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Pacific Psychometrics: Development, validation and application of the
Pacific Identity and Wellbeing Scale

Sam Manuela

A thesis submitted in fulfilment of the requirements for the degree of
Doctor of Philosophy in Psychology

University of Auckland, 2016

Abstract

The Pacific Identity and Wellbeing Scale (PIWBS: Manuela & Sibley, 2013) is a culturally appropriate, self-report measure for Pacific peoples in New Zealand. It is an integration of Western psychological theory and indigenous, Pacific concepts of the self, ethnic identity and wellbeing. In this thesis, I present five studies that extend upon the PIWBS model and apply it in a research context. In Study 1, I conduct a novel, top-down factor analytic method to show how the different factors of the PIWBS are hierarchically related to each other. The resulting model highlights how facets of Pacific identity and wellbeing can be understood at different levels of abstraction and specificity. In Study 2, I develop an additional subscale of Cultural Efficacy to assess the extent to which one feels they are able to participate within a Pacific cultural context. Confirmatory Factor Analysis provides evidence of a six-factor model and subsequent analyses show how the PIWBS factors are associated with behaviours, language confidence and health. In study 3, I conduct a multi-group confirmatory factor analysis to provide evidence that the model-fit indices of the PIWBS hold for separate Pacific groups. The results indicate that the tool can be used for specific Pacific groups. A further MANCOVA analysis shows no significant differences between four major Pacific Nations groups in New Zealand, except for differences in the factor assessing Religious Centrality and Embeddedness.

The next two studies show how the PIWBS can be applied in a research context and also provide evidence of convergent validity. Study Four explores differences in familial wellbeing between mono-ethnic and multi-ethnic Pacific peoples. This finding is replicated in an independent sample and shows how differences in wellbeing and self-esteem measures are explained by differences in warmth towards the Pacific group more generally. Study Five tests an identity buffering hypothesis across two independent samples, and shows that high

ethnic identity buffers the effects of perceived discrimination on various measures important to the overall wellbeing of Pacific peoples. The analyses suggest that ethnic identity is a protective factor for Pacific peoples.

The implications of the PIWBS are discussed in terms of its contribution to advancing both psychological and Pacific research. In addition, the underlying theoretical basis of the PIWBS is used to discuss how the integration of both psychological and Pacific knowledge can be used to establish directions toward Pacific psychologies.

Meitaki maata / Acknowledgements

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sacrificed a lot for me to be able to pursue this goal, and although it is my name that sits on the front of this thesis, it belongs to you all.

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Nature of contribution by PhD candidate	Conducted analyses, wrote article, managed publication process (revisions and responses to reviewers)
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Extent of contribution by PhD candidate (%)	90%
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CO-AUTHORS

Name	Nature of Contribution
Chris Sibley	Assistance with analyses, comments on drafts, proofreading

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Name	Signature	Date
Chris Sibley		23.03.2016

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Manuela, S., & Sibley, C. G. (2015a). The Pacific Identity and Wellbeing Scale – Revised (PIWBS-R). Cultural Diversity and Ethnic Minority Psychology, 21(1), 146-155. <http://dx.doi.org/10.1037/a0037536>

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Extent of contribution by PhD candidate (%)	90%


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Name	Nature of Contribution
Chris Sibley	Assistance with analyses, comments on drafts, proofreading

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Chris Sibley	Assistance with analyses, comments on drafts, proofreading

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Manuela, S., & Sibley, C. G. (2014). Why do Pacific people with multiple ethnic affiliations have poorer subjective wellbeing? Negative ingroup affect mediates the identity tension effect. <i>Social Indicators Research</i> , 115(1), 319-336. DOI: 10.1007/s11205-012-0220-8	
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Extent of contribution by PhD candidate (%)	90%


CO-AUTHORS

Name	Nature of Contribution
Chris Sibley	Assistance with analyses, comments on drafts, proofreading, designed the broader NZAVS, which this study analyses data from.

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Study 5 is an unpublished manuscript that is yet to be submitted for revision.

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Extent of contribution by PhD candidate (%)	95%	

CO-AUTHORS

Name	Nature of Contribution
Chris Sibley	Assistance with analyses, comments on draft, designed the broader NZAVS, which this study analyses data from.

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- ❖ that the candidate wrote all or the majority of the text.


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I. INTRODUCTION

General Overview

I'm a fale PI

I'm a marae PI

I'm a living breathing dwelling of my ancestors PI

...

I'm a melting pot PI

an homogenous PI

I'm a skim milk green top fat free heterogeneous PI

...

I'm a vaka PI

I'm a star-charting PI

I'm navigating by nissan navara PI

These are three stanzas from a poem titled “Fast Talking PI” by Selina Tusitala Marsh (2009). The entire poem showcases a myriad of identities of Pacific peoples. Marsh carefully does not define who a Pacific person is, but instead highlights the inherent diversity of a wider collective. Her unflinching portrayal of contradictory selves within a single stanza highlight the complexity of identities for

Pacific peoples within New Zealand (NZ). Her poem embodies an area of research that is as complex and diverse as the identities she presents, that has been relatively understudied within psychology.

Pacific peoples generally are included in psychological research comparing ethnic groups within NZ, however Pacific focused psychological research is limited. In that respect, Pacific peoples have been the focus of research in other disciplines: anthropology, sociology, public health, and education to name a few. A common theme in Pacific research throughout these disciplines is identity. This thesis contributes to the growing literature on Pacific identity and wellbeing from a psychological perspective. Selina explored identity through poetry, a medium in which she is proficient. This thesis will also explore identity and wellbeing, however through a medium that I am proficient with – statistics. In this thesis, I present the Pacific Identity and Wellbeing Scale (PIWBS: Manuela & Sibley, 2013) as a research tool. I will present a series of studies that provide evidence of the validity of the PIWBS as a theoretical research model, one that is appropriate for use with Pacific communities in NZ, and provide examples of how it can be applied in a research context.

This thesis will be presented in four parts:

- I. Part One will set the scene of the historical and contemporary status of Pacific peoples in NZ. It will also review literature on both psychological and Pacific theories, understandings and assessments of ethnic identity and wellbeing. This will lay the foundations for the gaps in research that the PIWBS can fill.

- II. Part Two will be where I address the PIWBS as a valid and reliable psychometric tool. This will be done across three studies that highlight (1) how the PIWBS can be used as a potential research model, (2) an update of the PIWBS to include an additional domain of identity, and (3) how the PIWBS performs for specific Pacific groups represented in NZ.
- III. Part Three will show how the PIWBS can be applied to address specific research questions, and also provide evidence for the convergent validity of the tool. This will be done across two studies to show (1) Wellbeing across different Pacific identity orientations and (2) how identity can protect wellbeing against the negative effects of discrimination. Both of these studies will compare the findings of the PIWBS to those found using general measures of ethnic identity and wellbeing providing evidence of the convergent validity of the tool.
- IV. In Part Four I will offer a critical discussion of the PIWBS as a research tool and what this means for both Pacific and psychological research in general.

The studies presented in Parts Two and Three are articles that have been published in, or will be submitted to, peer-reviewed international and domestic journals. They will be presented in the thesis the way they have been published. Together the studies tell a story of developing, validating and applying the PIWBS to research. However, each study is read and presented in their respective journals as a stand-alone piece of work. As such, the introductory section of each study is quite similar in that they provide the context of Pacific peoples in NZ for which the study is based, in addition to a description of the PIWBS tool itself. This can make for

repetitive reading, however the aims of each paper are distinct and unique.

Furthermore, the order in which each of these publications are presented in the thesis are not the same as the order in which they were published. As such, there will be times where I may reference a paper that is presented later in the thesis. This is necessary for the thesis to have a logical structure. Although the studies are not presented in the order that they were published, they are presented in the order in which they should be read.

Kia orana - Myself as a researcher

Before getting into the nitty-gritty of this thesis, you should know a bit about me. My name is Sam Manuela. My mother is European, hails from the small farming community of Te Kuiti, and is of Scottish and Danish descent. My father is Cook Island, hailing from the small village of Nikao in Rarotonga, Cook Islands. My parents did not stay together and I was raised by my wonderful mother in the melting-pot of Auckland city, where I have lived my entire life. I have a blended family with many brothers and sisters - all with different parents – but this complex family structure is something that I treasure. I am the first in my family to attend university, which is not an uncommon story for many Pacific tertiary students. I carry with me the hopes, dreams and sacrifices they have made to help me get here. My academic background is with the sciences. I have dabbled a bit in biology, quite a bit in statistics, but my main focus is psychology. I have a strong passion and desire for my Pacific community to succeed and this research is a small part of helping to achieve that goal.

It is important for you to know this about me, because that is how we do things. I am within the field of psychology, but I am a Pacific researcher first and

I. INTRODUCTION

foremost. We need to be able to connect and acknowledge the va (relational space) between us, so that we can talanoa (speak freely). You would also tell me about yourself, however through the confines of a thesis, the conversation can only go in one direction. This is the way things are generally done throughout the Pacific, not just in research, but in general everyday life. When we first meet, we will usually talk about where we are from so we can see how we are connected. It is a way of life that is hard to do with a thesis but it is something that I am not comfortable without. I guess this would be easier if I were conducting qualitative research and I would need to explain my position, the viewpoints and the biases that could influence the interpretation of my results. Regardless, now that you know a little bit about me, you can hopefully see that the research I present in this thesis is not something that I view objectively. I bring to this research my expertise with statistical analyses, my background in psychology and my cultural worldview as a multi-ethnic Cook Islander to offer and discuss a new direction of assessing the identity and wellbeing of Pacific peoples.

Pacific Peoples: A brief history and a current snapshot

In this section, I will give a brief history of Pacific peoples in NZ and provide a snapshot of the contemporary status of this diverse community by reviewing demographic statistics from the latest NZ census. This is to set the scene of the population that I am working with. Following this, I will review literature about ethnic identity and wellbeing from the perspectives of both Pacific researchers and psychology. This will include theoretical understandings of the constructs, models and some discussion about assessments. This will identify a gap in the research between both Pacific and psychological findings on identity and wellbeing that the Pacific Identity and Wellbeing Scale fills.

As a minority group, Pacific peoples are widely integrated into the social fabric of NZ. Pacific people are represented in media programming with Pacific characters in primetime television shows, and have a strong presence in sporting arenas, theatre, music, dance and art (Anae, 2006; 2007). Pacific peoples also occupy important political, business and academic positions. In spite of these achievements, Pacific peoples fare unequal outcomes in other areas of life. In a report on inequality in NZ, it was found that the gap between Pacific and Europeans increased in many social inequality indicators (including health, knowledge and skills, employment, standards of living and social connectedness) since the last report in 2004 (Marriot & Sim, 2014). The current status of Pacific peoples in NZ is best understood within the historical, socio-political and contextual factors that have shaped who they are today.

Defining Pacific Peoples

Throughout this thesis, I use the term ‘Pacific peoples’ to describe those that self-identify with a Pacific Island nation. Although this term can be inclusive of those that reside in the wider diaspora, in the context of this thesis it refers to those that identify their ethnicity with a Pacific Island Nation and reside in NZ. This is inclusive of the major Pacific groups represented in NZ (Samoa, Cook Islands, Tonga, Niue, Fiji, Tokelau and Tuvalu) in addition to other Pacific Nations that are represented in NZ with smaller populations (for example, Papua New Guinea, Kiribati, and Hawai’i). However, it is exclusive of Māori who are tangata whenua in this land in order to recognize the differences in the historical and socio-political experiences that these groups have with NZ society. Furthermore, ‘Pacific peoples’ does not refer to a single, homogenous group. Rather, it is important to note that my use of this term encompasses both the inter and intra ethnic variation present within all the Pacific Nations that reside within NZ.

Coming to New Zealand

As a country in the South Pacific, NZ has had a long history with its Pacific neighbours. Cook Islands and Niue were both under the responsibility of NZ until they become self-governing, but in free association in 1965 and 1974 respectively. All those that are Cook Island or Niue citizens are also citizens of NZ. Today, there are more Niueans living in NZ than there are in Niue. The same population pattern can be found between Cook Islands and NZ. Samoa was under German rule until NZ seized and gained control in 1914 after which a UN mandate put Western Samoa under NZ administration in 1918. This was until the Mau movement led to Samoa gaining independence from colonial rule in 1962. Tonga and Fiji’s relationship is less

extensive, however immigration has also been occurring with schemes to recruit workers since 1970s.

Pacific peoples have been present in NZ since the early 1900's with the very first small number of migrants. The first major wave of Pacific peoples migration occurred during the post WWII era where NZ experienced an industrial expansion that increased a demand for labour (Krishnan, Schoeffel & Warren, 1994). The Pacific presence in NZ steadily increased with about 8000 people in the 1950s to around 66,000 by the 1970s. This increase in population was fuelled by both migration and increasing birth rates amongst the newly established Pacific populations.

Perhaps the single most influential aspect of the Pacific presence in NZ was the creation of the "Pacific Islander" This was a term that did not exist until Pacific peoples started moving to NZ (Anae, 2001). It came about as NZ tried to make sense of this new population, and how they could provide services or be managed (Macpherson, 1996). Terms such as "Pacific Islander" became common in public discourse and essentially homogenized the diverse groups of Pacific peoples into a single body. The result of this was a new identity that was created and forced on to Pacific peoples, despite Pacific peoples not viewing their selves in this way (Macpherson, 2001).

Pacific peoples identified their selves in terms of their family, village, religious affiliation and nation of origin rather than a single Pacific group (Macpherson, 1996; 2001). Whilst Pacific peoples were well aware of the social differences between and within their respective Pacific cultures, there was a lack of understanding of the cultural, linguistic and historical diversity of Pacific peoples by

NZ society. Furthermore, the differences between Pacific peoples were difficult for non-Pacific people to identify. Although the term “Pacific Islander” was imposed and not identified with, at times Pacific peoples had to accept it in order to gain access to government resources.

A single Pacific community would have had the advantage of providing a strategic way forward. However, there were internal barriers that prevented a single, well-defined body to come to fruition. First, there was varying levels of English proficiency which made communication through a common language difficult. This led to those with good English speaking skills to represent the various communities, however there was division on who should represent as some felt it should be people of higher status. Furthermore, Pacific peoples themselves now found they were having to contend with the diversity amongst themselves, especially as intermarriage with non-Pacific and Pacific peoples increased (Macpherson, 1996).

As the years moved on, what it meant to be a Pacific person in NZ began to change. Chain migration was occurring where longer-term Pacific residents were assisting family members back in their homelands with attaining accommodation and employment (Pitt & Macpherson, 1974). Alongside this was a burgeoning generation of Pacific peoples that were being born and raised in NZ. The experiences of the NZ-born and NZ-raised generations were different from those that had paved the way before them. Whereas once there were barriers to cohesion, the common experiences shared by the NZ-born generations allowed for the organic creation and adoption of a new (although difficult to define) identity that was different from both their parents and non-Pacific peoples (Macpherson, 1996).

Pacific Peoples Today

Pacific peoples are the second fastest growing ethnic minority group in NZ. Table 1 shows a demographic breakdown of the Pacific populations from the 2013 NZ census. As a whole, Pacific peoples comprise approximately 7.4% of NZ's population. Those that indicate ethnic affiliation with Samoa comprise over 50% of the Pacific population. This is followed by Cook Islands, Tonga, Niue, Fiji, Tokelau, Tuvalu and other Pacific Nations in descending order. The Tongan population is increasing at a faster rate than Cook Islands and will most likely surpass them to become the second largest Pacific group in NZ by the next census. Population growth has slowed for Pacific peoples as a whole, however they are still the second fastest growing group.

Pacific peoples have a youthful age structure, with a large proportion of each population aged 15 years or under. As a whole, the median age for Pacific peoples is 22.1 years, compared to 38 years for the general NZ population.

Pacific peoples are a diverse group, and their diversity is increasing with larger numbers of individuals identifying with multiple ethnic groups. Those that identify with two or more ethnic groups tend to be younger and born in NZ, whilst those that identify with a single group tend to be older and born overseas. This highlights an increasing trend of ethnic intermarriage between Pacific and non-Pacific groups.

In terms of country of birth, Pacific peoples are becoming increasingly NZ-born, with approximately 60% of the population born in NZ. Younger Pacific peoples tend to be born in NZ, whilst older individuals tend to be born overseas. Of those born

overseas, there is a strong likelihood of having been born in their respective Pacific homeland.

Pacific language use varies across the Pacific groups. Nearly three quarters of both Cook Island and Niuean individuals speak only one language (English) compared to around half of all other Pacific groups. Of those that speak two or more languages, over 90% speak the language associated with their ethnicity. Those that are older and born overseas are more likely to speak their Pacific heritage language.

