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**The Pacific Identity and Wellbeing Scale (PIWBS):**

**A culturally-appropriate self-report measure for Pacific peoples in New Zealand**

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### **Abstract**

We describe and validate the Pacific Identity and Wellbeing Scale (PIWBS). The PIWBS is a culturally appropriate self-report measure assessing a five-factor model of Pacific identity and wellbeing. Items and construct definitions were developed through qualitative interviews, review of psychological theories, and previous research on Pacific concepts of ethnic identity and wellbeing. Exploratory and confirmatory factor analyses supported the model (Study 1 N = 143; Study 2 N = 443). The proposed five-factor model of Pacific identity and wellbeing includes scales assessing (1) Perceived Familial Wellbeing, (2) Perceived Societal Wellbeing, (3) Pacific Connectedness and Belonging, (4) Religious Centrality and Embeddedness, and (5) Group Membership Evaluation. The PIWBS provides a culturally appropriate valid and reliable assessment tool that can be used for within-cultural research for Pacific peoples from a Pacific perspective. A copy of the PIWBS and scoring instructions for its use are included.

Keywords. Psychometric assessment, Pacific culture, factor analysis, ethnic identity, wellbeing.

## **The Pacific Identity and Wellbeing Scale (PIWBS):**

### **A culturally-appropriate self-report measure for Pacific peoples in New Zealand**

#### **1. Introduction**

Pacific peoples have been in New Zealand (NZ) for a little over 60 years and now form roughly 7% of the population (Statistics New Zealand, 2006). Although a demographic minority in NZ, there is an increasing representation of Pacific peoples socially, culturally, economically, politically and in the sporting arena (Anae, 2006; 2007). As Pacific peoples and cultures influence the social landscape of NZ, so too does NZ influence the identity and wellbeing of Pacific peoples. Here we aim to contribute to knowledge in this area by presenting and validating a reliable self-report measure of Pacific identity and wellbeing developed specifically for Pacific peoples in the NZ context. Our measure is grounded in qualitative research on Pacific identity and Pacific peoples, and integrates this rich literature with psychometric models used in scale development in psychology and related disciplines.

Toward this goal, we first give a general review of Pacific peoples, their lived experiences and expressions of identity and subjective wellbeing in the NZ context. We then provide a general overview of relevant concepts relating to ethnic identity and subjective wellbeing. We argue that these two components form a dual interconnected core for understanding and predicting socially-relevant outcomes for Pacific peoples in NZ.

##### ***1.1. Pacific Peoples and Research in New Zealand***

There are seven major Pacific Nations represented in NZ (Samoa, Cook Islands, Tonga, Niue, Fiji, Tokelau, and Tuvalu) with smaller populations from French Polynesia and the Solomon Islands. Roughly 60% of Pacific peoples are NZ-born, with many others having NZ citizenship or permanent residency. In the past, Pacific peoples have been viewed

homogenously as “Pacific Islanders” despite many individuals not viewing themselves in this way (Macpherson, 2001; Anae, 2001). However, over time barriers of cohesion faced by early Pacific settlers have become less apparent, and subsequent NZ-born generations have been able to “*create and adopt an identity which is different from that of their parents and from that of non-Pacific Islands New Zealanders*” (p. 138, Macpherson, 1996). This emerging identity is expressed via language (Taumoefolau, Starks, Davis, & Bell, 2002), media, fashion and cultural events (Zemke-White, 2001). It is this emerging “Pacific” identity that is the focus of this research.

Psychological research on identity and wellbeing for Pacific peoples is lacking. Not to mention that from a Pacific perspective. Pacific-oriented research within psychology has however shown some distinct and unique findings. *Te Rau Hinengaro: The New Zealand Mental Health Survey* shows that Pacific peoples have a higher prevalence of mental disorder relative to the rest of the NZ population (Wells, Oakley-Browne, Scott, McGee, Baxter, Kokaua, 2006). However, Pacific notions of mental health have differences from Western psychology. Some Pacific mental health workers are guided by Pacific models of health that incorporate important cultural values when dealing with Pacific clients (Suaalii-Sauni et al., 2009). In addition, *The Talking Therapies Guide for Pasifika Peoples* outlines processes that can help therapists build rapport with Pacific clients by acknowledging levels of acculturation, intergenerational aspects and cultures of Pacific peoples (Te Pou, 2010).

There is also evidence to suggest that some psychological tools may not be suitable for Pacific peoples. An exploration of community rehabilitation outcomes for individuals who had experienced traumatic brain injury found that Pacific peoples scored lower on some measures of memory and language (Faleafa, 2009). However, this difference may reflect a cultural bias in the measures that were used, which may influence

recommendations by neuropsychologists (Faleafa, 2009). By taking a Pacific perspective in psychology, theories, service delivery and tools can be developed that incorporate a culturally appropriate perspective that will be beneficial for Pacific peoples (Mulitalo-Lauta, 2001). This can be likened to a *within-cultural* framework that uses Pacific ideas and perspectives for use with Pacific peoples.

### **1.2. Ethnic identity: Psychology and a Pacific Perspective**

In terms of Pacific perspectives, it is important to highlight some of the Pacific research that informs the theoretical basis for the scale we propose here, and how this relates to predominant psychological perspectives. In mainstream psychology, ethnic identity is typically described as *“that part of an individual’s self-concept which derives from his [or her] knowledge of his [or her] membership of a social group (or groups) together with the value and emotional significance attached to that membership”* (Tajfel, 1981, p. 255). Ethnic identity can also be described as self-identification with an ethnic group, together with a sense of belonging, positive and negative attitudes towards that group, and participation in cultural practices (see Phinney, 1990, for a review). These definitions of ethnic identity are not inconsistent with Pacific schools of thought; however, the meanings that lie behind those definitions may differ subtly.

Anae (1998, 2001) explored an identity journey for NZ-born Samoans and highlights a series of stages that the participants experienced. She suggested that many may experience a period of “Identity Confusion” followed by a “Time Out” period where individuals act out their confusion, explore other lifestyles, leave their church and in some cases adopt a general Pacific identity. Anae also speaks of a “Secured Identity” which is marked by a persistent Samoan self-concept where one finds resolution between internal and external conflicts in what it means personally to be a NZ-born Samoan. Anae’s (1998,

2001) findings may not relate directly to other Pacific groups, however they do shed light on aspects of identity that Pacific peoples in NZ generally face. This process reflects Phinney's (1989) research on ethnic identity development, particularly the stages of *moratorium* (exploration and some confusion about one's ethnicity) and *achieved* (secure understanding and acceptance of one's ethnicity).

