspects of Māori life (i.e. knowing how to act on a marae), these measures are not specific to the relationship between culture and wellbeing (i.e. knowing how to use Māori medicine or other therapy).

Several existing models of Māori health have been used sporadically throughout the nation but what is apparent is that these initiatives (while excellent) tend to look after Māori after they have experienced psychological distress. This study suggests that increasing Cultural Efficacy, whether that be through exploring a number of different ways to 'be Māori' or 'do Māori cultural things', can act as a buffer or safeguard against psychological distress. The implication here is that early intervention should be a focus for the future of Māori mental health, especially so among the most vulnerable; sole-identifying *rangatahi* Māori. If earlier intervention is a realistic goal for Māori then it is possible that such intervention may generalise to better outcomes across the board for Māori in Aotearoa.

A Research Agenda for Future Study on Māori Identity and Wellbeing

Houkamau and Sibley (2014) highlighted the importance of research which differentiates between sole-identifying and mixed Māori experiences. In saying this, we understand more diverse identities within the Māori population need to be considered in future research. It is possible that longitudinal models of identity and affiliation may shed more light on our findings. As well

as this a continuing exploration into identification and affiliation as Māori needs to be considered within the complex colonised reality of today. Extending the agenda laid out by Houkamau and Sibley (2013), this research provides insight into which 'subgroups' in the Māori population may be at greatest risk to negative outcomes. Our study emphasised that sole-identifying Māori who are lacking in Cultural Efficacy may benefit the most by initiatives which may increase their Cultural Efficacy and thus decrease their levels of psychological distress. In reality this is a lot easier said than done and it is important to keep in mind that further alternatives need to be explored for diverse Māori populations.

More research in this area needs to address how and why sole-identifying Māori and mixed Māori-Europeans exhibit poorer mental health outcomes comparative to Europeans. Our study addresses Māori culture as a protective factor however, it is possible that there are other identity-related factors which may leave mixed Māori-Europeans and low Cultural Efficacy sole-Māori at a disadvantage. Indeed, our study suggests that it is possible that highly enculturated sole-identifying Māori may be in possession of the lowest levels of psychological distress. It is important to extend on this in future studies and address the complex variation in Māori identities and affiliation and explore beyond the measures used in this study. As well as this analyses of the construction of Māori identities and the influences of racism in modern Aotearoa need to be followed up on in future study.

Concluding comments

Ultimately, we hope that this study may contribute to the growing literature on different Māori identities and the ways in which culture can potentially protect Māori against negative outcomes. In light of our findings we think it is of great significance to expand understandings of Māori mental health and encourage the promotion of Māori culture from an early age. This study empirically supports the view that culture plays an important protective function for Maori. Further research needs to address the practicality of a

'culture as cure' perspective within the context of colonisation and the various needs of diverse Māori peoples today.

To conclude, we proposed and tested an Efficacy-Distress Buffering Model of psychological distress for Māori. This model posits that high levels of Cultural Efficacy should have a protective or buffering function that protects against psychological distress for Māori. Consistent with a 'culture-as-cure' perspective, our data indicated that Cultural Efficacy moderated the difference in psychological distress between sole-identifying Māori and mixed Māori-Europeans. Our findings indicated that Cultural Efficacy protected sole-identifying Māori from psychological distress to a more pronounced extent than for mixed Māori-Europeans. For sole-identifying Māori, a high level of Cultural Efficacy predicted lower psychological distress or higher psychological resilience, whereas those sole-identifying Māori who were low in Cultural Efficacy showed higher rates of psychological distress. Mixed Māori-Europeans, in contrast, showed relatively low levels of psychological distress regardless of their level of Cultural Efficacy. Our analysis indicates that sole-identifying Māori with low Cultural Efficacy may be most at risk of psychological distress. Knowing this, future research should focus on understanding the important role of culture for Maori people and how this can be understood in the context of diverse Māori realities. Our findings thus support the notion that increased Cultural Efficacy, or the ability to navigate the Māori world, has a direct protective effect that can reduce the risk of negative psychological outcomes and associated risk factors.

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Appendix: Glossary of Terms

Aotearoa	The Māori word for New Zealand
Aroha ki te tangata	Respect and/or love for the people
Hapū	Sub-tribe
Iwi	Tribe
Kaumātua	Guardians of knowledge and protocol, older people, grandparents
Kaupapa	Matter for discussion, agenda
Kaupapa Māori	The conceptualisation of Māori knowledge, a Māori framework
Kōrero	To speak, have a discussion
Koro	Grandfather
Kuia	Grandmother
Mana	Strength, respect, pride
Māori	The indigenous people of New Zealand
Marae	The meeting house, belonging to a certain hapū/iwi
Matauranga Māori	Māori knowledge
Pākehā	'Other', referring to British/European New Zealanders
Rangatahi	Youth
Tika	Relationships
Tikanga Māori	Māori protocols and customs
Tino Rangatiratanga	Self-governance
Te Ao Māori	The Māori World
Te Reo Māori	Māori Language
Whakapapa	Ancestry/Genealogy
Whānau	Family, inclusive of extended family
Whanaungatanga	Collective/family-based orientation and commitment