As a group, Pacific peoples are highly religious. 79.7% of Pacific peoples affiliated with at least one religion compared to 55% of the NZ population in general. Within the Pacific groups, Cook Islands and Niueans have the lowest religious affiliation, however religious affiliation has slightly decreased across all groups since the 2001 and 2006 census.

Table 1 *Demographics of the seven largest Pacific Nations from the 2013 New Zealand census.*

		Samoa	Cook Islands	Tonga	Niue 23,88 3	Fiji	Tokelau	Tuvalu
Population ¹		144,138	61,839	60,336	3	14,445	7,176	3,537
Age ²	>15	36.5	38.9	40.8	38.8	29.4	39.9	41.5
	15-29	25.8	26.5	24.7	25.5	26.6	26.1	23.9
	30-64	33.1	30.4	30.2	31.2	39	29.9	31.4
	65+	4.6	4.2	4.3	4.4	4.9	4.1	3.1
Median Age		21.5	20	19.4	20.4	26.3	19.2	19.2
Ethnic Groups ³	1	62	47.7	67.7	34.5	56.2	37.5	75.7
	2	23.9	31.8	19.8	37.3	25.6	38.2	16.8
	3+	14.2	20.5	12.5	28.1	18.2	24.3	7.5
Birthplace	NZ	62.7	77.4	59.8	78.9	39.9	73.9	46.5
	Overseas	37.3	22.6	40.2	21.1	60.2	26.1	53.4
	Pacific ⁴	93.8	91.8	93.1	83	96.5	69.6	73.1
Languages Spoken	1	45.4	75.9	45	70.5	54.4	54	32.6
	2	48.5	18.7	47.7	23	36.4	26.4	49.7
	3+	3	2.6	3.7	3.6	6.3	16	13.5
Religion	At least one	84.3	65.1	88.1	65.9	82.9	83.4	92.6
	No religion	14.2	30.7	9.8	29.7	14.9	13.8	4.6
Formal Qualification ⁵		73.3	62.7	67.9	67.1	84.9	68.6	61.2
Median Income ⁶		\$20800	\$18900	\$15300	\$2130 0	\$25700	\$18000	\$14600

¹ Total count of those that identify with ethnic group, inclusive of those with multiple ethnicities.

² Values represent the percentage within each age bracket.

³ Values represent the percentage that identify with the ethnic group in the column solely, or in addition to another ethnic group.

⁴ Values represent the percentage of those born overseas that were born in their respective Pacific Nation.

⁵ Values represent the percentage of those aged 15 years or older.

⁶ For those 15 years or older.

The demographics of Pacific peoples are changing. The Pacific population today is vastly different from the initial population that arrived in NZ. Today's Pacific peoples are younger, increasingly NZ-born, increasingly multi-ethnic and less likely to speak a Pacific language. They are still highly religious relative to other ethnic groups in NZ, however religious affiliation has also decreased over time. The changing and increasingly diverse demographics of an already diverse population is going to have important ramifications for both understanding and researching Pacific ethnic identities, cultures and wellbeing over time. Population projections estimate that Pacific peoples will make up approximately 10.9% of NZ's population by 2038, and that this will be driven by a combination of a high fertility rate and ethnic intermarriages (MacPherson, 2015). Given Pacific peoples youthful age structure, compared to the aging structure of the general NZ population, Pacific peoples will comprise a significant portion of the working age group in future years. It is important that we understand the ethno-cultural identity of Pacific peoples in the rapidly changing NZ setting to ensure the best outcomes for a group with current comparatively worse outcomes, but who will be playing an increasingly larger role in NZ's future.

Psychology of Pacific Peoples

There is a constant need for Pacific perspectives within psychology. At present, the majority of psychological research with Pacific peoples' concerns mental health. The 2006 NZ mental health survey showed that prevalence of mental disorder was higher for Pacific peoples relative to the general NZ population (Wells *et al.*, 2006). More recently, results from the 2014/2015 New Zealand health survey showed that Pacific adults showed lower rates of having been diagnosed with a mood and/or anxiety disorder (Ministry of Health, 2015). Despite this, Pacific adults were 1.6

times more likely than non-Pacific adults to have experienced higher levels psychological distress within the last four weeks, which is an indication of an anxiety or depressive disorder (Ministry of Health, 2015). That Pacific peoples (along with Māori) experience higher rates of mental disorder highlights the growing need for Pacific focused psychological research.

Developments in the mental health workforce have shown increasing demand to meet the needs of Pacific clients. For Pacific consumers of mental health resources, practices that were family oriented, community based and involved culturally competent mental health workers were important and beneficial (Sualii-Sauni *et al.*, 2009). Therapeutic practices that incorporate Pacific cultural values have also been developed to assist practitioners working with Pacific clients, by outlining the importance of acculturation and intergenerational differences in addition to appropriate ways of building rapport with Pacific clients (Te Pou, 2010). Furthermore, studies have been conducted to ensure that psychological measures are appropriate for use with Pacific peoples including measures to assess cognitive ability after traumatic head injuries (Faleafa, 2009), post-natal depression (Ekeroma *et al.*, 2012) and adapting assessment tools to the needs of specific Pacific populations (Ballard, Taumoefolau & Charters, 2013).

Progress towards addressing the needs of Pacific peoples in the mental health sector is improving. However, most research within psychology has been limited to mental health. Given the ethnic disparities and identification of mental health as a significant health issue for Pacific peoples, this is not surprising. However, more research needs to be conducted to understand the psychological aspects of who Pacific peoples are and how they feel more generally. The PIWBS is a tool that was developed to meet this need. To understand the importance of this tool, I offer a

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review in the next section of both ethnic identity and wellbeing as constructs and their associated measures within psychology.

The Psychology of Ethnic Identity and Wellbeing

Ethnic identity and wellbeing have received considerable attention within psychology, particularly among ethnic minorities. The relationship between the two constructs has been well established. For example, a meta-analysis by Smith and Silva (2011) focused on ethnic identity and wellbeing amongst people of colour in North America, and documented over 114 studies showing an overall positive relationship ($r = .11$). By understanding the psychological perspective of ethnic identity and wellbeing, comparisons and parallels can be made to Pacific peoples and Pacific research in the NZ context. This section outlines and reviews psychological theories concerning ethnic identity and wellbeing, in addition to measures that are used to assess these constructs.

Ethnic Identity

Ethnic identity is a complex and multifaceted construct that can influence the way actions are perceived (Operario & Fiske, 2001), values (Gaines *et al.*, 1997) and world views (Cross, 1978). It is part of the self-concept that is a generally more salient feature for minority ethnic groups (Phinney & Ong, 2007). It can be understood under a variety of frameworks including Social Identity Theory (Tajfel & Turner, 1979), through the work of Phinney (1990), and in the way it can be a central or peripheral way of defining the self.

Social Identity Theory

Social Identity Theory (SIT: Tajfel & Turner, 1979; 1986) proposes that individuals categorise the world into social groups and define their self through their self-perceived membership within those groups. From an SIT perspective, individuals are striving to maintain a positive self-concept by making favourable comparisons of

their group membership to other groups, each of which can have positive or negative connotations attached to them. Under this framework, ethnic identity can be described as “*that part of an individual’s self-concept which derives from his [sic] membership of a social group (or groups) together with the emotional significance attached to that membership*” (Tajfel, 1981, p. 255). Pacific ethnic identity can therefore be viewed as self-perceived membership with a Pacific Nation, together with the emotional significance attached to being part of that Pacific group. Individuals would strive for a positive self-concept by making favourable comparisons of their ethnic group to other ethnic groups.

Defining ethnic identity under this framework comes with challenges. The connotations attached to social groups may influence how an individual appraises their group membership. For example, if a majority group holds a minority group in low regard, it is possible that identification with that minority group could have negative consequences for self-esteem (Verkuyten, 1998). Within NZ, there are many stereotypes attached to Pacific peoples who are rated by others with higher warmth, but lower competence relative to Europeans, Māori and Asians (Sibley *et al.*, 2009). From an SIT perspective, this could mean that identifying with one’s Pacific group could lead to a negative self-concept. In response, Tajfel (1978) proposed that individuals may strive to improve their own status by adopting characteristics of other groups, however this can be difficult to do for members of ethnically distinctive groups. Another alternative is that individuals can redefine the comparisons between their groups in a way that is beneficial to their ethnic identity (Brown, 2000). For example, Pacific adolescents highlighted that they were proud that they had a language other than English that made them unique (Webber, 2013). SIT offers a

framework for understanding ethnic identity as part of one's many social identities in the context of inter-group relations.

The perspectives of Phinney

Phinney's (1990) review of ethnic identity research draws on aspects of SIT, but also contextualizes the experiences of identification within an ethnic group.

Phinney proposes four major aspects of ethnic identity (1) self-identification with an ethnic group (2) a sense of belonging, (3) positive/negative attitudes towards one's ethnic group and (4) ethnic involvement such as cultural practices. Phinney suggests that ethnic identity is a general phenomenon that occurs across groups. Phinney (1989) also highlights a process of ethnic identity development for ethnic minorities with four different stages:

1. *Diffuse*: A beginning stage where there has been very little or no exploration of one's ethnic identity, or a clear understanding of the issues associated with it.
2. *Foreclosed*: Little to no exploration of one's ethnicity, however possessing some clarity about what it means. Depending on socialization experiences, this could be positive or negative.
3. *Moratorium*: Having explored ethnicity, with some confusion or questions about what it means.
4. *Achieved*: Exploration together with a secure understanding and acceptance of ethnicity.

Phinney's stages of ethnic identity development offers important insight into psychological adjustment and ethnic identity's relationship to wellbeing.

Evidence suggests that an 'achieved' identity is associated with optimum outcomes

and psychological adjustment including greater self-evaluations, mastery, and family relations (Phinney, 1989). These findings give evidence to ethnic identity's link to wellbeing and positive psychological outcomes. Although Phinney proposes that an 'achieved' identity is optimal, not all individuals reach or are in that stage. This could be because they are still in a diffuse/foreclosed or moratorium stage of ethnic identity. Or perhaps it could be that their ethnicity is not an important way of identifying the self.

Ethnic Identity Centrality

Another way of understanding ethnic identity is whether it is seen as a centrally defining aspect of the self-concept. The self-concept consists of many social identities each of which may differ in their salience or their centrality. In their discussion of psychological centrality, Rosenberg and Pearlin (1978) note that there are elements of the self-concept that are at the centre whilst others are peripheral, and the influence of that part of the self-concept depends on its central or peripheral position within an individual's cognitive structure. Indeed, the extent to which one's ethnicity or their ethnic identity is central to the self-concept is an important factor to consider. As such, measures of ethnic (Sellers, Smith, Shelton, Rowley & Chavous, 1998) and other social identities (Leach *et al.*, 2008) include factors assessing identity centrality.

The various definitions and understandings of ethnic identity seek to explain the construct in general terms as something that happens across all groups. It allows cross-cultural comparisons of the effects of ethnic identity on specific outcomes. However, what it is unable to do is focus on the more nuanced expressions and understandings of ethnic identity for specific ethnic groups. There has been a push within psychology towards more indigenous understandings of identity and how this

can relate to outcomes. This is evident in measures that assess cultural and ethnic identity for specific groups.

Measuring Ethnic Identity

There are a variety of scales used to assess ethnic identity ranging from those that can be used across groups, to those that are developed for specific ethnic groups. Each can be used according to their suitability for a research project.

General measures

General measures of ethnic identity allow comparisons across ethnic groups to be made. They are based on the assumption of ethnic identity being a universal psychological construct. The Multigroup Ethnic Identity Measure (Phinney, 1992) is a 14 item measure that was developed based on the three components of ethnic identity identified by Phinney (1990). It assesses self-identification, ethnic behaviours and affirmation. Research using the MEIM show that it as a reliable and valid measure (Ponterotto, Gretchen, Utsy, Stracuzzi & Sava, 2003; Worrell, 2000) that also shows suitable measurement invariance across different ethnic groups (Avery, Tonidandel, Thomas, Johnson & Mack, 2007).

The Multicomponent In-Group Identification Model (Leach et al., 2008) offers a measure that can be used and adapted towards various groups, such as an ethnic group. It includes factors that assess different aspects of identification with one's in-group. These include: *individual self-stereotyping* – the extent to which individuals self-stereotype their selves as similar to other members of their in-group; *In-group Homogeneity* – the extent to which one perceives the in-group as distinct from other out-groups; *Satisfaction* – the extent to which has positive feelings about their group and their membership in it; *Solidarity* – a psychological bond and commitment to

other in-group members; *Centrality* – the extent to which one’s identification with their in-group is a central aspect of the self-concept.

The strength of general measures like the two above lies in their applicability across groups. This allows for meaningful comparisons to be made to understand differences in the role of ethnic identity and how it may be associated with various outcomes for different groups. A disadvantage of them is that because they are assessing ethnic identity constructs that are deemed to be universal, they are unable to capture some of the more unique aspects, contexts and histories that can shape or inform ethnic identity, or the way that specific groups engage with their ethnic identity. This does not mean that they should not be used in research with specific groups. In saying so, they are excellent, robust measures that can provide valuable information for intra-cultural research, especially if group-specific measures do not exist.

Ethnic specific measures

There is a growing development and utilization of measures developed specifically for racial and ethnic groups. Examples include the Multidimensional Model of Racial Identity (MMRI: Sellers *et al.*, 1998), The Urban American Indian Attitudes Scale (UAIAS: Walters, 1995), The Multidimensional Model of Māori Identity and Cultural Engagement (MMM-ICE: Houkamau & Sibley, 2010) and the topic of this thesis, the Pacific Identity and Wellbeing Scale (PIWBS: Manuela & Sibley, 2013).

The MMRI (Sellers *et al.*, 1998) provides a model and framework that assesses various properties of an African American racial identity. It was developed via an integration and synthesis of universal aspects of ethnic identities, together with the qualitative meanings, cultural contexts and histories of African Americans. It

consists of four dimensions including: *Salience* - the extent to which one's ethnicity becomes relevant in a particular moment or situation; *Racial Regard* - the extent to which an individual feels positive or negative about their race, which has two components of *Private Regard* - positivity or negativity towards African Americans and the self as African American, and *Public Regard* - perceptions of the extent to which an individual feels others view African Americans positively or negatively.

Another ethnic specific model and measure developed in the US is the Urban American Indian Identity Attitudes Model (UAI: Walters, 1995). The UAI is based on identity within the context of self-identification as an Indian person, affect towards other group members, the social environment, and historical relationships with dominant groups. Walters proposes a four stage model that can be sequential, but can vary within an individual level. The four stages are: *Internalization* – negative internalization of a colonized self and overvalue of dominant culture; *Marginalization* – feelings of being caught between Indian and non-Indian worlds; *Externalization* – shedding internalized stereotypes; *Actualization* – successful integrated identity attitudes and psychological buffers to prevent negative effects of colonizing attitudes. Walters also notes five dimensions for understanding political, ethnic, racial, cultural and spiritual identity attitudes.

The Multidimensional Model of Māori Identity and Cultural Engagement (MMM-ICE: Houkamau & Sibley, 2010) was developed for Māori in NZ. This measure consists of six dimensions based on an integration and review of qualitative and quantitative literature on Māori identity. The six dimensions are: *Group Membership Evaluation* – a subjective evaluation of perceived membership within the Māori group; *Socio-Political Consciousness* – perceptions of the relevance and salience of NZ's socio-political context to conceptions of the self as Māori; *Cultural*

Efficacy and Active Identity Engagement – perceptions of perceiving the self as having the personal efficacy to engage with other Māori in/or in a Māori social or cultural context; *Spirituality* – engagement and belief in Māori concepts of spirituality; *Interdependent Self-Concept* – the extent to which the self is defined in terms of relationships with other Māori as opposed to solely identifying as a unique and independent individual; and *Authenticity Beliefs* – the extent to which one believes that to be Māori, one must display certain features, knowledge and behaviour. An additional factor of *Perceived Appearance* was developed that assesses the extent to which one feels that their physical appearance signals that they are Māori (Houkamau & Sibley, 2014).

These ethnic specific measurement models go beyond assessing ethnic identity as a general construct and assess some of the unique aspects of ethnic and cultural identity, values and beliefs of their respective groups. One thing they all have in common is an assessment of the self in relation to their socio-cultural-political environment. Because each of these groups are an ethnic minority in their respective nations, ethnic identity will be developed whilst in contact with dominant out-groups, other minority out-groups and one's own in-group. Although using these measures limits comparisons to other ethnic groups, their strength lies in their ability to assess unique cultural, contextual, societal, historical, spiritual and acculturative influences on ethnic identity, from the perspectives of the groups themselves. This approach affords researchers a more detailed quantitative assessment of what is important for ethnic and racial groups, and provides greater information that can inform research concerning these groups. The Pacific Identity and Wellbeing Scale is in line with this direction of ethnic specific approaches to assessing ethnic identity and will be discussed in more detail later.