Religion also plays a central role in the ethnic and cultural identity of many Pacific peoples. The importance of The Christian Church in the lives of NZ-born Pacific peoples comes through in qualitative research and theory (Tiatia, 1998; Macpherson, 1996). The Church has been proposed as a setting where individuals can negotiate their identity and resolve conflict between NZ influences and traditional Pacific ways of life. Tiatia (1998) for example suggests that "*an equilibrium point must be achieved in the link between culture and God, for both are equally important to express and proclaim who we are as either a Samoan, Tongan or Niuean people.*" (p. 7). The church setting may be seen as a place where social connections with similar others can be made, in addition to immersion in cultural practices and language. Research from a national health and wellbeing survey in secondary schools) further shows that Pacific cultural capital such as language proficiency, acceptance by Pacific others and other groups, pride in identity and emphasis on Pacific values are all important aspects of Pacific youths' lives (Mila-Schaaf, Robinson, Schaaf, Denny, & Watson, 2008).

### **1.3. Subjective Wellbeing: Psychology and a Pacific Perspective**

Subjective identification with one's ethnic group forms only one component of a more general model assessing the experiences of Pacific peoples as a social group in New Zealand. The other core component that we argue is intimately tied to the Pacific experience reflects aspects of the subjective wellbeing of one's family and broader

community. Subjective wellbeing is determined by an individual's appraisal of their life in a positive manner. Wellbeing relates to aspects such as quality of life, positive and negative affect, happiness and life satisfaction (Diener, 2006). Diener (2009) argued that there are three hallmarks of wellbeing: it is a subjective experience that lies within an individual; it includes positive measures; and it reflects a global assessment that incorporates all aspects of an individual's life. The influence of culture on wellbeing is an important factor to consider, particularly with Pacific-oriented research. Cross-cultural comparisons of wellbeing may not be meaningful in some cases as the values people from different cultures place on subjective states can differ dramatically (Diener & Tov, 2007). In addition, life evaluations may differ between individualistic and collective cultures such as the Pacific cultures.

Pacific concepts of wellbeing can be informed via Pacific models of health. Pulotu-Endemann's Fonofale model (Ministry of Health, 1995) is represented metaphorically as a fale (traditional Samoan house). As shown in Figure 1, the structures that comprise the fale represent different factors that are important for the overall health of a Pacific individual. The foundation represents family, the foundation for all Pacific cultures. The roof represents beliefs and cultural values considered to be the shelter for life. Four posts between the foundation and roof represent the spiritual, physical, mental and other aspects of life that form the connections between family and culture. Surrounding the fale is a cocoon that represents the environment, time and context, all of which can have direct or indirect influence on an individual. The *Te Vaka Atafaga* model proposed by Kupa (2009) is similar to Fonofale, but specifically for Tokelau peoples. It is metaphorically represented as an outrigger canoe, the components of which represent the physical body, mind, family,

spirituality/belief systems, environment and social/support systems. The two models represent the dynamic and holistic nature of conceptualizing Pacific health and wellbeing.

#### **1.4. Potential Factors: Combining Psychology and the Pacific**

Common parallels between psychology and Pacific research include the importance of family, religion/spirituality, group membership, and a sense of belonging. Other themes that emerge within the Pacific literature include the influence of the NZ social setting and cultural efficacy. It is likely that that all these factors bear some importance on the identity and wellbeing of Pacific peoples in NZ. Identity and wellbeing are strongly linked (Phinney, 1991; Phinney et al., 2001; Yip & Fuligni, 2002), and qualitative research suggests this is very much the case for Pacific peoples (Anae, 1998, 2001; Kupa, 2009). The Pacific experience, we argue, is one in which the ethnic identity of selfhood, culture and religion is inherently linked with evaluations of the subjective wellbeing of family and broader social groups. We therefore incorporated both of these aspects in assessing the psychological experience of Pacific peoples in a culturally appropriate and holistic manner.

In the following sections we give a brief overview of the factors we expect to emerge in our pan-Pacific measure of identity and wellbeing, which we call the Pacific Identity and Wellbeing Scale (PIWBS).

##### **1.4.1. Group Membership Evaluation**

One of Phinney's (1990) components of ethnic identity is affirmation and belonging. The attitudes that one holds towards their ethnic groups can serve as an indication of how an individual evaluates their self-perceived membership within their respective Pacific groups. In the Pacific literature, positive ethnic group evaluations are shown through pride in one's ethnic identity and culture (Mila-Schaaf et al., 2008) and can be represented through a secure ethnic identity (Anae, 1998). Drawing on the Multigroup Ethnic Identity



Measure (MEIM: Phinney, 1990), we argue that a factor relating to attitudes and evaluations towards one's Pacific group will emerge. This can indicate the strength of one's ethnic identity as a Pacific person.

#### **1.4.2. Family and Wellbeing**

Family is an important aspect of many Pacific cultures. It is through family that Pacific individuals can be nurtured physically, mentally, culturally, spiritually and gain social support (Anae, 2001; Tiatia, 1998; Pene, Peita & Howden-Chapman, 2009). Family is an integral aspect of the holistic Pacific self-concept and an important factor that can influence wellbeing. Tamasese et al. (1997) refers to the self as relational where interactions with others, including family, are of utmost importance and breaching these could have negative consequences on wellbeing. By viewing family as a domain of life satisfaction, it is possible to gain a sense of satisfaction that one has with an important part of their Pacific-self. The PIWBS therefore includes a variety of items assessing aspects of Pacific family values, such as respect, communication, relationships and happiness. By doing so, the PIWBS aims to include the subjective wellbeing of family as a central aspect of overall subjective wellbeing.

#### **1.4.3. Spirituality and Religion**

Religion has a huge influence on the many Pacific communities that reside in NZ (Taule'ale'ausumai, 2001). The church setting has also been considered by some to be a village away from the islands (Macpherson, 1996) where Pacific families can attain social connections, social support and fulfill religious and cultural needs (Anae, 2001; Tiatia, 1998). Religious and spiritual aspects are also included in the holistic models of Pacific health (Ministry of Health, 1995; Kupa, 2009). Phinney (1990) notes that some ethnic identity scales for specific ethnic groups include items that reference aspects of religion and spirituality. For example, the Multidimensional Model of Māori Identity and Cultural

Engagement (MMM-ICE; Houkamau & Sibley, 2010) includes a factor of Spirituality in relation to Māori notions of spirituality.

We argue that religion and spirituality are important aspects of identity for the highly religious Pacific groups in NZ. Religion and culture are linked in many Pacific societies and it is difficult to untangle the two. This is consistent with the holistic nature of Pacific peoples and research where religion can be considered part of the self and family and vice-versa.