Summary of ethnic identity within psychology

The psychological understandings and theories of ethnic identity primarily focus on the universal components of the self. To this end, psychology offers an approach to understanding a general process of stages of ethnic identity development. In addition psychology offers an understanding of the core components of ethnic identity – self-identification with an ethnic group, affirmation, and a sense of belonging. Not quite central to psychology’s general thesis of ethnic identity as a psychological construct, but still important, is cultural practices, out-group comparisons and psychological centrality. By identifying the underlying core aspects of psychological ethnic identity, comparisons can be made between ethnic groups to understand the role of their ethnic identity in various outcomes. To this end, psychology has advanced really well. However, what psychology has focused less extensively on is the concept of psychological ethnic identity within specific contexts of ethnic groups. Understanding culturally-defined concepts of the self is crucial to understanding the role of ethnic identity. Despite the lesser focus, psychology has made significant progress. This is evidenced by developments of measures that incorporate unique socio-cultural values, political contexts, histories and narratives of specific groups. Whilst this may limit cross-cultural comparisons, it furthers intra-cultural research that is better shaped to meet the needs of specific groups.

Wellbeing

Wellbeing refers to how individuals appraise their life in a positive manner. It is often associated with quality of life, positive and negative affect, happiness and life satisfaction (Diener, 2006). Objective indicators often associated with wellbeing include health outcomes, education, employment, and housing (Milligan, Fabian, Coope & Errington, 2006). Although these factors are associated with positive

wellbeing outcomes, they do not reflect individuals' appraisals of their own lives; their subjective wellbeing. This section will cover psychological theories on wellbeing, focusing on subjective wellbeing, life satisfaction, cultural influences of wellbeing and measures used to assess wellbeing.

The work of Diener – Subjective Wellbeing

Subjective wellbeing refers to both the affective and cognitive evaluations of one's life. Diener (2009) proposes three hallmarks: First, wellbeing is a subjective experience that resides within an individual. This allows for individuals to have different appraisals and evaluations of the same phenomena to assess their own situation. For example, overcrowding in housing can be used as an objective indicator of wellbeing. Overcrowding is associated with an increased risk of infectious disease (Baker et al., 2000), mental health (Evans, 2003). Evidence suggests that some common indices of household crowding may be over-estimating the prevalence of household crowding for Pacific peoples, thus self-reported perceptions of how problematic overcrowding is may be a more suitable measure (Schluter, Carter & Kokaua, 2007).

Secondly, Diener (2009) suggests that subjective-wellbeing takes a positive approach. This is a deviation from other areas of psychology that can focus on negative aspects of mental health. By assessing what factors contribute to individuals positively evaluating their lives, the focus remains on what contributes to positive outcomes.

Thirdly, Diener (2009) proposes that wellbeing be a global assessment that takes into account all aspects of an individual's life. This suggests that strong wellbeing is when an individual feels satisfied with all aspects of their lives. Diener

also proposes that specific domains of wellbeing can be assessed however attempts should be made toward an integrated approach. For example, economic wellbeing, mental wellbeing and physical wellbeing can all be assessed separately, however integrating all domains will provide a more holistic measure of how an individual may evaluate their life. However, Andrews and Withey (1976) note that certain domains of life that are central to individuals' lives may carry more weight. This is particularly relevant for Pacific cultures more generally. Although, Pacific models and perspectives of wellbeing will be discussed in more depth later, one common element that emerges within them is the central importance of family and relationships in the overall wellbeing of Pacific peoples.

Life Satisfaction

The cognitive aspect of subjective wellbeing is life satisfaction. This is generally concerned with an individual's cognitive evaluation of their life as a whole (Diener, 2006). An earlier definition defines life satisfaction as an assessment of one's quality of life in accordance to their own criteria (Shin & Johnson, 1978). By basing life satisfaction on one's own criteria, the subjectivity of well-being becomes more evident and highlights the importance of people defining and evaluating their lives according to their own standards. This means individuals can evaluate their lives, or particular domains of their life, in a way that is more meaningful to them.

Measuring Wellbeing

Like ethnic identity, there are a variety of measures used to assess subjective wellbeing. This section will review a few of the major wellbeing measures used in psychological research that are related to the PIWBS.

Satisfaction with life scale

This five-item measure (Diener *et al.*, 1985) measures life satisfaction as an overall judgment on one's life. Studies have shown it is a valid and reliable tool with good convergent validity with other scales (Pavot *et al.*, 1991; Pavot & Diener, 1993). Because of its sound psychometric properties and ease of use, it is a very popular measure in large-scale research projects. The scale assesses life satisfaction as a global assessment, thus allowing individuals to evaluate their lives according to their own rather than externally imposed standards. However, because of its global assessment of wellbeing, it is not clear how individuals are integrating the various domains of their life into a general evaluation of their life as a whole. Neither is it clear if there is a particular life domain that is driving their overall life satisfaction. Nonetheless, the measure still provides valuable information into the general subjective satisfaction of individuals' lives.

International Wellbeing Index

Covering two broad categories, the International Wellbeing Index (Cummins *et al.*, 2003) has two subscales called the National Wellbeing Index (NWI) and the Personal Wellbeing Index (PWI). The NWI assesses satisfaction with domains related to national wellbeing including areas such as: national environment, economic situation, social conditions, government, business and national security. The PWI assesses subjective wellbeing of different life domains by assessing satisfaction with individuals' standards of living, health, achievements in life, personal relationships, personal safety, connections with community, future security and spirituality/religion. The benefit of this set of measures is that they allow one to assess satisfaction in different areas of life, and thus provide more indication of the overall, holistic wellbeing of individuals.

Culture and Wellbeing – different ways of feeling about the self

Group differences in measures of wellbeing appear to suggest that some groups may experience greater wellbeing relative to others. For example, Nations that are wealthier and more politically stable tend to report higher levels of subjective wellbeing (Diener & Suh, 1999). A classic study by Diener and Diener (1995) found self-esteem was a stronger predictor of life satisfaction in individualistic cultures relative to collectivist cultures. Their findings suggest that wellbeing in more individualistic cultures can be sourced from one's personal attributes. In contrast, wellbeing for more collective cultures may be more influenced by external factors, such as how one fits into their community and their relationships with others.

Indeed, the individualistic/collective cultural distinction proposes differences in the effects on subjective wellbeing. Individualistic cultures tend to emphasise independence, freedom of choice and more focus on emotions to maximize pleasure, whilst collectivist culture tend to emphasise interdependence, the needs of others and a focus on following cultural norms (Hofstede, 1980; Triandis, 1995; Schimmack & Diener, 1997; Suh, Diener, Oishi & Triandis, 1998). As such, the relationship between positive/negative affect balance and life satisfaction is stronger for individualistic relative to collectivist countries (Suh, Diener, Oishi & Triandis, 1998). Furthermore, a moderated mediation model shows that positive/negative affect balance mediates the relationship between personality traits (extraversion and neuroticism) and life satisfaction, and that cultural orientation (individualistic vs. collectivist) moderates the relationship between positive/negative affect and life satisfaction (Schimmack, Radhakrishnan, Oishi, Dzokoto & Ahadi, 2002).

The individualistic/collectivist cultural orientation influence on wellbeing is one possibility. However, it raises a question of whether there is a true difference between cultures as assessed by wellbeing measures, or if are there cultural biases within the measures themselves? Diener and Tov (2007) propose that unless exposed to harsh conditions, there is a tendency for individuals to be slightly happy, suggesting universal aspects to wellbeing. Indeed, there is evidence to suggest that measures of subjective wellbeing across ethnic groups have similar psychometric properties suggesting that measures are assessing the same underlying construct (Tomy, Tamir, Stokes & Dias, 2015), and that personality influences on wellbeing are pan-cultural (Schimmack *et al.*, 2002). However, there is also evidence to suggest that there are cultural response biases to wellbeing measures. For example, Lau, Cummins and McPherson (2005) found that the PWI held similar psychometric properties for Hong Kong and Australian samples, but also found that the distribution of values around each mean did not differ despite differences in sample means from the two countries. This implies preliminary evidence of a cultural response bias, consistent with patterns found in other studies where Asians showed a tendency to not rate their selves at the ends of Likert scales relative to Caucasians (Lee, Jones, Mineyama & Zhang, 2002). As Lau *et al.* (2005) suggest, cultural response biases in wellbeing measures have serious implications for the interpretations of cross-cultural data. As such, cultural consideration should be taken into account when using wellbeing measures across or within specific groups.

An alternative to understanding different cultural and ethnic groups' wellbeing could be to focus on domains that hold significant cultural importance. Research with the PWI has shown that an item assessing satisfaction with spirituality is suitable for adolescents in Chile and Brazil and thus should be included in the PWI (Sarriera *et*

al., 2014). In contrast, earlier research found that domains of spirituality and religion made minimal contributions to global wellbeing in Australia (International Wellbeing Group, 2006). Together, these findings suggest that the socio-cultural context of different groups may influence the degree to which particular domains of life contribute to overall subjective wellbeing. Understanding these culturally distinctive sources of wellbeing can inform us about critical aspects of culturally diverse groups' subjective wellbeing and domain satisfaction.

Commentary on Psychological perspectives of ethnic identity and wellbeing

Psychology has offered a wide range of research regarding ethnic identity and wellbeing. Whilst they are often viewed, defined and understood as separate constructs, the relationship between the two is well established. Psychology has a tendency to understand cognitive and affective processes in general terms to understand the underlying mechanisms driving the relationship between ethnic identity and wellbeing. In doing so, there are biases inherent in the way that psychological understandings of ethnic identity and wellbeing have been developed. The majority of research that underpins psychological thought on the self-concept has been dominated by studies conducted in Western, educated, industrialised, rich and developed countries, which is not representative of the varied populations around the world (Henrich, Heine & Norenzayan, 2010). Indeed, differences are often found between Western and non-Western nations for independent vs. interdependent self-concepts, each of which are associated with particular psychological patterns in positive self-views, personal choices and motivations to conform to group norms (Henrich, Heine & Norenzayan, 2010).

While I would agree that there are general principles of ethnic identity and subjective wellbeing that could be deemed universal, I feel that psychological research is strengthened with indigenous views of these constructs. Comparisons between groups using psychometric measures that have been shown to hold good cross-cultural validity are good, but they are not enough. Understanding the psychology of ethnic identity and wellbeing from the perspectives of the groups that are being studied can offer crucial insight into understanding the psychological processes underpinning the relationships between ethnic identity and wellbeing more generally. This is where qualitative research has advanced psychological research, and also where indigenous, culturally-specific measures such as the MMRI, MMM-ICE and UAI have advanced psychological understanding for their respective groups. The PIWBS will contribute to psychology in the same way. To highlight how indigenous knowledge can benefit psychological understandings of ethnic identity and wellbeing, I offer a review of Pacific research on the two areas in the section below.

Pacific Identity and Wellbeing Research: A review and synthesis

In a ground-breaking essay, Hau'ofa (1994) reconceptualises the perceptions of Pacific Islands as small and vulnerable nations to one of a vast and complex world:

Do people in most of Oceania live in tiny confined spaces? The answer is 'yes' if one believes in what certain social scientists are saying. But the idea of smallness is relative; it depends on what is included and excluded in any calculation of size. Thus, when those who hail from continents, or islands adjacent to continents ... see a Polynesian or Micronesian island they naturally pronounce it small or tiny. Their calculation is based entirely on the extent of the land surfaces they see.

But if we look at the myths, legends and oral traditions, and the cosmologies of the peoples of Oceania, it will become evident that they did not conceive of their world in such microscopic proportions. Their universe comprised not only land surfaces, but the surrounding oceans as far as they could traverse and exploit it, the underworld with its fire-controlling and earth-shaking denizens, and the heavens above with their hierarchies of powerful gods and named stars and constellations that people could count on to guide their ways across the seas. Their world was anything but tiny.”
(Hau'ofa, 1994, p. 6-7).

What Hau'ofa cleverly does in this essay is rejects descriptions of Pacific nations as economically fragile states, isolated by the Pacific Ocean

and thus reliant on wealthy nations. He instead brings forth the voices of Pacific peoples and how they viewed their world; one of a holistic and all-encompassing environment that is not confined to imaginary lines drawn by wealthy states.

It is here that I lean on Hau'ofa's ideas of reconceptualising Oceania, to reconceptualising psychology's understanding of the identities and wellbeing of Pacific peoples. From a general Pacific perspective, there is no clear distinction between identity and wellbeing; to be happy is to know who one is – through family, culture, tradition, and spirit. This section will explore how identity is understood and defined within Pacific communities and models of health and wellbeing that are used to conceptualise the Pacific self. This will lead into a discussion of the Pacific Identity and Wellbeing Scale (Manuela & Sibley, 2013) and how it can be used as a new direction to explore the psychology of identity and wellbeing for Pacific peoples.

Identity: A view from the Pacific

Three research projects that have explored the identity of Pacific peoples include Anae's (1998) research on the identity journey for Samoans in NZ, Tiatia's (1998) research on conflicts of identity for NZ-born Pacific peoples, and Mila-Schaaf's (2010) Polycultural capital for NZ-born Pacific peoples. These three projects highlight the unique circumstances that surround identity for Pacific peoples in NZ and the influence that this has on wellbeing. Some parallels can be drawn to psychological research and perspectives on ethnic identity, however these three researchers offer the culturally-nuanced understandings and meanings that Pacific people ascribe to their own understandings of their self. These three qualitative

investigations into identity will be complemented by further quantitative research that has been conducted largely with Pacific youth. This will offer perspectives on the depth and breadth of how Pacific peoples feel and engage with their ethnic identity.

Samoan Identity Journey

Anae (1998) offers a perspective of ethnic identity development for Samoans as a journey one takes towards what she calls a “secured identity”. Her study focused on a group of individuals in the Newton Pacific Islander’s Church. Their journey began with challenges made to their identity in regards to being Samoan. These challenges arose from interactions with Samoan-born family members, the church community and one’s identification as a NZer by Palagi. This led to what Anae refers to as “Identity Confusion” as individuals began to experience changes to their social networks and interactions in increasingly multicultural contexts such as school. This occurred as individuals tried to come to terms with the challenges that were being made about their identity. For example, Samoan-born family members viewed language as a marker of a Samoan identity and the inability of some of participants of Anae’s study led to them being labelled as *fia Palagi* (mirroring European ways). Anae talks of how participants had acted out their identity confusion through what she called a “Time out” period. This is when participants would explore alternative lifestyles, oppose elders and leave their church. Some would adopt a general Pacific identity combining elements of their parents’ culture with that of popular urban cultures. This would allow for identification with a larger peer group and with others that were facing similar identity journeys themselves. Finally, Anae speaks of her participants reaching what she called a “Secured Identity”, one that is marked by a persistent Samoan self-concept in which they have found a successful resolution between the internal and external conflicts of what it means to be a Samoan in NZ.

Anae's account of the identity journey for Samoans parallels the model of ethnic identity development offered by Phinney (1990). Both offer different stages that individuals progress through, in terms of exploration, confusion, affirmation and secureness. What Anae offers however is how the experiences throughout these stages are influenced by the socio-cultural factors within the church setting, family, social structures and the wider NZ socio-historical context. Anae's exploration into the role of the church in shaping and defining the self for these individuals highlights a way of how Phinney's ethnic identity stages (and psychology more generally) can be contextualized and redefined to suit similar ethnic identity development processes for Pacific peoples. A key factor in the identity process for Anae's participants was their church. The church acted as a setting in which identity was questioned, explored, abandoned and understood. What Anae crucially offers is that a secure identity for her Samoan participants is one that is marked by the successful resolution of conflicts of what it means to be Samoan. This includes understanding the role of one's spiritual and religious beliefs and church, the role of fa'aSamoa (Samoan cultural values and practices) as understood by the participants, and how to successfully navigate the social landscape of NZ. Identity for her participants included the integration of Samoan cultural values within the NZ context.

Whilst Anae offers an in depth exploration of identity for Samoans in NZ, her study is focused only on Samoans, and within a single church. The general underlying process of ethnic and cultural identity development may be similar for various Pacific groups in NZ, however the specific contextual factors that influence the identity development process will most probably differ. Despite this, a secured ethnic identity is something that I argue would be applicable across all Pacific groups. A secure

ethnic identity for Pacific peoples is likely to be marked by conflict resolution between internal and external factors of what it means to be a Pacific person in NZ.

Culture Conflict

Another exploration of Pacific identities was conducted by Tiatia (1998), who provides a framework for understanding the conflicts of identity and expectations that NZ-born Pacific youth face, primarily through educational and church settings. Tiatia highlights contexts in which identity can be negotiated, such as the church setting, as individuals strive to resolve conflicts with NZ society and more traditional aspects of Pacific ideas and ways of being. Tiatia refers to a “clash of cultures” in which individuals contend with both Pacific and European ways of life, which were perceived to be in opposition to each other. For example, in educational settings individuals are viewed as Pacific. However in familial or church settings, behaviours and values portrayed by individuals that are commonly associated with the values and characteristics of NZ society led to individuals also being labelled as *fia Palagi*. Like Anae (1998), Tiatia notes the issue of language and how the inability to partake in one’s Pacific language led to external constraints and internal questioning of one’s own identity. Church and family were highlighted as integral aspects of navigating and constructing identity. Church and religion was viewed as a place where one was able to express and also gain their cultural needs with similar others, similar to a village life back in Pacific islands (Macpherson, 1996). Relationships with family were also important, particularly with cultural values of obedience to elders and family servitude. However, it was noted that although the church and family setting were crucial in learning and understanding their Pacific identities, it was also a constraining experience in trying to consolidate that with the lived experiences in NZ society. On the one hand, participants were contending with a NZ society that they

felt was not trying to nor fully accepting of their cultural uniqueness, whilst on the other hand were feeling like the silenced Western voice that was a threat to the traditional values within their respective Pacific communities. Tiatia poses that a continued conflict of NZ and Pacific cultures can leave one with a struggled and shackled existence which could lead to negative and antisocial behaviours such as alcohol and drug abuse.

What Tiatia offers here is something that many Pacific peoples in NZ still grapple with today – how NZ born Pacific people try to integrate different cultural spheres in a way that is beneficial to them. An inability to do so successfully can have negative consequences on objective wellbeing outcomes. She further highlights a crucial aspect of potential intergenerational conflict where young Pacific people are struggling to integrate traditional Pacific practices and values within an increasingly secular and liberal NZ cultural landscape.

Polycultural Capital

Mila-Schaaf's (2010) research explored how NZ-born Pacific peoples negotiated their identities in relation to others in social contexts, and how they used diverse forms of cultural-capital to negotiate social spaces to their advantage. Mila-Schaaf uses the term 'Polycultural Capital' which refers to the advantages one can gain through cross-cultural contact in terms of accumulating cultural resources. In terms of relationships between Pacific and Palagi, Mila-Schaaf notes that participants perceived that Palagi employed negative social narratives in their views of Pacific people. Her participants would react with behaviours to counter the social narrative. Relationships with Māori were marked by both similarities and differences. Connections were made in terms of experiences with discrimination, culture and

language. Interactions with Māori provided an indigenous outgroup that allowed Pacific peoples to compare their selves individually and collectively. Relationships with Island-born Pacific peoples were also marked by differences and similarities. For example, NZ-born participants may not have a full understanding of their respective cultures, but were still subjected to its norms. This created a sense of both inclusion and exclusion with people in the Pacific homelands. Finally, inclusion, exclusion, and power relations based on intergenerational differences on cultural values and behaviours also marked relationships with the first generation Pacific. Mila-Schaaf argues that experiences accumulated during interactions with these groups in different social spaces allowed NZ-born Pacific peoples to gain cultural capital that allowed them to strategically perform identities in relation to specific outgroups. Identity in this respect is a multifaceted and flexible construct that is developed through interactions with others and learning how to navigate unique cultural and social spaces.

Review of Qualitative Explorations of Pacific Identities

Anae (1998) and Tiatia (1998) offer an early glimpse into the highly contextualized process of identity development and challenges to identity that many Pacific peoples may have experienced during that time. Although the research was conducted nearly two decades ago, many of the issues faced by Pacific peoples then still resonate with the issues of identity faced by Pacific peoples today. This is highlighted by Mila-Schaaf's (2010) more recent work which also highlights the increasing complexity of social spaces Pacific peoples in NZ need to navigate both within their respective communities and between other social groups in NZ.

All three research projects describe the influence of inter-group relations in the process of ethnic identity development. Participants in these studies came to define their self whilst negotiating relationships with ethnic out-groups, acculturative pressures and inter-group relations that influence identity for Pacific peoples. As an ethnic minority, identity is developed in relation to significant out-groups, namely the dominant European, indigenous Māori and other ethnic minority groups. Furthermore, all three research projects highlight the influence of intra-group variations such as dealings with older generations that held more stringent values. In sum, all three projects highlight the influence of acculturative processes on ethnic identity development. These studies suggest that the individuals have adopted an integrative acculturation strategy, adopting characteristics of both their own and NZ cultures, which is generally associated with the best outcomes (Berry, Kim, Power, Young, & Bujaki, 1989; Ward & Kennedy, 1994). All three research projects also share the same themes of what contributed to shaping and what was important to the overall wellbeing of their participants. This included the importance of families, the role of the church, and their relationships with wider NZ society

Parallels can be drawn between the work of these three researchers and psychological theories of ethnic identity development and ethnic identity complexity. The references to outgroups, namely Palagi or NZ society in general relates to social comparisons made as understood under a Social Identity Theory framework. The Pacific self is defined in comparison to other groups and when challenges are confronted, the social group is redefined in a way that is more meaningful to the self-concept. Mila-Schaaf's (2010) Polycultural Capital relates to what Roccas and Brewer (2002) call social identity compartmentalization. This is when social identities are based on the context within which one finds their self in. However, Mila-Schaaf

further extends this similar concept by outlining how the experiences gained within these social contexts can be used strategically and advantageously. In addition, Anae's (1998) work is analogous to the stages of ethnic identity as expressed by Phinney (1990).

These three pieces of work provide in-depth explorations around what identity means and how it is constructed for Pacific peoples in NZ. The qualitative methodologies employed in their analyses offer highly contextualized information on how the participants experience their ethnic and cultural identity. There has been less quantitative research concerning ethnic identity for Pacific peoples. However, there are a number of studies that have included Pacific participants in their research that offer a broader picture of the role of ethnic identity. These studies have primarily focused on youth and adolescents and provide a snapshot into the beginning phases of ethnic identity that can shape ethnic identity in later adulthood.

Pacific youth and ethnic identity

The research conducted in this thesis focuses on adult populations. However, ethnic identity and wellbeing in adulthood is a journey that begins in childhood and throughout adolescence. Understanding young Pacific peoples' ethnic identity and wellbeing puts forth a solid foundation on which to understand identity and wellbeing for adults.

In an exploration of identity for adolescents in NZ urban high schools, Webber (2013) asked a series of open-ended questions to adolescents about their ethnicity. Focusing on Samoan responses, students reported their Samoan identity was positively related to cultural practices, displays, participation and were happy with their ability to participate within their culture. Another theme that arose was that of

pride of their unique culture. Students were also asked to write about negative aspects of their group membership and the major themes that arose were those of perceived discrimination and intergenerational conflicts. Taken together, students' positive evaluations of their group membership and identity is alongside their knowledge of the negative stereotypes held about their group. Thus, the conflict of negotiating identity and resolving that in the face of negative narratives about them in NZ society is still an issue for the identity and wellbeing even among Pacific youth.

At a larger scale, data from the Youth2000 project highlights how adolescent Pacific peoples are evaluating their ethnic identities and culture. Youth2000 is a national series of studies that explores the health and wellbeing of secondary school students. An analysis of Pacific students showed that overall, Pacific groups have a high percentage of students that report being very proud of being part of their ethnic group (Helu, Robinson, Grant, Herd, & Denny, 2009). The majority of students reported that it was important for them to be recognized as part of their ethnic group, however this appears more pronounced for Samoan and Tongan students. Around two thirds of Samoan, Tongan and Other Pacific students reported being satisfied with their knowledge of their culture, however approximately half of Cook Island and Niuean students reported being satisfied with their cultural knowledge. A similar pattern of rates could be found for language. For Samoans, Tongans and Other Pacific groups, between 61% - 69% reported being able to speak their Pacific language at least fairly well, whilst the rate was 29% and 22% for Cook Islands and Niuean students respectively. Greater percentages of students reported being able to understand their Pacific language at least fairly well, however this was higher for Samoan, Tongan and Other Pacific than for Cook Island and Niuean. These findings highlight the variability in identity and cultural practices between the Pacific groups,

and the patterns within the data are consistent with those from the census as presented in Table 1. All groups report high ethnic pride and moderate to high importance of ethnic recognition. However, greater differences emerge for satisfaction with cultural knowledge, language speaking ability and language comprehension. The desire for ethnic recognition can be explained by optimal distinctiveness theory (Brewer, 2003) which asserts that individuals have a desire for balance of both inclusion and distinctiveness within their social groups and situations, and also between. This will be relatively easy in the larger ethnic group categories within NZ, assuming identification with the larger Pacific group, however this could be more difficult at the more specific level. This is perhaps where positive distinctiveness occurs within the Pacific groups as a desire to be seen as Niuean (for example).

Commentary on Pacific perspectives of ethnic identity

There are many commonalities between both psychological and Pacific conceptualisations of ethnic identity and identity development. Both schools of thought highlight self-identification, a sense of belonging, positive evaluations of group membership, and participation in cultural behaviours. This suggests that the core components of ethnic identity as highlighted by Phinney (1990) as a general construct are applicable to Pacific peoples within the NZ context. However, whilst the psychological explanations and theories offer insight into the general psychological processes and underlying mechanisms of ethnic identity and development, the Pacific research highlights more nuanced ideas of how ethnic identity is shaped for Pacific peoples and the influence of inherent cultural values on that identity.

One crucial element related to ethnic and cultural identity for Pacific peoples is religion and spirituality. Religion plays a complex role in the lives of many Pacific

peoples, and is always considered part of any research concerning Pacific ethnic identity and wellbeing. This is where psychology often fails to accommodate Pacific peoples and where Pacific methodologies and research excels. To fully understand Pacific ethnic and cultural identity, religion and spirituality must be included as part of the core basis of understanding, rather than as a peripheral, contributing factor. This must extend beyond asking Pacific participants if they identify with a religion (the proportion of Pacific peoples that do not identify with a religion appears to be growing). Understanding the extent to which one's religion is part of being a Pacific individual needs to be addressed, as has been done in the examples that have been presented here.

Pacific Wellbeing

Pacific perspectives take a holistic approach to understanding the health and wellbeing of individuals and communities. Models of health have been developed to inform health service delivery and outline the different domains of life, how they are interrelated, and the importance of balance between all aspects. This section will focus on three models and conceptual frameworks of health: Pulotu-Endemann's Fonofale (Crawley *et al.*, 1995), Te Vaka Atafaga (Kupa, 2009) and Fonua (Tu'itahi, 2007). I will discuss how these models can inform the psychological wellbeing of Pacific peoples by drawing parallels between all three models and psychological theories of wellbeing.

Fonofale

The Fonofale model is a dynamic and interactive model that incorporates many of the beliefs and values of many Pacific Nations. It was developed based on Saoman principles of holistic health, however it can be used as a general Pacific

model of health for the NZ context. The Fonofale model is presented metaphorically as a fale (meeting house), the various structures of it representing different aspects of life (see Figure. 1).

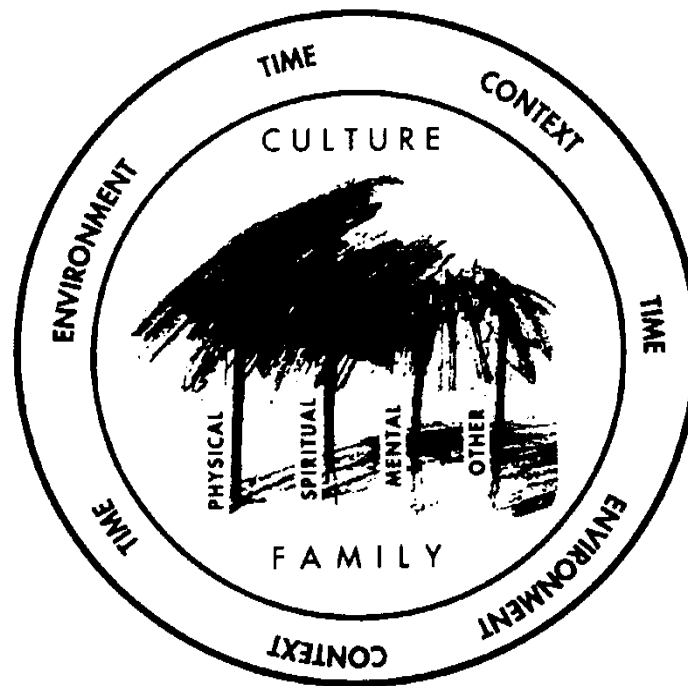


Figure 1. Pulotu-Endemann's Fonofale model (ALAC, 2002)

The Fale consists of the foundation, four pou (posts) that hold up the roof and is encapsulated by its surrounding environment. The roof of the fale represents cultural values and beliefs that are considered to be the shelter for life. It takes into consideration the dynamic nature of culture and the cultural orientations that individuals and families may adopt. For example, some may live with a Pacific cultural orientation that is consistent with the cultural values of their Pacific heritage. Other may live with a Palagi orientation that is consistent with Palagi values and

beliefs. Otherwise, others may live with constantly changing cultural orientations, a combination of both, or within a continuum between Pacific and Palagi.

The foundation of the fale represents family. Family is considered to be the foundation for all Pacific cultures. From a Pacific perspective family is not only the nuclear family, but is also inclusive of the extended family.

The foundation and the roof are connected by four posts, each of which are also continuous and interactive with each other. They each represent different aspects of Pacific peoples' lives:

- Spiritual – wellbeing that stems from belief systems including religion, Christianity, and/or more traditional forms of spirituality and how they relate to nature, language and beliefs.
- Physical – physical and biological wellbeing. It represents the relationship of one's body with food, water, air, medicines each of which can have positive or negative effects.
- Mental – mental and psychological wellbeing. It also involves thinking, emotions, expressed behaviours

Finally, the fale is encapsulated in a cocoon that represents the environment, time and context:

- Environment – the relationship between Pacific peoples and their surroundings for example a rural vs. urban setting
- Time – specific points or periods of time that has an impact on Pacific peoples. For example, the influence of growing up in NZ 30 years ago vs. the influence of growing up in NZ today.

- Context – the specific contexts that Pacific peoples are in and the meanings that has for them. For example, the context of birthplace (NZ-born vs Pacific-born).

Te Vaka Atafaga

The Te Vaka Atafaga model (Kupa, 2009) is a Tokelauan model specifically for supporting holistic mental health practice with Tokelauan people. The Te Vaka Atafaga model draws on core Pacific values similarly identified by the other models. However, Te Vaka Atafaga exemplifies the heterogeneity of Pacific cultures by incorporating cultural values important for Tokelau people which contribute to well-being. Such values include '*Fatu Paepae*' which is a matriarch title carried by elder women who hold a leadership role and influence family decisions. They are responsible for overseeing the welfare of the entire family. Another indigenous value of this model is *Inati*, the sharing of resources. The example that Kupa uses is that of a fishing expedition, where a mother with young children but no husband or descendants who are able to help with the fishing, will receive an equal share. This system encourages well-being on a collective level for the entire village.

Kupa (2009) uses the metaphor of a '*Paopao*' or outrigger canoe to describe the Te Vaka Atafaga model. This can be seen in Figure 2.

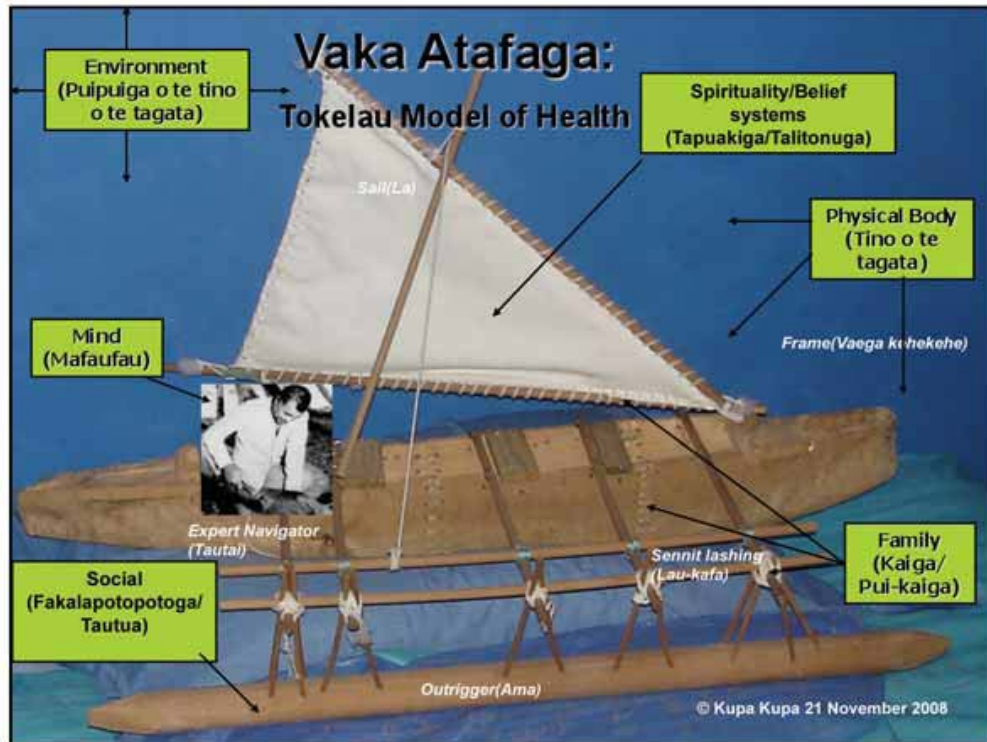


Figure 2. Te Vaka Atafaga: Tokelau Model of Health (Kupa, 2009a).