#### ***1.4.4. Pan-Pacific Belonging***

The “Pacific” term has its misgivings in that it can homogenize the various Pacific groups. However, early research acknowledges the emergence of a Pacific identity gained through commonalities and shared experiences by the various Pacific groups, particularly amongst youth (Macpherson, 1996; Anae, 1998; Tiatia, 1998). “Pacific” and other derivatives of the term may be a component of identity for Pacific peoples, similar to a specific ethnic identity but occurring at a more general level. This may be dependent on context and particularly salient and beneficial for Pacific peoples to employ in certain settings (Mila-Schaaf, 2010). A sense of belonging to the Pacific is similar to the sense of belonging component of ethnic identity identified by Phinney (1990). A similar component is the Interdependent Self-Concept in the MMM-ICE (Houkamau & Sibley, 2010) that looks at how an individual is defined in terms of their relationships with other Māori. We argue that a general Pan-Pacific belonging factor will emerge in the PIWBS that will be marked by feelings of connections with other Pacific individuals.

#### ***1.4.5. Cultural Efficacy***

Phinney (1990) makes note that ethnic identity scales for minority groups include items or factors relating to ethnic behaviours or practices specific to that group. For

example, the MMM-ICE (Houkamau & Sibley, 2010) includes a factor labelled Cultural Efficacy and Active Identity Engagement, which contained items relating specifically to cultural practices and language use for Māori. Cultural practices and language have been identified as important markers of Pacific identities (Mila-Schaaf, 2010; Anae, 1998; Tiatia, 1996), however this may be problematic to capture with the proposed PIWBS. Nearly half of Pacific peoples are able to speak in their mother-tongue (Statistics New Zealand, 2006), however language proficiency varies between and within the Pacific groups (Taumoefolau et al., 2002). Research also suggests that for some, language may not be an important part of identity (Hunkin-Tuiletufuga, 2001), but such persons may still maintain a strong Pacific identity in other ways. We argue that Cultural Efficacy, marked by cultural engagement and language, could potentially be a factor in the PIWBS, but may be difficult to capture due to the variability of cultural practices and language proficiency amongst the various Pacific groups.

#### ***1.4.6. Pacific peoples and Societal Wellbeing***

NZ society has a major influence of Pacific peoples' identity and wellbeing. From an acculturation framework, it is important to see how society influences minority groups at the interface between two cultures (Berry, 1997). The acculturation strategy of integration is considered the most beneficial for individuals where one maintains their own culture at the same time as participating and affiliating with dominant cultures (Berry et al., 2006). Parallels can be drawn to wellbeing in regards to the perceived satisfaction with society.

We argue that satisfaction with society is an important indicator of subjective wellbeing for Pacific peoples in a NZ context. The Fonofale (Ministry of Health, 1995) and Te Vaka Atafaga (Kupa, 2009) models both include an aspect of society and its relationship to the holistic health and wellbeing of Pacific peoples.

### **1.5. Overview of the present study**

We present two studies that describe the development and validation of a new Pacific-grounded measure of identity and wellbeing for Pacific peoples in NZ (the PIWBS). Study 1 describes initial scale development and item selection using Exploratory Factor Analysis (EFA). Study 2 provides a more detailed test of the proposed five-factor model using Confirmatory Factor Analysis (CFA). These two methods together provide a rigorous empirical test of our proposed scale using modern psychometric techniques. As summarized above, we argue that there should be five (or possibly six) distinct factors of Pacific identity and wellbeing. Some of these factors, like the Group Membership Evaluation factor reviewed above, should be relatively general across cultures, while others, like the proposed Familial Wellbeing factor and Religious Centrality and Embeddedness, should be more culturally specific in their wording and general framing.

## **2. Study 1**

### **2.1. Method**

#### **2.1.1. Participants and procedure**

Participants were 143 (38 males, 103 females and 2 unspecified) members of the New Zealand public who identified as Pacific Islanders (55 Samoan, 39 Tongan, 30 Cook Island Māori, 10 Niue, 5 Fijian, 4 Other Pacific Island) and had a mean age of 25.71 years ( $SD = 9.26$ ).

Participants responded to an email advertisement inviting them to be part of a study on Pacific Identity and Wellbeing. The email was sent to a variety of Pacific groups and organizations including Pacific student associations at major tertiary institutes in NZ, Pacific organizations and other Pacific community networks. All participants were entered into a draw to win NZ\$250 worth of grocery vouchers.

### **2.1.2. Item development**

An initial pool of 125 items was developed through reading of psychological and Pacific literature on identity and wellbeing, and discussions with groups of self-identified Pacific peoples. The Pacific literature and discussions on identity and wellbeing provided the initial grounds for item development. Items were developed around components of identity and wellbeing that were identified as important for Pacific peoples.

We also drew upon items from various previous psychological scales. We drew upon the item format used in the International Wellbeing Index to develop items assessing the perceived satisfaction with familial relations and society (Cummins, Eckersley, Pallant, van Vugt, & Misajon, 2003). This item format provides a list of various specific features or aspect of life or society, and participants are asked to rate their satisfaction toward each feature or aspect. Some items were also modeled on Houkamau and Sibley's (2010) MMM-ICE which asks respondents to indicate on a Likert scale how they agree with statements related to certain aspects of Māori identity and cultural engagement.

Responses on identity items were rated on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Responses on wellbeing items were rated on a Likert scale ranging from 1 (completely dissatisfied) to 7 (completely satisfied).

An EFA using Maximum Likelihood Estimation with oblique rotation was used to explore the factor structure of the items.

## **2.2. Results**

We used an oblique rotation given that we expected that different factors of Pacific identity and wellbeing should represent distinct, but nevertheless interconnected and positively correlated expressions of Pacific identity.

Initial results indicated a five factor solution. This seemed broadly interpretable and was in line with the predicted factors. Items that loaded less than .30 on any factor, or that cross-loaded at more than .30 on two or more factors, were removed one at a time and the analysis was re-run and re-evaluated. This process was continued until all items that did not define a given factor, or that cross loaded, were identified and removed. An attempt was made to extract a sixth factor relating to Cultural Efficacy. However, the items had minimal loadings on the factor, items were also cross loading onto other factors, and the factor explained minimal variance in the model. As the factor appeared unstable and unreliable, it was dropped from the model. In total, 31 items assessing five factors were retained.

A scree plot of the eigenvalues for the 31-item solution provided support for a five factor structure. The eigenvalues appeared to level off after the fifth factor was extracted, with the sixth factor contributing very little to the variance explained (eigenvalues: 7.90, 5.60, 3.19, 2.40, 1.59, 1.02, .85, .82, .69, .65). The five factor solution explained 66.69% of the variance in the items.

A parallel analysis was conducted to generate eigenvalues that would occur by chance from a dataset that has the same properties as the one used for this analysis. These chance eigenvalues were then compared to the actual eigenvalues to determine the number of factors that explained more than chance levels of variation (mean eigenvalues: 2.00, 1.85, 1.73, 1.64, 1.56, 1.49, 1.42, 1.36, 1.30, 1.30). In support of a five factor solution, only the first five eigenvalues generated from the data set were higher than those generated by the parallel analysis. Item content and pattern matrix loadings are presented in Table 1.

Descriptive statistics, estimates of internal reliability (Cronbach's alphas) and bivariate correlations are presented in Table 2. As shown in Table 2, the five factors in the PIWBS showed excellent internal reliability ( $\alpha$ 's  $>.85$ ). The bivariate correlations showed weak significant negative relationships between those who did not identify with a religion and the Pacific Connectedness and Belonging, Religious Centrality and Embeddedness and Group Membership Evaluation factors. The results from Study 1 provided preliminary support for a five factor model for assessing Pacific identity and wellbeing.

### **3. Study 2**

#### **3.1. Introduction**

Study 2 validated the PIWBS using Confirmatory Factor Analysis (CFA) of a large independent sample of Pacific peoples.

#### **3.2. Method**

##### **3.2.1. Participants and Procedure**

Participants were 443 (159 male, 283 female, 1 unreported) members of the public who identified as Pacific Islanders (154 Tongan, 143 Samoan, 68 Niue, 35 Cook Island Māori, 18 Fijian, 15 Other Pacific Island). Participants had a mean age of 26.64 years ( $SD = 9.86$ ).

Participants responded to an email advertisement inviting them to be part of an online study on Pacific identity and wellbeing. The email was sent to a variety of Pacific groups and organizations including Pacific student associations at major tertiary institutes in NZ, Pacific organizations and other Pacific community networks.

##### **3.2.2. Materials**

Participants completed an online version of the 31-item PIWBS. Items were rated on a Likert scale for identity (1 = strongly disagree to 7 = strongly agree) and wellbeing (1 = completely dissatisfied to 7 = completely satisfied).

A CFA was conducted testing the hypothesized five-factor structure of the PIWBS.

As shown in Figure 2, the items assessing each of the five subscales were modeled as loading on distinct, but correlated, latent variables.

### 3.3. Results

All items were strongly related to their hypothesized latent factor, as shown by the standardized coefficients. Descriptive statistics, estimates of internal reliability (Cronbach's alphas) and bivariate correlations are presented in the upper half of Table 2. As reported in Table 2, factors in the PIWBS showed excellent internal reliability ( $\alpha$ 's >.75).

When evaluating model fit, Hu and Bentler (1999) suggested that reasonable measurement models should generally have a standardised Root Mean Square Residual (sRMR) of near or below .08, values of around or above .95 for the Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI) and Incremental Fit Index (IFI), and a Root Mean Square Error of Approximation (RMSEA) of near or below .06. Fit indices for the hypothesised model were:  $\chi^2(424) = 1237.88$ , sRMR = .053, NNFI = .95, CFI = .96, IFI = .96, RMSEA = .066. The hypothesised model performed well according to most of these indices, indicating reasonable model fit. The exception was the RMSEA, which was marginally higher than ideal (.066 versus .060). These are of course rules-of-thumb. The hypothesised model approached a reasonable level of approximate fit, with the sRMR indicating that that the model would allow the correlation matrix to be reproduced with an average accuracy of roughly .05.

Comparative CFA models were ran to compare the hypothesized model with other models (See Table 3). The hypothesized five factor model fit data significantly better than an alternative single factor model in which all items were loaded on a single latent variable ( $\chi^2_{d,ff}(9) = 3575.05$ ,  $p < .01$ ). Additionally, the five factor model fit data significantly better than an alternative dual factor model, in which the identity and wellbeing items were forced



to load on respective latent variables ( $\chi^2_{d.ff}(10) = 6260, p < .01$ ). A value of around or above .95 is suggested for the CFI, NNFI and IFI. The five factor model fits well with this suggestion, whilst the single and two factor models have lower values than the suggested .95. A value of near or below .08 is suggested for the sRMR. The five factor model meets these requirements, whilst the single and two factor models have values of and over .10. A value of near or below .06 is suggested for the RMSEA. The five factor model was marginally over this value, however still very close. The single and two factor models were well over the suggested value.

#### **4. General Discussion**

The PIWBS represents a culturally appropriate self-report instrument assessing the identity and wellbeing of Pacific peoples in NZ. A copy of the scale is presented in the Appendix. What sets this scale apart from others is the inclusion of both wellbeing and ethnic identity factors relating to self and family, worded specifically for the Pacific context. The factors indexed in the PIWBS aim to provide a holistic assessment of the overall psychological experience of Pacific peoples in a quantitative manner. Formal construct definitions for our five-factor model of Pacific identity and wellbeing are presented in sections 4.1.1 to 4.1.5 below.

##### **4.1. Construction Definitions.**

###### **4.1.1. Group Membership Evaluation (GME).**

This factor indexes subjective evaluations of perceived membership in the Pacific group. The Group Membership Evaluation factor includes an evaluation of positive affect that is derived from membership within the Pacific group, and the notion of one's Pacific identity as a centrally defining aspect of the self-concept. Scoring high on this factor would indicate that being Pacific is seen as a desired aspect of the self-concept. As the items

represent positive affect associated with Pacific identity, a high score would also suggest that a positive and desired self-concept is derived from perceived membership within the Pacific group, and that perceived membership is worthwhile for the individual.

#### ***4.1.2. Pacific Connectedness and Belonging (PCB).***

This factor assesses an individual's sense of belonging and connectedness with Pacific others and various Pacific groups as a whole. This factor indicates personal investment in the extent to which an individual perceives that they are an integral part of the Pacific group. There are two elements within the Pacific Connectedness and Belonging factor. The first is connections with other people and is framed around how one perceives connections and relationships with other people. The second is framed around a sense of belonging to the Pacific group at a general level. Scoring high on this factor indicates that an individual perceives their self to be similar to Pacific others. They will also perceive their self to be a member and integral part of the wider, general Pacific group, from which a sense of belonging can be attained.

#### ***4.1.3. Religious Centrality and Embeddedness (RCE).***

This factor represents an individual's subjective evaluation of the extent to which religion is central to identification as a Pacific person, and that religion is perceived to be intertwined with one's Pacific culture. The factor focuses on Christian-based religions as they are the most prevalent in Pacific societies and within Pacific groups in NZ. The Religious Centrality and Embeddedness factor is reflected through lived experiences associated with one's religion as a Pacific person, connections, and the interwoven nature of Pacific cultures and religion. Scoring high on this factor indicates that an individual perceives a Christian-derived religious component as important in their self-concept.

#### ***4.1.4. Perceived Familial Wellbeing (PFW).***

This factor represents an individual's perceived satisfaction and subjective wellbeing of and within their family. Scoring high on this factor indicates that an individual feels supported within their family, and that one perceives their family as a whole to have a generally high level of wellbeing. This will be a reflection of a combination of Pacific values of respect and relationships, and other values of happiness and security in relation to the family.