The various and related components of well-being are represented by the parts of the paopao.

- *Tino o Te Tagata* (Physical body)
 - The physical body is represented by the wooden structure of the paopao. Under this perspective it is impossible to separate the mind, body and spirit. If the body is not well, then the rest is not well.
- *Mafaufau* (Mind)
 - The mind is represented by the navigator who steers the paopao. The navigator controls the direction, relies on memories, wisdom and knowledge to guide the paopao safely and carefully. As the navigator commands the paopao, their course relies on their well-being. If they are unwell then they could jeopardise their self or others.

- *Kaiga/Pui-kaiga* (Family)
 - The threads of the sennit lashings, or '*Lau-kafa*' represent the kaiga/family. Individuals are bound together in complex dynamics with each individual playing a role in their kaiga. Values, beliefs, traditions and wisdom are woven into the lau-kafa which are taught within the family. The strength and flexibility of the lau-kafa represents the strength and support that is gained through family.
- *Tapuakiga/Talitonuga* (Spirituality/Belief Systems)
 - Spirituality is represented by the sail, '*La*' that is driven by an unseen '*Pule*' or '*Mana*', a power that cannot be seen yet can still be felt. Belief systems were in place before European contact with ancient Gods.
- *Puipuiga o Te tino o Te Tagata* (Environment)
 - The environment is the physical surroundings outside of the paopao that can influence well-being. The environment is a source of sustenance and has influence on the health and well-being of Tokelau people. It includes the physical phenomena that have influenced the lives of Tokelau people such as the weather, land, sea, sky, stars, moon, wind and air.
- *Fakalapopotoga/Tautua* (Social/Support Systems)
 - This is represented by the '*ama*' or outrigger. It is a representation of social structures and organisations that support people e.g. the '*inati*' system which ensures individuals and families are well supported.

Kupa's (2009) Te Vaka Atafaga model is developed for use with Tokelauan people. It draws on aspects and values that are common to other Pacific cultures. In

addition, emphasis is put on unique aspects of Tokelau culture and integrated into the model. This highlights the importance of acknowledging the differences between Pacific cultures that should be taken into consideration for research and dealings with Pacific peoples.

Fonua

Fonua is a Tongan model of health and health promotion developed by Tu'itahi (2007) that can be used to inform and guide health research. It is an ecological model that is underpinned by Tongan cultural values (See Figure 3). Fonua itself refers to land, its people and the continuous relationship they have with each other, the purpose of which is to maintain a harmonious life in a sustainable way. Central to this is the notion of tauhi va, or the concept of maintaining and nurturing the sacred spaces and relationships between people and the environment. Another characteristic of Fonua is Liliu (change). This change can be natural or man-made and represents the dynamic nature of human development

There are five dimensions captured within Fonua: Sino (Physical), 'Atamai (Mental), Laumalie (Spiritual), Kainga (Collective/Community) and 'Atakai (Environment). Each of these dimensions are connected and must be taken care of equally for maintenance of holistic wellbeing.

There are also five levels of Fonua: Taautaha (individual), Kainga (family), Kolo (Village), Fonua (nation) and Mamani (global society). These five levels are interdependent and complementary to each other. For health and wellbeing to be maintained, it must be addressed at all levels.

Fonua highlights how the different dimensions of health and wellbeing need to be addressed at all levels. For example, understanding the effects of Sino (the

dimension of physical health and wellbeing) at the individual level, familial level, local level, nationally, and globally provides a more holistic view of how physical health can be addressed for Pacific peoples.

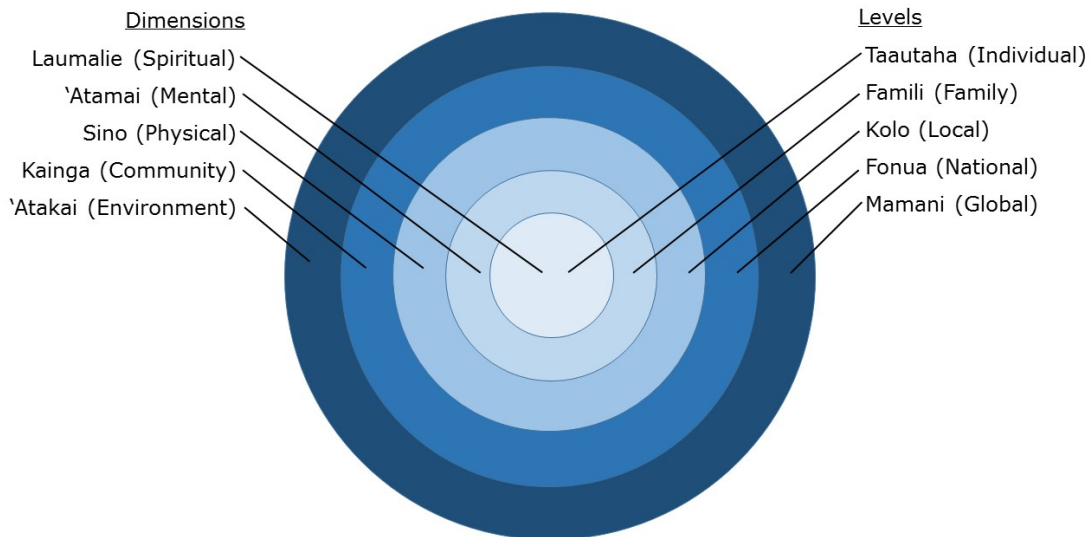


Figure 3. Depiction of Fonua Model

Commentary on Pacific models of health and wellbeing

The three models discussed here are excellent examples of what research concerning the livelihood of Pacific peoples’ needs to include. Each model has been developed from a specific cultural background (Fonofale – Samoan, Te Vaka Atafaga – Tokelauan, Fonua – Tongan). However the core elements of each model are similar. All are inclusive of family, the community, the body, the mind, the spirit and the environment. They each stress the interrelationships between all factors and how overall health and wellbeing depends on balance with all aspects in the individual’s life.

Although these models are presented as a way to understand and address health issues for Pacific peoples, they can also be applied to understanding the psychology of Pacific peoples. Parallels between the identity work of Anae (1998), Tiatia (1998) and Mila-Schaaf (2010) make note of many factors presented in the models of health. For instance, all three identity research projects highlight the importance of family and the church in the formation and understanding of ethnic identity, both of which are considered to be fundamental aspects to the overall health and wellbeing of Pacific individuals.

The various factors that comprise the metaphorical representation of Pacific health and wellbeing can guide researchers into important life domains to be assessed for research. The research directions offered by these models all stress the importance of a holistic approach to understanding or studying various life outcomes for Pacific peoples. They can be used somewhat as a research framework to guide research directions. What they do not offer however is a specific methodology. Rather, a researcher can choose whatever methodology they deem appropriate to their research goals.

Understanding Pacific wellbeing needs to be done holistically as highlighted by Fonofale, Te Vaka Atafaga and Fonua. A holistic approach to understanding Pacific wellbeing is methodologically easier with a qualitative approach. As such, research typically uses talanoa as a way to understand Pacific peoples' perspectives of various health and wellbeing issues such as communication around Tongan youth suicide (Fuka-Lino, 2015). A quantitative approach however has been limited to general Western measures. Perhaps the most suitable to understanding the holistic nature of Pacific wellbeing is the Personal Wellbeing Index (PWI: Cummins *et al.*, 2003). As highlighted earlier the PWI asks participants to rate their satisfaction in

various life domains, each of which are present within the Pacific models of health. This measure has the benefit of assessing wellbeing more holistically, and can be used in conjunction with other identity measures. However, from a Pacific perspective, identity and wellbeing are not separated and as such the Western measures of wellbeing (and ethnic identity for that matter) are not able to adequately capture that experience as part of their overall model.

Focusing on the Fonofale model, it provides a conceptual picture of the harmonious relationships between different aspects of Pacific peoples' lives, and that health/wellbeing occurs when there are harmonious relationships between them all. For example, breakdowns in family relationships could negatively impact Pacific peoples' wellbeing, mental health or potentially physical health. To draw parallels to a fale, this would mean the foundation of the fale is unstable, compromising the structural integrity of the overall fale which could collapse. However, what the Fonofale does not articulate is the extent to which individuals may feel satisfied in all areas of their life, or may hold certain aspects more centrally to their self-concept, and place less value on others. For example, spirituality and religion may not be a crucial aspect of an individual's life, but other aspects are. For someone else, religion may be a crucial and integral part of their self-concept. This does not necessarily mean that there would be a difference in the reports of wellbeing for each individual, but rather a difference in the value they place on religion and spirituality. This is what Andrews and Withey (1976) proposed when talking about how certain domains may carry more weight for wellbeing than others

Commentary on Pacific identity and wellbeing research, models and frameworks

Adopting Pacific models of health as a way to inform our understanding of the psychological aspects of ethnic identity and wellbeing for Pacific peoples is the most appropriate way forward for research in this area. They provide a distinct outline of the various factors important to the holistic wellbeing of Pacific peoples in addition to stressing their interrelatedness. A holistic approach to understanding Pacific peoples' ethno-cultural identity and subjective wellbeing has been and will continue to be the way forward for research in this area. The studies presented here consistently highlight the cultural worldviews that inform the complex, holistic relationship of between identity and wellbeing for Pacific peoples. For example, applying the Fonofale model to the explorations of culture conflict outlined by Tiatia (1998) we see the importance of family in understanding the role of culture and cultural practices in understanding of the self, in addition to how intergenerational or cultural conflicts within the family can affect wellbeing.

Pacific Research and Methodologies

There have been two general ways of exploring Pacific identity and wellbeing. One was using the Pacific frameworks and models outlined above. They bring to the forefront Pacific values, worldviews and knowledge on what ethnic and cultural identity is, how it is experienced and what it means to Pacific individuals. They also bring to the forefront how the self is not often viewed in terms of the individual, but as the individual within the family, the community and larger society. A Pacific individual's identity is an aspect of their wellbeing. The other way of exploring the identity and wellbeing of Pacific people is through quantitative research. Measures that assess ethnic identity and wellbeing provide a way to statistically model the relationships between the two. These measures have usually been developed so that they are applicable across all groups and so although they assess specific constructs, they do so in a manner that can be generalized across all groups. In this way, they are unable to bring to forefront Pacific values and perspectives.

Talanoa

The most common Pacific research methodology is Talanoa. It is a phenomenological approach that focuses on understanding the meanings of participants, grounded in oral traditions of Pacific cultures, and has roots with Tongan and Fijian cultures. The word Talanoa itself is derived from two different words; *tala* meaning to speak, talking or telling stories, and *noa* meaning about nothing, zero or without concealment. Vaioleti (2006) describes its meaning as “*talking about nothing in particular*” (p. 23) whilst Halapua (2000) describes its meaning as “*frank expression without concealment*” (p. 1). Within a research context, there will be a topic of discussion, however with Talanoa the focus is on the process rather than the outcome (Robinson & Robinson, 2005). In this sense, Robinson and Robinson (2005)

describe traditional Talanoa as one that differs from Western concepts because there is no linear process, but rather it is an approach that is flexible and at times circular. As Halapua (2005) shares, Talanoa can act as a mediator between the worldview of the self and others, and is achieved through an “open agenda”. This means participants can shape and-re-shape the agenda of the talanoa during the process rather than prior.

Talanoa as a Pacific research methodology is popular because it embodies core values found throughout the Pacific. Aside from being consistent with oral traditions it allows for relationship building, reciprocity and flexibility which all lead to a collective sense in the diversity of Pacific lives. A core value of Pacific cultures that is embedded within Talanoa is respect. Vaioleti (2006) notes that within Pacific research contexts, participants may behave in a way that reflects the power and cultural dynamics of age, gender, cultural rank or community standing of the researcher, and thus bias results. Therefore, engaging in relationship building before dialogue about the topic usually takes place. By doing so, any power dynamics between the researcher and participants, which may usually be reinforced by respecting each other’s social and cultural positions, are dismantled. The face-to-face dialogue also removes distance between the researcher and participants. This allows for Halapua’s (2000) description of talanoa as frank expression without concealment.

I agree with Vaioleti’s (2006) assertion that Talanoa allows a more authentic way for Pacific researchers to gather information with Pacific participants. As a cultural practice that has been theorized and re-imagined as a Pacific research methodology, the innate cultural values embedded within it resonate with Pacific researchers and participants. Talanoa offers a rich, contextualized account of Pacific peoples understandings, lived experiences and aspirations through a methodology that

allows the Pacific self to shine through, unfiltered by the parameters of Western research methodologies.

Despite the strength of Talanoa as a Pacific research methodology, it still has some limitations. Like other qualitative methodologies, Talanoa offers highly contextualized information. As such, it is difficult to generalize results to broader Pacific populations. This highlights a major gap in methodological approaches in Pacific psychological research. Whilst psychological measures offer a way to gather information from large samples across broader samples and populations, they are not culturally-nuanced in a way that highlights Pacific lived experiences. In contrast, Talanoa is an exceptional way to understand lived experiences, however seeing how this relates to the wider Pacific populations is difficult.

Mixed-Methods – One way to bridge the gap

The gap between Pacific methodologies and Psychological theories and measurements meant that this space has been informed via mixed-methods. The advantages of quantitative methods lie in their ease, efficiency and ability to work with large samples. It is a good way to get the breadth of knowledge. It is possible to get highly contextualized results that model individual differences, however to get this kind of information one would need to conduct longitudinal research which can be very expensive and difficult to maintain. Qualitative research has the advantage of giving voice to the highly contextualized lived experiences of individuals, their understandings of the world around them and the meanings they ascribe to their own personal experiences. However, it is difficult to get the rich depth of information across broader populations. Mixed methodologies offer an effective way of getting both the breadth and depth to address research questions.

Examples of mixed-methodologies employed in Pacific research includes the work of Mila-Schaaf (2010). Her research combined a quantitative exploration of the Youth2000 data set that identified positive associations between identity and educational outcomes, which was further explored by a qualitative exploration of successful NZ-born Pacific peoples in which she developed Polycultural capital as was outlined earlier. Another example includes the work of Taufu (2014) who explored teenage pregnancy amongst young Tongan mothers. Her thesis combined a quantitative analysis of differences in access to contraception, sexual health, abortion rates, and pregnancy rates between Pacific and non-Pacific groups in NZ. Her work then focused on the experiences of Tongan teenage mothers, understanding and contextualising the issues and challenges that they faced. This led to the development of a model of understanding teenage pregnancy.

The work of these two researchers exemplifies the way that quantitative and qualitative methodologies complement each other and bridge the gaps in the limitations that each methodology has in answering research questions. In both research projects, patterns in the data were identified. However, the data they were dealing with was largely descriptive of their respective samples. After identifying patterns, both researchers noted what the data was unable to show; the stories, narratives and lived experiences of the people behind the numbers. Their qualitative explorations, including the use of Talanoa, offered a nuanced insight into the experiences of people of whom those statistics speak too. The mixed-methods approach offers both the scope of a phenomena being investigated, in addition to how individuals engage with and understand phenomena.

Mixed-methodologies are excellent. If researchers have more strength and proficiency with one methodology over the other, collaborative projects that draw on

the methodological strengths of a team of researchers is another way forward to addressing pressing social issues. Another way to bridge this gap between quantitative, qualitative and Pacific methodologies is to develop psychometric tools that represent the worldviews of the groups of which they are assessing. It is from this space that the Pacific Identity and Wellbeing Scale (Manuela & Sibley, 2013) emerged.

The Pacific Identity and Wellbeing Scale – A new direction for Pacific research

The PIWBS is the first psychometric tool developed specifically for Pacific peoples within the NZ context. It was developed through an integration of psychological theories of ethnic identity, wellbeing and scale construction techniques, together with Pacific research, ideas and worldviews on what is important for identity and wellbeing. The PIWBS draws parallels between psychological theories and themes that have emerged from Pacific research on aspects of identity and wellbeing for Pacific peoples that have been discussed above. Like other general measures of identity and wellbeing, it assesses different components of these psychological constructs. However, it further contextualizes these components by bringing Pacific views and experiences of these components to the centre.