#### **4.1.5. *Perceived Societal Wellbeing (PSW).***

This factor represents an individual's perceived satisfaction with the support they receive from NZ society. Perceived support from society is assessed at various levels from one's local community, to the national government. The Perceived Societal Wellbeing factor frames perceived satisfaction with society around one's position in NZ as a Pacific person. The perceived satisfaction of support and relationships with various levels of NZ society reflect how integrated a Pacific individual perceives their self to be in NZ. Scoring high on this factor will indicate that an individual feels supported in NZ and their respective community as a Pacific person. This may be a reflection of how one engages with NZ society and indicate how accepted one perceives their self to be by NZ society.

#### **4.2. Linking the PIWBS Constructs to Pacific Research**

As can be seen in Table 2, many of the factor means of the PIWBS are positively correlated. This was to be expected as the five factors represent distinct but interconnected factors of an overall psychological experience of Pacific peoples. This sits well with the holistic nature in which Pacific identities and wellbeing are conceptualized within Pacific research. The PIWBS can be seen as an empirical operationalization of the Pacific models of health and qualitative research that have been presented within this study. For example, the Fonofale model (see Fig. 1) represents distinct aspects important for Pacific health and

wellbeing (e.g. family, spirituality, society) that exist within a dynamic and interrelated relationship with each other. The PIWBS allows for these constructs to be measured, which opens avenues to empirically explore how aspects of Pacific identity and wellbeing are related within cultural context.

The five PIBWS dimensions have direct links to previous Pacific conceptions of identity and wellbeing, as expressed in various and diverse research traditions. For instance, the centrality of a Group Membership Evaluation factor in concepts of Pacific identity is highlighted in the Pacific literature through Pacific youth displaying ethnic pride and placing importance on Pacific values (Mila-Schaaf et al., 2008). This factor may also reflect Anae's (1998) concept of a secured identity in that being a Pacific individual may be a normative way that one defines their self, in spite of potential conflicts that one can face in regards to identity. From a psychological perspective, the two elements of positive affect and centrality are important aspects of ethnic identity (Phinney, 1990; Sellers et al., 1998). Positive attitudes towards one's group indicate that an individual has an investment in their ethnic identity from which they derive positive affect. The Group Membership Evaluation factor can also be likened to the centrality component of the Multidimensional Model of Racial Identity (MMRI: Sellers et al., 1998) where being a member of the Pacific group is a normative way that one describes the self.

The Pacific Connectedness and Belonging factor highlights how connections with others and a sense of belonging are central in Pacific research and important to the Pacific self-concept. It is the shared experiences that individuals have that led to an emerging Pacific identity (Anae, 1998; 2001; Macpherson, 1996; Mila-Schaaf, 2010). From a psychological perspective, the Pacific Connectedness and Belonging factor addresses the fundamental need to belong (Baumeister & Leary, 1995) and the affirmation and sense of

belonging component of ethnic identity (Phinney, 1990). Similar factors of affirmation and belonging can be found in the MEIM (Phinney, 1992) and MMM-ICE (Houkamau & Sibley, 2010).

The Religious Centrality and Embeddedness factor is indicative of the importance that religion and spirituality have as important aspects in the formation and maintenance of individuals Pacific identities (Anae, 1998; Tiatia, 1998; Mila-Schaaf, 2010) and as part of the holistic self (Ministry of Health, 1995; Kupa, 2009). It is important to note that this factor is framed around religion and not spirituality from a traditional Pacific perspective. Traditional aspects of Pacific spirituality may have an influence on identity for Pacific peoples; however items relating to indigenous spirituality did not load well on any of the factors we extracted. A religious aspect to ethnic identity is acknowledged by Phinney (1990) in ethnic specific identity scales. This is because for many cultures, like Pacific cultures, religion and religious practices may play an influential role in everyday lives. Religious Centrality and Embeddedness is similar to both the Salience and Centrality components of Sellers et al.'s (1998) MMRI in that it refers to the extent that religion is a relevant part of the self-concept and a normative way that one defines their self in regards to ethnic identity.

The Perceived Familial Wellbeing factor highlights the importance of familial relations and the concept of family for Pacific wellbeing. Items regarding parental relationships are drawn from the work of Tiatia (1998) and qualitative research with Pacific individuals. The relationships that Pacific peoples have with their parents are very important, as it is the parents who often exercise authority and invest into their children and is reflective of the gerontocratic nature of many Pacific cultures. Some items were adapted from the Personal Wellbeing Index (Cummins et al., 2003) and oriented towards Pacific family values identified by the Pacific research. The item referring to satisfaction

with one's family's happiness represents an affective evaluation of the family's happiness as a whole which is also consistent with one of the hallmarks of Diener's (2009) conceptualization of wellbeing.

The Perceived Societal Wellbeing factor highlights the importance of social contexts and relationships with non-Pacific others as an interwoven component in the overall health, wellbeing and identity for Pacific peoples, as identified by various Pacific models of health and wellbeing (Ministry of Health, 1995; Kupa, 2009) and Pacific identity literature (Anae, 1998; 2001; Tiatia, 1998; Mila-Schaaf, 2010). Research on the importance of social organizations and structures, such as education, community and health services, also highlights the importance of perceived social support for Pacific peoples (Arlidge et al., 2009; Brown et al., 2007; Carter et al., 2009b). From a psychological perspective, Perceived Societal Wellbeing may reflect acculturation, although is not a direct assessment of acculturation strategies as derived by Berry (1997). Items for Perceived Societal Wellbeing were influenced by Berry's acculturation model and the Personal Wellbeing Index (Cummins et al., 2003) to gauge how supported one feels within the more specific domains of community and society. Perceived satisfaction of support and relationships within various levels of NZ society can reflect how integrated a Pacific individual perceives their self to be in NZ.

#### **4.3. *Potential Applications and Directions for Future Research***

The way identities of Pacific peoples have changed, and are changing, will have important ramifications in the future, particularly as the Pacific populations in NZ continue to grow. Longitudinal research on the identity and wellbeing of Pacific peoples in NZ will be beneficial to furthering our understanding of Pacific peoples. For example, early phases of a recent longitudinal study indicate that Pacific peoples showed a high level of change in their

self-ascribed ethnic affiliation over time (Carter et al., 2009a). By utilizing a tool such as the PIWBS, it should be possible to observe potential changes in ethnic identity and wellbeing over time with a more detailed lens, aiding our understanding of future issues that Pacific peoples may face.

Pacific-based interventions designed to improve health outcomes and reduce health and other disparities could benefit from an understanding of psychological mechanisms of identity and wellbeing as assessed by the PIWBS. For example, a study on treatment interventions by Pacific healthcare workers dealing with Pacific clients with alcohol and drug issues showed that measuring outcomes was viewed as foreign (Robinson et al., 2006). This was because the outcome as assessed by the Pacific healthcare worker was deemed to be just as important as the process of the intervention. Some researchers have expressed difficulty in translating Western tools of measurement into an appropriate Pacific context (Robinson et al., 2006). By utilizing a Pacific derived tool from a Pacific perspective, we hope that valid and reliable assessments can be conducted in a culturally appropriate way to evaluate outcomes for Pacific peoples.

We encourage researchers to continue to adapt and tinker with the items in the PIWBS. We view scale development as a continual and gradual processes of refinement in both construct definitions and assessment. This is only the first iteration of the scale, and other researchers may well identify additional factors that we have missed here, or other items that further improve the reliability of the scale. In particular, we failed to reliably identify a factor assessing cultural efficacy in the PIWBS. We initially speculated that such a factor would reflect cultural engagement and language, but may be difficult to capture due to the variability of cultural practices and language proficiency amongst the various Pacific groups. We included various items in an attempt to assess this construct but they did not

form a coherent factor in our analyses. This is likely because cultural efficacy is highly culturally specific. The assessment of cultural efficacy for Samoan people, for example, may be different in its content than that for Tongan peoples. The PIWBS, in contrast, is a pan-Pacific scale in construct, aimed at being relevant equally for all Pacific peoples. Future research could seek to extend our model by developing measures of cultural efficacy for specific Pacific groups.

#### ***4.4 Practical recommendations for administering the PIWBS***

The PIWBS is an instrument developed specifically for use in a within-cultural Pacific framework. The PIWBS can be used to explore issues surrounding identity and wellbeing of Pacific peoples in NZ. As such, it provides a method for comparing outcomes for Pacific peoples from different Pacific groups. It is important to emphasize that this is the level of comparison provided by the scale. In contrast, for research interested in comparing Pacific groups with other ethnic or cultural groups (for example, comparisons with Maori, Asian peoples, NZ Europeans or Australians) it would be necessary to use a more general and culturally non-specific measure. In our view, both within-culture and between-culture assessments have considerable utility. A more general measure necessarily misses specific cultural content while allowing valid comparisons. A more culture-specific measure, such as the PIWBS, provides a richer and more detailed assessment within a specific cultural group, but because of its cultural specific content, does not allow comparisons with other (non-Pacific) cultural groups.

It is important to clarify that the PIWBS does not split individuals into high and low levels of identity and wellbeing. The PIWBS does not provide categorical yes/no assessments of identity. Rather, scores on the various factors should be viewed as a continuum. Care should also be taken when interpreting factor scores in relation to each other. For example,



if an individual scores towards the lower end of the Religious Centrality and Embeddedness factor, this is not to mean that they have a weaker ethnic identity, but rather that religious aspects may not be a defining feature of that individual's Pacific self-concept in that point in time. We hope that the PIWBS will provide an avenue for future research investigating the components of ethnic identity and wellbeing and how they may relate to each other.

#### **4.5. Concluding Comments**

We wish to conclude on a personal note. The PIWBS aims to provide a culturally appropriate tool to inform empirical research on issues surrounding the identity and wellbeing of Pacific peoples in NZ. The strength of the PIWBS lies with its emic vantage point and the integration of Pacific and psychological research. Pacific research in psychology is a growing area. As both Pacific and Palagi researchers, we hope that this scale will provide a way to reliably and systematically measure Pacific psychological constructs and provide an empirical basis for work in Pacific identity and wellbeing. Furthermore, we hope that the scale will contribute to a general Pacific psychology, rather than just research that happens to study Pacific peoples. For many Pacific peoples and Pacific researchers, story-telling is vital means of expressing one's self, understanding and learning about ourselves, others, and our cultures. This scale provides a way for the Pacific voice to be heard through the development of valid and reliable psychometric measures.

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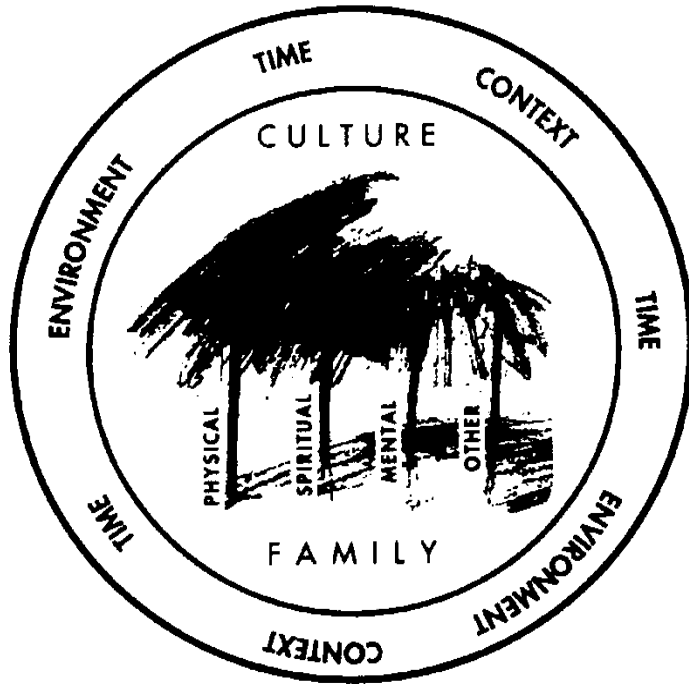


Fig 1.

Pulotu-Endemann's Fonofale model (Minsitry of Health, 1995).