The PIWBS was developed across two studies. Study 1 was an exploratory factor analysis to find a factor structure of a range of items that represented common themes of identity and wellbeing that were found in literature of Pacific identities, models of health and wellbeing, psychological theories of identity and wellbeing, and interviews with self-identified Pacific individuals. An initial item pool of 125 items was developed through a combination adapting existing measures such as Cultural Efficacy (Houkamau & Sibley, 2010) and the Multigroup Ethnic Identity Measure (Phinney, 1992), as well as items that were inspired from interviews with Pacific participants. The items were developed for various themes that were found in the review of literature and interviews that included family, NZ society, religion and spirituality, evaluations of group membership, a sense of belonging and cultural practices and participation.

An exploratory factor analysis was conducted on the responses from a sample of 143 participants and results supported a five-factor model. These five factors appeared to represent satisfaction with family, satisfaction with society, evaluations of group membership, a sense of belonging, and religion as part of Pacific identity. There was some weak evidence for a sixth factor that appeared to be assessing cultural practices, however the variance explained by this factor was minimal. A parallel analysis comparing results to those expected by chance in a sample with similar properties provided support for a five-factor model.

A second study was conducted using the five-factor model that was identified in the first study. The aim of the second study was to test the five factor model on a separate sample.

A second study used a confirmatory factor analysis (CFA) to test the five-factor model identified in the first study with a separate sample. A CFA is a more stringent test than and EFA. Whilst an EFA allows all items and factors to relate, within a CFA model, item loadings are constrained to one factor. This means CFA allows a test to see how well a particular model fits the data. The results of this study provided strong support for model fit ($n = 443$).

The five factors of this model represent various components of ethnic identity and wellbeing that were common across Pacific research and also within psychology. The two factors below assess broader aspects of satisfaction in domains that are of important significance to Pacific peoples. Family is consistently highlighted as an important aspect of Pacific peoples' lives. Another consistent theme was the conflicts or tensions that Pacific people experienced with NZ society. These two factors provide an assessment of satisfaction in these two areas.

Perceived Familial Wellbeing - This factor assesses an individual's satisfaction of different aspects of their family. Family was a common theme throughout the literature as a source of learning about culture, social support and also potential conflict through perceived intergenerational differences. Items in this factor ask participants to rate on a scale of 1 (Completely Dissatisfied) to 7 (Completely Satisfied) their:

- Relationship with your parents
- Position with your family
- The respect you give for your parents
- Communication with your family
- The respect you receive from your family
- Your family's happiness
- Your family's security

The items in this factor tap into important values held in many Pacific cultures such as respect, reciprocity and nurturing relationships.

Perceived Societal Wellbeing – This factor assesses an individual's satisfaction with different aspects of NZ society. This ranges from perceived support from their local community, to the national government. This is also framed around one's position within NZ as a Pacific person. Assessing satisfaction with NZ society at various ecological levels provides an overall assessment of general societal satisfaction. Participants are asked to rate on a scale of 1 (Completely Dissatisfied) to 7 (Completely Satisfied):

- Support provided by the New Zealand government to you as a Pacific Islander
- Your position in New Zealand as a Pacific person

- The support you receive as a Pacific Islander in New Zealand
- Your personal needs being met by New Zealand
- Your relationship with New Zealand society
- The support you receive as a Pacific Islander in the community you live in
- The support you receive in the community you live in.

The following three factors represent different aspects of ethnic and cultural identity for Pacific peoples. Consistent themes in the literature highlight an affective component associated with being a Pacific person, a sense of belonging with others and the importance of religion in learning, maintaining, practicing ones' culture and identity. For each factor, participants were asked to rate the items from 1 (strongly disagree) to 7 (strongly agree).

Group Membership Evaluation – This factor assesses an individual's subjective evaluation of their perceived membership with a Pacific group. It includes an evaluation of positive affect derived from group membership and evaluations of one's identification with the Pacific group as a centrally defining aspect of the self. This factor represents a strong link between findings with Pacific individuals concerning their identification with and pride about being Pacific. The items and underlying construct draw upon those as outlined by Phinney (1992) who proposes positive affect derived from group membership as an essential component of ethnic identity. It also draws on items by Leach *et al.*'s (2008) sub factor of ethnic identity centrality, which looks at the extent to which one's identification with their ethnic group is central to their self-concept. The items assessing this factor are:

- The fact that I am an Islander is an important part of my identity

- Being an Islander is an important part of how I see myself
- I am glad to be a Pacific Islander
- Being a Pacific Islander gives me a good feeling
- I am proud to be a Pacific Islander

Pacific Connectedness and Belonging – This factor assesses an individual’s sense of belonging and sense of connectedness with other Pacific peoples and Pacific groups as a whole. It indexes the extent to which one feels that they are also an integral part of the Pacific group. Items are framed around perceived connections with others and sense of belonging to the Pacific group/s. This factor highlights the importance of relationships within Pacific cultures as well as the shared experiences of Pacific peoples that has also contributed to a flourishing broader identification with the Pacific group at a general level (Macpherson, 1996; Anae, 1998; 2001). This factor also highlights the psychological aspects of a fundamental need to belong (Baumeister & Leary, 1995) and sense of belonging as part of ethnic identity as outlined by Phinney (1992). The items for this factor are:

- I feel at home around other Islanders, even if they are not from my Island
- I feel connected to other Pacific peoples in general
- I feel connected to people from a different Pacific Island to myself
- I feel comfortable in places with lots of other Pacific peoples
- I feel most comfortable in Pacific communities
- I don’t *get along* with other Island groups

Religious Centrality & Embeddedness – This factor assesses the extent to which an individual feels that religion is a centrally defining aspect of their Pacific culture. The focus is on Judeo-Christian based religions as they are the most prominent amongst Pacific cultures. This factor is based on research that highlights the role of church as a vessel for practicing, learning and maintaining cultural activities and in the formation and maintenance of identity. It is important to note that this factor is *not* assessing spirituality or religious identification, but rather the extent to which one feels that religion is an integral aspect of their Pacific cultural identity. Spirituality indeed does have importance in the lives of Pacific peoples, however items pertaining to spirituality did not load on any factors within the model. The items for this factor are as follows:

- Going to church is part of my culture and religion
- God has a strong connection to my culture
- Religion is not important for my culture
- Our religion is the centre of our culture as Pacific Islanders
- Part of being a Pacific Islander is having a connection with God
- Religion is the root of our Pasifika culture

The PIWBS provides the bridge between psychology, quantitative methods and Pacific knowledge. It draws extensively on research concerning Pacific identities, the cultural values found throughout the various Pacific Nations within NZ, and the holistic way of conceptualizing the Pacific self that is inclusive of identity, wellbeing and important domains of life such as spirituality and family. It also draws parallels to psychological theories concerning ethnic identity and wellbeing such as the affective component of group membership, sense of belonging, and satisfaction with life domains.

At the time of development, the PIWBS was the only tool of its kind designed specifically for the Pacific populations in NZ. It emerged from a space that integrated psychological and Pacific knowledge concerning both the underlying psychological constructs of ethnic identity and wellbeing and the culturally nuanced experiences of Pacific peoples in NZ. It was also a response to the paucity in quantitative research for the identity and psychological wellbeing of Pacific peoples.

Practitioners and researchers have responded in kind to inequities in mental health by highlighting cultural differences in the way mental health is understood. This is where models such as Fonofale have arisen. There has also been a drive toward bringing Pacific cultural values and worldviews to light in clinical settings. For example, a review of Pacific cultural competencies (Tiatia, 2008) highlights the importance of family in dealing with Pacific clients. New therapies have been developed that utilize Pacific values in establishing relationships with one another, such as the Talking Therapies guide (Te Pou, 2010). However, what was lacking were the quantitative tools that also incorporate Pacific cultural values and worldviews. Most quantitative assessments are from a Western paradigm and thus are more reflective of Western values. The PIWBS changed this and allows for a new way of conducting Pacific-oriented research.

The PIWBS was developed with the intention for researchers wishing to adopt a more culturally specific stance when conducting identity and wellbeing related research with Pacific peoples. As the developer of the PIWBS, I have been personally contacted numerous times regarding advice on how it can be used in research addressing experiences of Pacific tertiary students but primarily for how it can inform research on the mental health and wellbeing of Pacific peoples. Aside from being used primarily as a research tool, the PIWBS has also been used in other settings to

inform organisations and individuals about Pacific peoples they deal with. For example, the PIWBS was used in the pilot of developing an assessment tool to assist education and welfare managers with the relocation of Pacific players selected for development squads in the NRL (National Rugby League).

By providing a quantitative tool to assess these constructs of Pacific identity and wellbeing, it allows new directions to pursue the effects of unique cultural and ethnic aspects of identity and wellbeing for Pacific peoples. It builds upon the foundations of Pacific perspectives of identity and wellbeing. For example, whilst the Fonofale model offers a holistic way to understand the relationship between domains of life for Pacific peoples, it does not provide a way to quantitatively assess them (nor does it need to). Furthermore, Fonofale and other models of health and wellbeing highlight the importance of balance in the various domains for overall wellbeing. This implies that all areas of life hold equal importance to Pacific individuals, or that all domains are central to identity and wellbeing. Whilst providing a guiding overview and way to understand the interrelationships of different Pacific life domains, the PIWBS is the only tool thus far that can assess the extent to which individuals are satisfied or identify with these different areas. It does not assume that Pacific peoples value these different areas of their lives to the same extent, but rather measures it. To do so will allow us to see how Pacific peoples subjectively rate the various identity and wellbeing domains relative to others.

However, the PIWBS still has its own questions that need to be answered. Namely, how can it be used to inform research directions? How can it assess the importance of cultural practices and participation? Is it suitable for use with specific groups, or does it only assess identity at a general Pacific level? How can it be applied to answer specific research questions?

II. SCALE DEVELOPMENT, REFINEMENT AND VALIDATION

Part II of this thesis includes three studies that outline:

1. How the PIWBS can be used as a conceptual model and framework to guide research directions concerning Pacific identities and wellbeing.
2. A revision of the original PIWBS model to include an additional factor of Cultural Efficacy and testing the model fit of the new six-factor model.
3. A test of the measurement equivalence to specify if the same PIWBS constructs are being assessed within specific Pacific groups, and a comparison of the mean levels of each factor across those groups.

Each study presented in this chapter has been published in a peer-reviewed journal, and will be indicated before each study. They will be presented as they have been in their respective journals, and represent the information that was available at the time of publication. For instance, at the time of writing some of these studies, information was used from the 2006 NZ census. Statistics New Zealand conducts a census every five years, however the 2011 census was cancelled due to the February Christchurch earthquake of that year.

As each study has been published, they are intended to be read as a stand-alone piece of work. As such, it was necessary to provide information on the PIWBS tool and Pacific peoples within the NZ context in each introductory section. This can make for repetitive reading, however the contribution of each study is unique. Between each study, I will offer bridging comments to link the chapters together, showing the progression and development of the PIWBS as a Pacific psychological research tool.

II. SCALE DEVELOPMENT

The aim of the first study is to strengthen the conceptual understanding of the original PIWBS tool. More specifically, to highlight what the PIWBS is – a quantitative tool that can further psychological understandings of what it means to be a Pacific person in NZ. Models of Pacific health and wellbeing offer a unique perspective of how to understand Pacific individuals and communities from a Pacific worldview. A key strength of these models is their representation of the dynamic relationships between different aspects of the self: family, culture, spirituality, social context, environment, the physical body. Whilst all these domains are not assessed by the PIWBS, it still covers a wide array of psychological aspects of ethno-cultural identity and wellbeing.

Aside from correlation analyses that can show relationships between the PIWBS factors, this study explores the hierarchical relationships of factors from their broader to more specific expressions. By drawing on inspiration of the Fonofale model as a way to conceptualise the Pacific self, this method of exploring relationships could also potentially reveal a way that the Pacific self is organized.

In addition to wanting to explore the relationship between the identity and wellbeing factors, I wanted to theorize how the PIWBS could be used not just as a data collection tool, but also a theoretical model that could aid understanding and research directions for issues that Pacific communities face.

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Study 1: Exploring the Hierarchical Structure of Pacific Identity and Wellbeing

Abstract

To understand outcomes for Pacific peoples in New Zealand we need to further our psychological knowledge of the relationship between Pacific identity and wellbeing. We map the hierarchical organization of Pacific identity and wellbeing using a novel top- down factor analytic approach applied to the Pacific Identity and Wellbeing Scale (PIWBS; N = 586). Analyses indicated that Pacific identity experiences were organized within two broad dimensions reflecting Identity Engagement and Cultural Wellbeing. Critically, our analysis showed that Religious Centrality and Embeddedness emerged jointly from these dual broad domains. Religious identification provides a bridging link between identity and wellbeing for Pacific peoples. Identifying the relationships of Pacific identity and well- being factors, and how religious identification emerges jointly from these two broad domains, provides valuable information in how the Pacific self may be cognitively organized and may assist in future research directions in this area. We assert that this general statistical model provides broad conceptual insights into how Pacific peoples experience their identity and culture, and how this relates to various social indicators of health and wellbeing at a broad, theoretical level. In particular, we offer a conceptual analysis of possible insights from our hierarchical model of identity and wellbeing for understanding Pacific suicide in New Zealand.

Keywords Pacific nations - Identity - Wellbeing - Hierarchical structure - Scale development

Introduction

Pacific peoples in New Zealand (NZ) are well known for their rich cultural diversity, languages and identities. In addition, Pacific peoples are one of the fastest growing ethnic groups in NZ (Statistics New Zealand, 2006). However, our understanding of the psychology of Pacific peoples is limited. What we do know is that Pacific peoples are over- represented in statistics on negative mental health, gambling and addictions (Oakley- Browne *et al.*, 2006). Whilst this paper does not seek to completely solve these issues, we argue that furthering our understanding of the cognitive structure of identity and evaluations of subjective wellbeing for Pacific peoples can help research eventually achieve this goal.

Pacific people in New Zealand are often referred to, and analysed in various datasets, as a combined group. According to data from the 2006 New Zealand census, Pacific peoples as a whole make up approximately 7 % of the New Zealand population (Statistics New Zealand, 2006). However, this broad group is made up of many more specific groups tracing their origin to different islands in the South Pacific. The seven largest Pacific groups that comprise this broad category have origins from Samoa (47 %), Cook Islands (21 %), Tonga (18 %), Niue (8 %), Fiji (4 %), Tokelauans (2 %) and Tuvalu (1 %) (Statistics New Zealand, 2006). Pacific people as broad group are the most religious ethnic group in New Zealand. In an analysis of national probability sample collected in 2009, Hoverd and Sibley (2010) reported that 67 % of Pacific peoples in New Zealand were religious and identified with a Christian faith (a further 8.7 % were religious but did not identify with a Christian faith specifically. In contrast, a lower proportion of Europeans, Māori and Asian peoples in New Zealand identified as religious (43, 49.1, 59.5 %, respectively). Similarly, according to the 2006 New Zealand Census 83 % of Pacific peoples

indicated that they had a religion, with 97 % of those identifying with a Christian religion (Statistics New Zealand, 2006).

Pacific people as a broad group are at risk of negative health and wellbeing outcomes across a variety of indicators. For example, Pacific people have a median income of \$20,500, lower than that of national median income of \$24,400 (Statistics New Zealand, 2006). In terms of health, Pacific peoples have a high prevalence of preventable and chronic illnesses such as Type 2 diabetes (Health Partners Consulting Group, 2012). Pacific peoples, along with Asian peoples, show significantly higher levels of non-specific psychological distress (indexed by the Kessler 6) relative to their European and Māori counterparts (Krynen *et al.*, 2013). Finally, a pressing concern that has been felt by the Pacific community in New Zealand recently is issues surrounding suicide. Statistics on suicide and suicidal behaviour show that Pacific peoples, along with Māori, have a higher rate of suicidal behaviour and suicide attempts relative to other ethnic groups (Oakley- Browne *et al.*, 2006). When adjusting for socio-demographic factors, Pacific peoples show higher rates of suicide planning and suicide attempts (Beautrais *et al.*, 2006). Critiques of Western mental health explanations suggest that there may be a lack of focus on culturally relevant issues that may influence suicidal behaviours (Henare and Ehrhardt, 2005). The factors behind the disproportionate representation of Pacific peoples in these social indices are complex. However, there may be cultural barriers and cultural differences in health beliefs that can influence healthy lifestyle choices and health care seeking behaviour (Health Partners Consulting Group, 2012). One way towards improving these statistics is to increase our understanding of the ethnic identity and wellbeing of Pacific peoples and how this may apply to positive health behaviour and positive health outcomes.