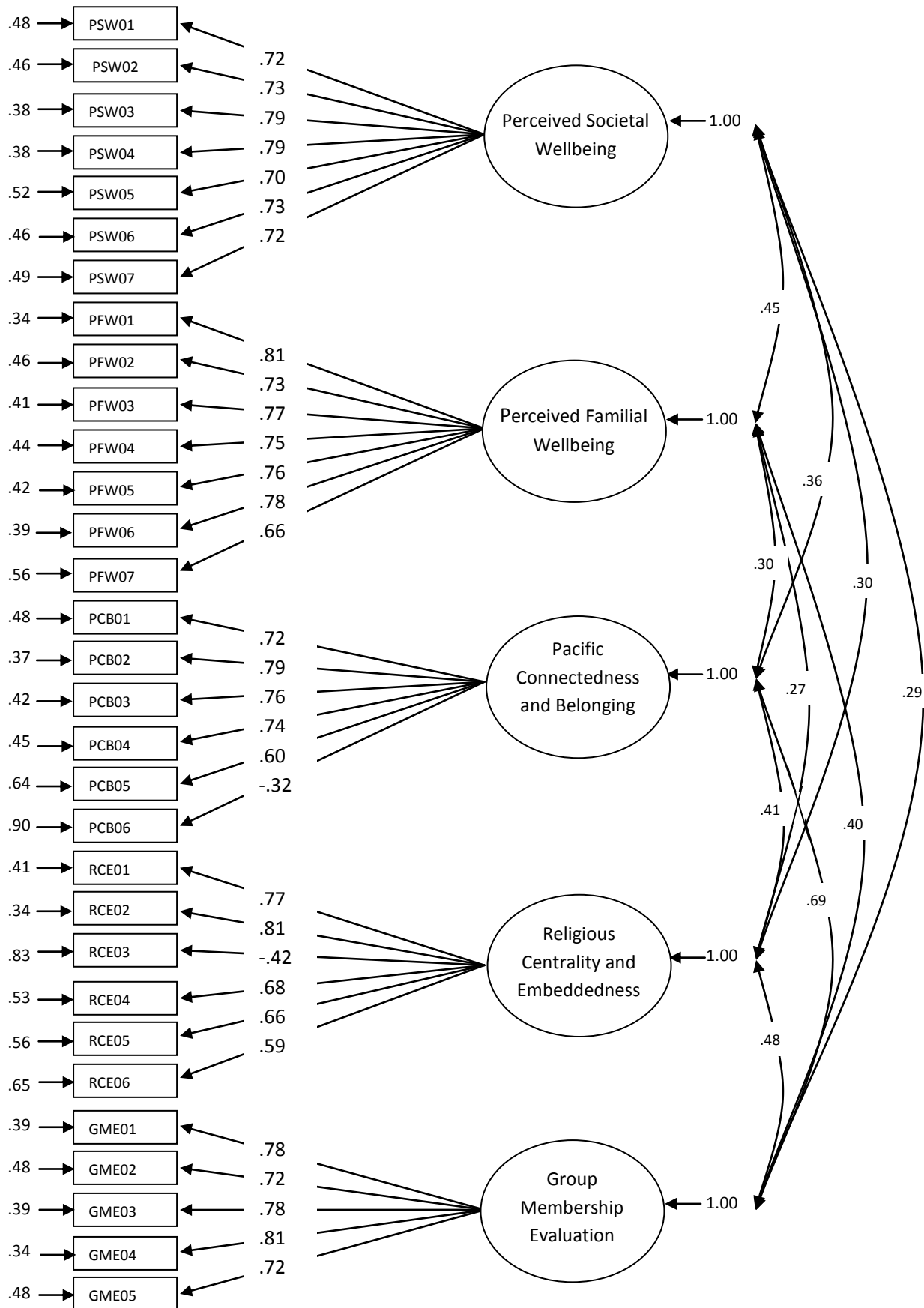


Fig. 2.

Confirmatory Factor Analysis of the Pacific Identity and Wellbeing Scale (with standardized parameter estimates).

Table 1.

Item content and factor loadings (from the pattern matrix) for the Pacific Identity and Wellbeing Scale using Maximum Likelihood Exploratory Factor Analysis with oblique rotation.

		Factor				
		1	2	3	4	5
<b>Perceived Societal Wellbeing (PSW)</b>						
PSW01	Support provided by the New Zealand government to you as a Pacific Islander.	<b>.86</b>	-.21	-.07	.04	.02
PSW02	Your position in New Zealand as a Pacific person.	<b>.84</b>	.04	-.02	.02	-.04
PSW03	The support you receive as a Pacific Islander in New Zealand.	<b>.81</b>	.01	.05	.08	-.04
PSW04	Your personal needs being met by New Zealand.	<b>.81</b>	.02	-.12	.03	-.07
PSW05	Your relationship with New Zealand society.	<b>.75</b>	.06	-.07	-.05	.04
PSW06	The support you receive as a Pacific Islander in the community you live in.	<b>.71</b>	-.06	.12	-.02	.09
PSW07	The support you receive in the community you live in.	<b>.69</b>	.11	.14	.01	-.07
<b>Perceived Familial Wellbeing (PFW)</b>						
PFW01	Your relationship with your parents	-.21	<b>.89</b>	.00	.00	-.03
PFW02	Your position in your family.	-.05	<b>.81</b>	-.07	.07	.00
PFW03	The respect you give for your parents.	-.05	<b>.80</b>	-.02	.00	-.06
PFW04	Communication with your family.	.05	<b>.79</b>	.01	.03	-.11
PFW05	The respect you receive from your family.	.04	<b>.75</b>	.17	.01	-.07
PFW06	Your family's happiness.	.15	<b>.63</b>	-.03	-.08	.24
PFW07	Your family's security.	.27	<b>.59</b>	-.08	-.06	.10
<b>Pacific Connectedness and Belonging (PCB)</b>						
PCB01	I feel at home around other Islanders, even if they are not from my island.	-.05	-.02	<b>.88</b>	.01	.00
PCB02	I feel connected to other Pacific peoples in general.	.07	-.03	<b>.86</b>	.01	.01
PCB03	I feel connected to people from a different Pacific island to myself.	.05	.02	<b>.83</b>	-.03	-.01
PCB04	I feel comfortable in places with lots of other Pacific peoples.	-.08	.00	<b>.74</b>	.01	.01
PCB05	I feel most comfortable in Pacific communities.	-.07	.01	<b>.56</b>	.14	.01
PCB06	I don't get along with other Island groups.	-.07	-.04	<b>-.45</b>	.14	-.09
<b>Religious Centrality and Embeddedness (RCE)</b>						
RCE01	Going to church is part of my culture and religion.	.01	.06	.05	<b>.83</b>	.00
RCE02	God has a strong connection to my culture.	.01	.03	-.03	<b>.81</b>	.11
RCE03	Religion is not important for my culture.	.14	-.04	.04	<b>-.81</b>	-.01
RCE04	Our religion is the centre of our culture as Pacific Islanders.	.05	-.01	-.11	<b>.72</b>	.01
RCE05	Part of being a Pacific Islander is having a connection with God.	.09	-.02	.05	<b>.61</b>	.10
RCE06	Religion is the root of our Pasifika culture.	.14	-.07	.09	<b>.59</b>	-.16
<b>Group Membership Evaluation (GME)</b>						
GME01	The fact that I am an Islander is an important part of my identity.	-.04	.03	.05	-.02	<b>.83</b>
GME02	Being an Islander is an important part of how I see myself.	-.03	-.05	-.07	.05	<b>.78</b>
GME03	I am glad to be a Pacific Islander.	.12	.02	.06	-.07	<b>.77</b>
GME04	Being a Pacific Islander gives me a good feeling.	.05	-.01	.09	-.02	<b>.75</b>
GME05	I am proud to be a Pacific Islander.	-.15	-.06	.03	.09	<b>.72</b>

*Note.* Items are sorted in order of magnitude according to primary loading. Factor loadings > .30 are printed in bold.

Table 2.

Descriptive statistics and bivariate correlations between scale (mean scores) for measures in Study 1 and Study 2.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Gender (0 Male, 1 Female)		.00	.01	-.09	-.06	-.04	-.03	-.05	-.06
2. Age	-.04		.41*	-.03	-.06	-.03	-.04	.07	-.07
3. Born (0 NZ, 1 Overseas)	.18*	.08		-.01	-.14*	.07	-.04	.11*	.00
4. Religious (0 Yes, 1 No)	.00	-.02	-.15		-.11*	-.19*	-.10*	-.40*	-.20*
5. Perceived Societal Wellbeing	.00	-.11	.04	.02		.42*	.30*	.26*	.26*
6. Perceived Familial Wellbeing	.14	.01	.08	-.02	.42*		.25*	.26*	.35*
7. Pacific Connectedness and Belonging	.20	.17*	.20*	-.18*	-.06	.04		.34*	.59*
8. Religious Centrality and Embeddedness	.07	-.16	.15	-.44*	.29*	.19*	.25*		.40*
9. Group Membership Evaluation	.12	-.04	.10	-.17*	.14	.19*	.55*	.39*	
Study 1									
<i>M</i>					4.90	5.94	5.55	5.00	6.27
<i>SD</i>					1.21	1.02	1.05	1.47	.93
<i>Skewness</i>					-.01	-.79	-.96	-.79	-2.01
<i>Kurtosis</i>					-.40	-.43	2.09	.13	6.24
<i>Cronbach's alpha</i>					.92	.90	.87	.88	.89
Study 2									
<i>M</i>					4.96	6.10	5.71	5.71	6.35
<i>SD</i>					1.10	.90	.99	1.10	.85
<i>Skewness</i>					-.04	-1.56	-.90	-.86	-1.90
<i>Kurtosis</i>					-.25	3.59	1.22	.40	4.56
<i>Cronbach's alpha</i>					.89	.90	.79	.81	.87

*Note.* The lower half of the correlation matrix represents the correlations for the measures in Study 1. The upper half of the correlation matrix represents correlations for the measures in Study 2. The means for all scales ranged from 1 (low) to 7 (high). Study 1  $n = 143$ , study 2  $n = 443$ , \*  $p < .05$

Table 3.

Fit indices for the hypothesized five-factor PWIBS model and alternative models.

	$\chi^2$ (df)	CFI	NNFI	IFI	sRMR	RMSEA
<b>Hypothesised five-factor model</b>	<b>1237.88 (424)</b>	<b>.96</b>	<b>.95</b>	<b>.96</b>	<b>.053</b>	<b>.066</b>
Alternative models						
Single-factor model	7497.09 (434)	.78	.76	.78	.130	.190
Two-factor model (wellbeing and identity)	4812.93 (433)	.85	.84	.85	.100	.150

*Note.* The hypothesised model is presented in Figure 2. CFI = Confirmatory Fit Index, NNFI = Non-Normed Fit Index, IFI = Incremental Fit Index, sRMR, standardised Root Mean square Residual, RMSEA = Root Mean Square Error of Approximation.  $n = 443$ .

**Appendix**  
**The Pacific Identity and Wellbeing Scale**

Do you identify as a Pacific person?

- Yes  
 No

Do you have Pacific ancestors?

- Yes  
 No

This survey contains a list of statements about how satisfied you are with aspects of your life, and what you think being a person of Pacific descent means to you personally. It is only relevant to people who answered ‘Yes’ to the above questions.

All of the statements are opinions. The scale has been designed in a way that you will most likely agree with some statements but disagree with others to varying degrees. This is because we want to measure a wide range of different opinions and views on peoples’ satisfaction with their lives and what it means to be a Pacific person. There are no right or wrong answers. Please try to answer the questions as honestly as you can. The best answer is your own opinion, whatever that may be.

The survey is in two sections. In the first section, if you feel completely satisfied in that area of your life you would select a number close to 7. If you feel neutral about that area of your life, you would select a number close to 4. If you are completely dissatisfied with that area of your life, you would select a number close to 1.

		Completely Dissatisfied			Neutral		Completely Satisfied	
1.	Support provided to you by the New Zealand government to you as a Pacific Islander.	1	2	3	4	5	6	7
2.	Your relationship with your parents.	1	2	3	4	5	6	7
3.	Your position in New Zealand as a Pacific person.	1	2	3	4	5	6	7
4.	Your family’s security.	1	2	3	4	5	6	7
5.	Your personal needs being met by New Zealand.	1	2	3	4	5	6	7
6.	The respect you give for your parents.	1	2	3	4	5	6	7
7.	The support you receive as a Pacific Islander in the community you live in.	1	2	3	4	5	6	7
8.	The respect you receive from your family.	1	2	3	4	5	6	7
9.	Your relationship with New Zealand society.	1	2	3	4	5	6	7
10.	Your position in your family.	1	2	3	4	5	6	7
11.	The support you receive in the community you live in.	1	2	3	4	5	6	7
12.	Your family’s happiness.	1	2	3	4	5	6	7
13.	The support you receive as a Pacific Islander in New Zealand.	1	2	3	4	5	6	7
14.	Communication with your family.	1	2	3	4	5	6	7

In this second section, please rate how you agree strongly you agree with the following statements. If you strongly agree with a statement, then you would select a number close to 7. If you feel neutral about a statement, then you would select a number close to 4. If you strongly disagree with a statement, then you would select a number close to 1.

	Strongly Disagree		Neutral			Strongly Agree	
	1	2	3	4	5	6	7
15. I feel at home around other Islanders, even if they are not from my island.	1	2	3	4	5	6	7
16. Going to church is part of my culture and religion	1	2	3	4	5	6	7
17. The fact that I am an Islander is an important part of my identity.	1	2	3	4	5	6	7
18. I feel comfortable in places with lots of other Pacific peoples.	1	2	3	4	5	6	7
19. God has a strong connection to my culture.	1	2	3	4	5	6	7
20. Being and Islander is an important part of how I see myself.	1	2	3	4	5	6	7
21. I don't get along with other island groups.	1	2	3	4	5	6	7
22. Religion is not important for my culture.	1	2	3	4	5	6	7
23. I feel connected to other Pacific peoples in general.	1	2	3	4	5	6	7
24. I am glad to be a Pacific Islander.	1	2	3	4	5	6	7
25. Part of being a Pacific Islander is having a connection with God.	1	2	3	4	5	6	7
26. I feel connected to people from a different Pacific island to myself.	1	2	3	4	5	6	7
27. I am proud to be a Pacific Islander.	1	2	3	4	5	6	7
28. Religion is the root of our Pasifika culture.	1	2	3	4	5	6	7
29. Our religion is the centre of our culture as Pacific Islanders.	1	2	3	4	5	6	7
30. Being a Pacific Islander gives me a good feeling.	1	2	3	4	5	6	7
31. I feel most comfortable in Pacific communities.	1	2	3	4	5	6	7

*Scoring instructions for the Pacific Identity and Wellbeing Scale.* Reverse score the following items: 21 and 22. Average the following sets of items to calculate scores for each subscale: Perceived Societal Wellbeing: 1, 3, 5, 7, 9, 11, 13. Perceived Familial Wellbeing: 2, 4, 6, 8, 10, 12, 14. Pacific Connectedness and Belonging: 15, 18, 21, 23, 26, 31. Religious Centrality and Embeddedness: 16, 19, 22, 25, 28, 29. Group Membership Evaluation: 17, 20, 24, 27, 30.