II. SCALE DEVELOPMENT

We know from sociological and anthropological research that family, religion and society are influential in the identity and wellbeing of Pacific peoples (Anae, 1998; Mila- Schaaf, 2010; Tiatia, 1998). These two core aspects of Pacific identity and wellbeing also form the basis for empirical research in the area, and are operationalized in the Pacific Identity and Wellbeing Scale (PIWBS: Manuela and Sibley, 2013). However, questions remain about how the different facets of Pacific identity and wellbeing are related to each other. Are there broad domains of identity and wellbeing that can be split into more specific domains? Are there some aspects of identity and wellbeing that are totally distinct or are some dimensions more strongly related than others? In other words, how is Pacific identity and experiences of wellbeing cognitively organized for Pacific peoples?

Here we explore the structure of Pacific identity and wellbeing by applying the top- down factor analytic method proposed by Goldberg (2006) in the study of the structure of personality factors. Using Goldberg's (2006) novel approach, we examine how the factors of the PIWBS are hierarchically organized in terms of broader, abstract domains down to more fine-grained aspects of identity and wellbeing. Modeling identity and wellbeing in this way is directly relevant for entire areas of Pacific research as it sheds new light on the relationship between identity and wellbeing. To highlight how this may inform future Pacific research, we will apply the proposed hierarchical model of Pacific identity and wellbeing to one solemn issue facing Pacific communities in NZ today - suicide. We will show how the proposed hierarchical representation conceptually fits with research on Pacific suicide as a way of modeling understanding of the Pacific self. We focus on suicide to highlight how understanding the factor structure of a model in this way can be applied to Pacific research in other areas.

Pacific Identity and Wellbeing

Before outlining the details of our quantitative model of Pacific identity, and its hierarchical structure, we offer a brief review of previous conceptual models and research of Pacific identity and wellbeing upon which our empirical approach is based.

From a traditional psychological perspective, ethnic identity can be described as a general phenomenon where one identifies their self as belonging to a particular ethnic group. Such identification entails a sense of belonging to that group, positive attitudes towards that group, and participation in the group's cultural practices (see Phinney, 1990 for a review). Wellbeing, in contrast, relates to one's subjective evaluation of their happiness and satisfaction with life (Diener, 2006) and has three hallmarks: it is subjective; it includes positive measures; and it is a global assessment of all aspects of one's life (Diener, 2009). Ethnic identity and wellbeing are often viewed separately in psychology. Nevertheless, much research has been conducted examining the relationship between the two constructs (see Smith & Silva, 2011 for a review). Adopting this perspective of ethnic identity and wellbeing, we can say that ethnic identity represents part of the self-concept and that wellbeing is a subjective state to which it can be related. However, when viewing identity and wellbeing through a Pacific lens, a different picture emerges.

From a Pacific perspective, the self is viewed holistically, with various related components intertwined in a reciprocal relationship. Aspects of identity and wellbeing are generally not viewed separately, but rather, as seen as integral parts of the overall self. Various indigenous Pacific models show these relationships using physical structures to metaphorically reflect the Pacific self. One such example is the Fonofale

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Model (Crawley *et al.*, 1995), a Pacific model of health and wellbeing that reflects the overall Pacific self as a fale (traditional meeting house; see Manuela & Sibley, 2013 for an illustration of this model). The different components of the fale represent different aspects that comprise the Pacific self. The foundation represents family, which is the foundation of Pacific cultures and a fundamental system for Pacific social organization. The roof represents culture and values that are the shelter for life. Connecting the foundation (family) and roof (culture) are four posts that represent (1) spirituality, (2) physical wellbeing, (3) mental wellbeing and (4) various other aspects including: gender, sexual orientation, age, social class, employment and education. Surrounding the fale is a cocoon that represents the environment, time and contexts that have direct or indirect influences on each other.

Because of the way the fale is constructed, if one component is out of balance, the rest of the structure will be affected (e.g., a poor foundation may not provide enough support to hold the posts and roof in place during a storm). The same is considered for a Pacific individual, if one aspect of the life is out of balance, it can affect the overall self (e.g., the state of one's relationship with their family may have effects on aspects of wellbeing, cultural values, behaviours and identity). Focusing on the more specific aspects of the overall Pacific self, the literature highlights five important areas: family, society, religion, positive affirmation and a sense of belonging (Crawley *et al.*, 1995; Tiatia, 1998; Anae, 1998).

The influence of family on a Pacific individual is indicative of the collectivist orientation of Pacific peoples. In a Pacific context, family generally refers to the wider extended family as opposed to the nuclear family. As discussed above, family is represented as a foundation for Pacific cultures and a basis of social organization. Other models of Pacific health highlight the role family plays where values, beliefs,

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traditions and wisdom are shared (Kupa, 2009). Furthermore, Pacific research has identified family as a key mechanism through which social support is gained (Anae, 1998; Pene *et al.*, 2009; Poland *et al.*, 2007; Tiatia, 1998).

Pacific models of health identify society as an essential component to the overall wellbeing of Pacific peoples. For example, the Fonofale model reflects society as a cocoon that encapsulates an individual that has either direct or indirect influence on their wellbeing (Crawley *et al.*, 1995). Other Pacific models highlight society as an essential system to ensure that individuals and families are well supported (Kupa, 2009). Furthermore, as a minority group in NZ, Pacific peoples are likely to face social pressures in relation to differences in their own culture and predominant Western influences (Tamasese *et al.*, 1997; Manuela & Sibley, 2013). In contrast, other research suggests that Pacific migration to NZ can provide benefits to mental health in the short term (Stillman *et al.*, 2009).

The influence of religion and spirituality on the identities and wellbeing of Pacific peoples is not unique to this population. Nevertheless, religion remains an important facet of Pacific identity. Typically, Western models of identity and wellbeing do not include aspects of religion or spirituality (Phinney, 1990). However, there are examples of ethnic- specific identity models that do include them (see Houkamau & Sibley, 2010; Sibley & Houkamau, 2013). Specifically, religion has a huge influence on the many Pacific communities that reside in NZ (Taule'ale'asumai, 2001) with approximately 83 % of Pacific peoples identifying with a religious group in NZ according to the last census (Statistics New Zealand, 2006). Early research suggests that religion can play a role in both Pacific identities and wellbeing. For example, Macpherson (1996) notes that church can be viewed as a village away from the islands where families can attain social connections, social

support and fulfil their religious needs. In addition, Pacific models of health include religion and spirituality as a force that drives one forward (Kupa, 2009). On the other hand, religious aspects have been identified as inextricably linked to one's Pacific culture, thus playing a key role in exploring cultural aspects that influence Pacific identity formation (Anae, 1998; Tiatia, 1998). Furthermore, religion and spirituality have been identified in Pacific models of health as a connection between one's family and one's culture (Crawley *et al.*, 1995).

The Pacific Identity and Wellbeing Scale (PIWBS)

The PIWBS (Manuela & Sibley 2013) is a culturally appropriate self-report measure that assesses a five-factor model of Pacific identity and wellbeing within a New Zealand context. It provides a quantitative representation of the holistic, psychological experience of identity and wellbeing for Pacific peoples. The PIWBS (Manuela & Sibley, 2013) was derived through an integration of psychological and Pacific research on identity and wellbeing. Items for the initial scale were developed and the underlying factor structure of the large set of items was examined via exploratory factor analysis (EFA). Analyses supported a five-factor model with 31 items. The model was further substantiated using confirmatory factor analysis (CFA) of an independent sample, which indicated that a model with five correlated dimension fit the data well—and far better than many alternative solutions, including a two-factor model of identity and wellbeing. Each of the five factors represents a unique and culturally relevant aspect of identity and wellbeing. The factors that were identified include:

- **Group Membership Evaluation (GME):** This factor indexes the subjective evaluation of one's perceived membership within the Pacific group. It includes

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both an evaluation of positive affect derived from one's self-perceived membership within the Pacific group, and the notion of one's Pacific identity as a centrally defining aspect of the self-concept.

- Pacific Connectedness and Belonging (PCB): This factor indexes one's sense of belonging and connectedness with Pacific others and the Pacific group as a whole. It indicates a personal investment in the extent to which one feels that they are an integral part of the Pacific group. It is framed around how one perceives their connections with Pacific others and their sense of belonging with the Pacific group at a general level.
- Religious Centrality and Embeddedness (RCE): This factor represents one's subjective evaluation of the extent to which religion is a centrally defining aspect of the Pacific self, and intertwined with one's Pacific culture. It is reflected through the lived experiences associated with one's religion within Pacific communities, connections and the interwoven nature of religion and Pacific cultures.
- Perceived Societal Wellbeing (PSW): This factor represents one's perceived satisfaction with the support they receive from New Zealand society and is framed around one's position as a Pacific person in NZ. This is assessed at various levels ranging from local communities to the national government. It indicates the extent to which one perceives their self to be accepted and supported by NZ society at large.
- Perceived Familial Wellbeing (PFW): This factor represents one's perceived satisfaction within the domain of their family. Familial wellbeing is reflected through a combination of Pacific values of respect and observance of tapu (sacred) relationships, and other values of happiness and security in relation to

one's family.

The PIWBS (Manuela and Sibley, 2013) is the first quantitative model of Pacific identity and wellbeing that we are aware of. The strength of the PIWBS lies within its unique take on how ethnic identity and wellbeing are conceptualized within a quantitative model. Traditionally, Pacific research on identity and wellbeing is of a qualitative nature that conceptualizes identity and wellbeing as interrelated aspects of a conceptual whole. The PIWBS reflects this indigenous standpoint by including domains of culturally relevant wellbeing and identity within a single model as opposed to creating separate models for identity and wellbeing. Alternatively, we could explore ethnic identity and wellbeing for Pacific people separately. For example, there is the Multigroup Ethnic Identity Measure (Phinney, 1992) that assesses ethnic identity as a general phenomenon. This is useful for comparisons across ethnic groups. In the case of intra-cultural research with Pacific people, however, the MEIM is unable to capture some of the more culturally specific aspects associated with Pacific identities (such as the influence of religion).

The PIWBS is reflective of the Fonofale model and, in a way, compliments such a model. However, whilst the Fonofale model provides an explanation of how the various components of Pacific health and wellbeing are related, there is currently no such explanation for the PIWBS. Theoretically, one would expect the factors of the PIWBS to be related in a similar manner. We suspect that, as the Fonofale model and extant literature suggests (Crawley *et al.*, 1995; Pene *et al.*, 2009; Poland *et al.*, 2007), Family will play a major role and be one of the overarching constructs within the identity and wellbeing hierarchy. We also expect to see a link between broad dimensions of identity and wellbeing, most likely via a religious component; the RCE factor. To examine how the factors are related to each other, we employ a top-

down factor analytic method to construct a hierarchical structure of Pacific identity and wellbeing.

Hierarchical Factor Analysis: Exploring the hierarchal structure of the PIWBS

Although Manuela and Sibley (2013) showed that the PIWBS indexed five reliable and distinct factors, they did not assess whether these factors might exist within a more complex hierarchically organized representational structure. One way to assess this would have been to specify higher-order factors within a CFA. Goldberg (2006), however, recently presented a more exploratory approach that does not rely on an *a priori* hypothesized factor structure. Goldberg's (2006) method explores how factors are organized in terms of broader and more abstract domains at higher levels of the hierarchy, to more specific domains at lower levels. This is achieved by conducting a series of EFAs with an orthogonal rotation, starting with one factor and increasing the number of factors in each analysis. Following this, we can calculate the part-whole correlations between broader dimensions and more specific dimensions residing below. We can then construct a hierarchical structure that allows us to see how specific factors within the model are related to each other at various levels, by observing the pattern of significant correlations between the broad and narrow dimensions at each level.

Applying this method to data used in developing the PIWBS will allow us to explore the ways in which global and abstracted dimensions of Pacific identity and wellbeing emerge and continue to split into the already validated, narrow-bandwidth (or more specific) five- factor model outlined by Manuela and Sibley (2013). As Goldberg (2006) commented, one can think of this analysis as providing a

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representation ‘akin to a flow chart of factor emergence’ (p. 356) in which the part-whole correlations between factor scores extracted at different ‘levels’ are akin to path coefficients from factors at one level predicting those at the next more specific level of emergence. Thus, these correlations could show how the specific dimensions of Pacific identity and wellbeing in the PIWBS are organized at a more general or global level.

Goldberg (2006) originally applied this method to understand the structure of personality. Subsequently, additional research has applied Goldberg’s (2006) method to further understand other phenomena such as musical preferences (Rentfrow *et al.*, 2011), impulsivity (Kirby & Finch 2010) and national character (Sibley *et al.*, 2011). Houkamau and Sibley (2010) have shown how Goldberg’s (2006) method can be particularly useful for understanding the content and structure of identity. They showed that specific dimensions of their Māori identity model were subsumed under more abstract dimensions at higher levels. For example, two factors of Māori identity (namely, Group Membership Evaluation and Socio-Political Consciousness) emerged jointly and evenly from a broader dimension of Self-Identification as Māori in a Socio-political Context. They argue that this model indicates that identification as Māori exists within a socio-political context, where to identify as Māori is to also identify with a particular social milieu where one’s ethnic group is located within a context of relations between Māori and Pakeha (NZ European) in NZ.

Interestingly, the different levels of the hierarchical structure of related factors provide a way to focus attention on specific factors of a model that will benefit particular research goals. For example, Houkamau and Sibley (2010) suggested that the third level of their model provides the most interesting information as it shows how the six factors of the model are subsumed under three broader categories. So,

should one wish to explore Enculturated Experiences of Māori Identity Traditions (one of the factors at the third level), one could focus on two factors that are subsumed under this, Spirituality and Cultural Efficacy and Active Identity Engagement. Guiding research in this way provides a strong theoretical basis for expected outcomes and can help understand complex findings. The same principle can be applied to the PIWBS, where it is possible that the conceptual insights that this analysis may provide, in terms of understanding Pacific identities and culture, can assist in areas of urgent research such as Pacific suicide and suicidal behaviours in New Zealand.

Given that Goldberg's (2006) method has provided insight into the structure of identity for Māori, how might the identity and wellbeing of Pacific peoples be structured? Given the holistic conceptualization of the Pacific self, as suggested by qualitative models and research, how might we expect the different levels of the hierarchical structure of Pacific identity and wellbeing to appear? Most importantly, how might the different factors of Pacific identity and wellbeing be related?

Overview of the Present Study and Hypotheses

Manuela and Sibley (2013) presented extensive analyses showing that the PIWBS assessed five distinct dimensions of Pacific identity and wellbeing. Here, we extend this analysis to examine the hierarchical structure of the scale, that is, to identify the broader grouping structure under which specific aspects of Pacific identity and wellbeing are organized. We do this by applying Goldberg's (2006) hierarchical factor analysis method to the PIWBS. The data we analyze here were generated by combining data from two previous independent samples reported in Manuela and Sibley (2013), which were originally collected to develop the PIWBS

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scale. Aspects of the data are also reported in Manuela and Sibley (2014), examining the identification and wellbeing of multi-ethnic versus mono-ethnic Pacific peoples. As far as we are aware, this is the largest sample of Pacific peoples in New Zealand to be collected that focuses specifically on psychological aspects of identification and wellbeing. Manuela and Sibley (2013) used these data to examine the reliability of the scale and to identify the initial factors, but the hierarchical structure of the scale has never been examined. As such, the analysis of the hierarchical structure of the PIWBS we report here represents a novel contribution to the literature that has not been previously reported.

As the name of our model suggests, we expect to see two broad dimensions to emerge from our data: Pacific identity on the one hand, and wellbeing on the other. We argue that these are the two broad and centrally organizing dimensions of our model, and everything else that splits at lower levels are more specific expressions of identity and wellbeing. One of those specific expressions that we expect to see at a higher level of the hierarchical structure is the perceived familial wellbeing (PFW) factor. Given the collective nature of Pacific cultures, and the large influence of familial relations in the daily lives of Pacific peoples, we expect to see the PFW factor emerge quite early as a more specific expression of a broader sense of wellbeing.

Religious aspects are highlighted as playing a role in both constructing and maintaining identity and wellbeing (Anae, 1998; Macpherson, 1996), whilst making no clear distinction between the two. It is possible that religion plays a role in both identity and wellbeing, thus acting as a link between the two within the holistic conceptualization of the Pacific self. In addition, the Fonofale model highlights religion and spirituality as one of the links between family (a source of wellbeing according to the PIWBS) and culture (as represented by the identity factors of the

PIWBS). Thus, we predict that the Religious Centrality and Embeddedness factor of the PIWBS will emerge jointly from two broader factors of identity and wellbeing.

Finally, from Phinney's (1990) conceptualization of ethnic identity as a general phenomenon, we expect to see the two factors group membership evaluation (GME) and Pacific connectedness and belonging (PCB) emerge as more specific expressions of a general sense of ethnic identity.

Method

Participants and Procedure

Participants were 586 (197 male, 386 female, 3 unspecified) members of the New Zealand public who identified with a Pacific Nation and had a mean age of 26.41 years ($SD = 9.72$). The data for this study is a reanalysis of the combined data used in two studies in the development of the PIWBS (Manuela & Sibley 2013). Participants responded to an email advertisement inviting them to be part of a study to develop a measure of 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 New Zealand, Pacific organizations and other Pacific community networks. Members of the public were also approached in public settings and invited to complete a paper version of the Pacific Identity and Wellbeing Scale. All participants were entered into a draw to win \$250 worth of grocery vouchers.

Measures

Participants completed the Pacific Identity and Wellbeing Scale (Manuela and Sibley 2013). The scale asks respondents to rate on a 7-point Likert Scale (1 = completely dissatisfied to 7 = completely satisfied) how satisfied they are in various areas of their lives. The scale also asks respondents to rate on a 7-point Likert Scale (1

= completely disagree to 7 = completely agree) how much they agree with statements related to Pacific ethnic identity.

Results

Following the method outlined by Goldberg (2006), we conducted a series of Varimax-rotated Maximum Likelihood Exploratory Factor Analyses extracting 1–5 factors. The first unrotated factor was extracted and participants' scores were saved for this unidimensional solution. We then calculated and saved factor scores for a (Varimax-rotated) two-factor solution. Following this, three (Varimax-rotated) factors were extracted for the third level. This process was continued until the same five-factor solution was reached as already validated by Manuela and Sibley (2013). To model the structure of the PIWBS hierarchically, we then correlated the saved factor scores at the highest level (a single factor) with those for the next level down (two factors). The factor scores for a two factor solution were then correlated with factor scores of a three factor solution at the next level down. This process of correlating factor scores at one level with the level below it was continued until the four factor solution was correlated with the already validated five-factor solution.

Factor loadings for the five-factor solution are presented in Table 2. A scree plot of the eigenvalues (eigenvalues: 8.65, 4.05, 2.74, 2.35, 1.41, 1.12, .82, .76, .69, .63), and those of a parallel analysis (mean eigenvalues that would occur by chance: 1.45, 1.39, 1.35, 1.31, 1.27, 1.24, 1.21, 1.18, 1.15, 1.13) support the five factor model. The hierarchical structure of Pacific identity and wellbeing derived using Goldberg's (2006) method of analysis is presented in Figure. 4, where the length of each box represents eigenvalues for each factor at each level. As shown in Figure. 4, a single factor reflecting a broad and generic overall Pacific psychological experience split

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into two dimensions which summarized factors relating to engagement with one's Pacific ethnic identity (path coefficient = 0.72) and culture-specific aspects of wellbeing (path coefficient = 0.72). We labelled these factors, Identity Engagement and Cultural Wellbeing, respectively.

At the third level of extraction, we see that Perceived Familial Wellbeing emerges as a distinct facet of Cultural Wellbeing (path coefficient = 0.52) and remains consistent at the fourth and fifth levels (as indicated by path coefficients of 0.99). We labelled the other aspect of Cultural Wellbeing at this level as Societal and Religious Embeddedness (path coefficient = 0.87).

At the fourth level of extraction, Perceived Societal Wellbeing emerges as a distinct facet of Societal and Religious Embeddedness (path coefficient = 0.99) and remains consistent at the fifth level. Also at the fourth level, Religious Centrality and Embeddedness emerged jointly from Identity Engagement (path coefficient = 0.42) and Societal and Religious Embeddedness (path coefficient = 0.13), and remained consistent at the fifth level. We labelled the other content dimension at this level as Pacific Identity and Cultural Connectedness.

Finally, at the fifth level of extraction, Group Membership Evaluation (path coefficient = 0.68) and Pacific Connectedness and Belonging (path coefficient = 0.81) both emerged from the broader Pacific Identity and Cultural Connectedness dimension.

In summary, the hierarchical structure of Pacific identity and wellbeing is presented with five distinct levels. The first level represents a broad and generic factor capturing a Pacific psychological experience. This splits into two broad dimensions at the second level, representing two centrally organizing themes of Identity

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Engagement and Cultural Wellbeing. The Cultural Wellbeing dimension then splits into two more specific expressions at the third level, showing the Perceived Familial Wellbeing factor in its final specific form, and a broader Societal and Religious Embeddedness dimension. The broader Identity Engagement dimension remains as is at the third level. At the fourth level, the specific dimension of Religious Centrality and Embeddedness emerges jointly from the broader dimensions of Identity Engagement and Societal and Religious Embeddedness.

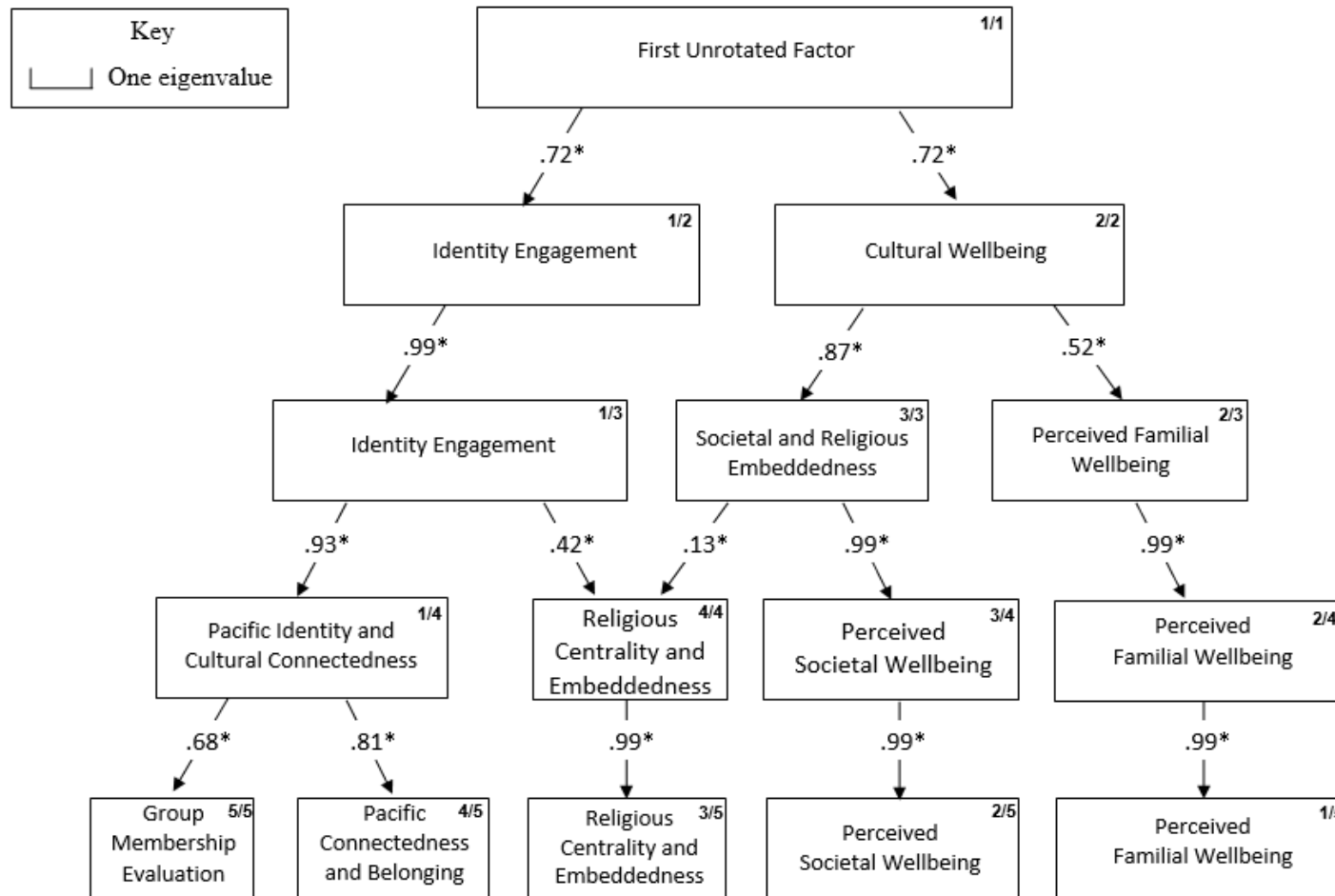


Figure 4. Hierarchical structure of the PIWBS using Varimax-rotated Maximum Likelihood Exploratory Factor Analysis. (Note. only path coefficients [part-whole correlations] between factors > .10 are shown. Factors are labeled by their size at each level, for example, 1/2 and 2/2. Box widths are expressed in Eigenvalue units and therefore represent relative factor sizes in terms of proportions of explained variance.

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Table 2 *Item content and factor loadings for the five-factor solution of the PIWBS using maximum likelihood exploratory factor analysis with varimax rotation*

	Factor				
	1	2	3	4	5
<i>Perceived Familial Wellbeing</i>					
PFW01 Your relationship with your parents	.80	.10	-.01	.07	.12
PFW02 Your position in your family	.72	.17	.09	.10	.04
PFW03 Communication with your family	.74	.17	.09	.08	.06
PFW04 The respect you give for your parents	.74	.10	.07	.05	.09
PFW05 The respect you receive from your family	.73	.12	.10	.12	.11
PFW 06 Your family's happiness	.73	.21	.08	.03	.12
PFW 07 Your family's security	.62	.31	.13	-.06	.12
<i>Perceived Societal Wellbeing (PSW)</i>					
PSW01 Support provided by the New Zealand government to you as a Pacific Islander	.02	.77	.04	.02	.04
PSW02 Your position in New Zealand as a Pacific person	.22	.71	.10	.08	.07
PSW03 The support you receives as a Pacific Islander in New Zealand	.14	.79	.06	.07	.03
PSW04 Your personal needs being met by New Zealand	.11	.80	.07	.02	.01
PSW05 Your relationship with New Zealand society	.17	.68	.07	.06	.13
PSW06 The support your receive in the community you live in	.26	.65	.13	.13	.01
PSW07 The support you received as a Pacific Islander in the community you live in	.24	.65	.14	.11	.10
<i>Religious Centrality and Embeddedness (RCE)</i>					
RCE01 Going to church is part of my culture and religion	.10	.07	.79	.11	.11
RCE02 God has a strong connection to my culture	.04	.11	.78	.15	.16
RCE03 Religion is not important for my culture	.09	-.01	.46	.08	.10
RCE04 Our religion is the centre of our culture as Pacific Islanders	.05	.11	.69	.05	.11
RCE05 Religion is the root of our Pasifika culture	.10	.13	.64	.11	.07
RCE06 Part of being a Pacific Islander is having a connection with God	.05	.11	.61	.12	.11
<i>Pacific Connectedness and Belonging (PCB)</i>					
PCB01 I feel at home around other Islanders, even if they are not from my island	.04	.08	.13	.76	.13
PCB02 I feel connected to other Pacific people in general	.09	.09	.18	.75	.23
PCB03 I feel connected to people from a different Pacific Island to myself	.09	.08	.15	.75	.17
PCB04 I feel comfortable in places with lots of other Pacific people	.06	.09	.14	.65	.28
PCB05 I feel most comfortable in Pacific communities	.06	.04	.24	.53	.18
PCB06 I don't get along with other Island groups	.03	.04	-.06	.30	.20
<i>Group Membership Evaluation (GME)</i>					
GME01 The fact that I am an Islander is an important part of my identity	.11	.01	.26	.31	.38
GME02 Being an Islander is an important part of how I see myself	.07	.06	.30	.29	.60
GME03 Being a Pacific Islander gives me a good feeling	.16	.12	.16	.34	.66
GME04 I am glad to be a Pacific Islander	.20	.12	.20	.36	.72
GME05 I am proud to be a Pacific Islander	.15	.07	.10	.23	.68

Factor loadings >.30 are printed in bold

Discussion

The empirical measurement of distinct aspects of Pacific identity and wellbeing is a new and emerging area of research. We have recently developed a scale assessing five distinct dimensions of Pacific identity and wellbeing (known as the PIWBS; Manuela & Sibley, 2013). However, the scale is in its early days of development, and there remains much work to do in order to understand how Pacific identity and wellbeing are cognitively structured, and how these dimensions may predict a myriad of outcomes for Pacific peoples in different contexts. Here, we explored the hierarchical structure of the PIWBS using a top-down factor analytic method. This allowed us to see how the factors of the scale were related to one another at broader levels of abstraction. In doing so, this provided new information on how different aspects of the holistic conceptualization of the Pacific self are interrelated.

Our results indicated that at the second level of extraction, the PIWBS assesses two global dimensions of identity and wellbeing. These are named Identity Engagement and Cultural Wellbeing, respectively. This finding is consistent with our hypothesis of the model assessing two broad dimensions of identity and wellbeing and we argue that this is what distinguishes our model from other models. Identity and wellbeing are usually assessed using separate models or scales. Here, we incorporate both aspects in a single model. One could possibly argue that because there are two broad categories at the most abstract level, the PIWBS is actually assessing two distinct dimensions in the first place. However, previous analyses have indicated that a two-factor model of identity and wellbeing fit the data considerably worse than the current, validated five-factor model (Manuela & Sibley, 2013). In essence, the two factors presented at the second level indicate that a centrally organizing theme for the Pacific self-concept is the relationship between one's

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identity and the culturally specific aspects of wellbeing. This is consistent with Pacific views of the holistic self, where, if we draw parallels to the Fonofale model (Crawley *et al.*, 1995) these broad dimensions represent both the foundation (family, a source of wellbeing) and the roof (culture or identity).

At the third level of extraction, we see that Cultural Wellbeing splits into two more specific dimensions; one reflecting Societal and Religious Embeddedness with the other being the Perceived Familial Wellbeing factor (PFW). The PFW factor remained consistent at lower levels within the hierarchical structure, indicating that it was the first factor to emerge in its final form. We argue that this highlights the significant influence of family in Pacific cultures. The early emergence of the PFW factor indicates that even at broad levels of self-conceptualization, family maintains considerable influence on the overall wellbeing of Pacific peoples. This supports Pacific research highlighting the importance of family in the overall wellbeing of Pacific peoples (Crawley *et al.*, 1995; Kupa, 2009).

At the fourth level of extraction, we see that the Societal and Religious Embeddedness dimension split into two factors; one reflecting satisfaction with NZ society, the Perceived Societal Wellbeing (PSW) factor. The other dimension to emerge was the Religious Centrality and Embeddedness (RCE) factor, which also emerged jointly from the broader Identity Engagement dimension from the second level. This particular factor warrants further theoretical attention. The RCE factor was the only one to emerge jointly from two higher dimensions. As such, this appears to be the only dimension that contains overlapping aspects derived from both engagement with one's identity and perceived satisfaction with society in general. This is consistent with previous Pacific research that highlights religion as both a source of social support (Macpherson, 1996) and a key aspect in the formation of

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Pacific ethnic identities (Anae, 1998). It appears that religion acts as a bridge between identity and wellbeing for Pacific peoples at a general, broad level.

We argue that this finding is analogous to the Spirituality post of the Fonofale model (Crawley *et al.*, 1995). The Fonofale model depicts Spirituality (represented by RCE in our model) as a link between the foundation, or family (Family being a source of wellbeing as depicted in the second level in our model and its relationship to Societal and Religious Embeddedness in the third level) and the roof, or culture (The Identity Engagement factor in the third level of our model). This suggests that the extent to which one considers a Christian-based religion as an integral aspect of their Pacific identity is nested within both societal satisfaction and engagement with one's Pacific identity.

Finally, the last factors to be extracted in their final forms were the GME and PCB factors. These two factors both split from a more abstract dimension that appeared to be reflecting Pacific Identity and Cultural Connectedness. This is consistent with Phinney's (1990) conceptualization of ethnic identity that emphasizes the components of positive affirmation and a sense of belonging to one's ethnic group. However, in contrast to Phinney's Multigroup Ethnic Identity Measure (MEIM: 1992) that assesses ethnic identity as a general phenomenon, our model delves deeper into the components identified as important to ethnic identity, and in a way that is culturally relevant to Pacific peoples. Whilst the MEIM (Phinney, 1992) provides a more parsimonious model, our multi-factor model assessed the various ethnic components separately and allows us to identify the relationships between them. Furthermore, given that these two factors are the last to emerge from our model, we argue that this supports Phinney's (1990, 1992) conceptualization of ethnic identity as a general phenomenon. If these two components were fully distinct and

unrelated aspects of identity, we would expect to see them emerge in something close to their final form at a higher level of extraction. As such, our model suggests that positive evaluations of one's perceived ethnic group membership and a sense of belonging to one's ethnic group are nested together at broader levels of abstraction, thus reflecting Phinney's (1990) conceptualization of ethnic identity as a general phenomenon.

The Benefits of Hierarchical Factor Analysis

Goldberg's (2006) method provides us with a means to see how the factors of the PIWBS are hierarchically organized and structured from broader to specific aspects of identity and wellbeing. Other Pacific models that represent the Pacific self, such as the Fonofale model (Crawley *et al.*, 1995), are indigenous representations of understanding the self. These are not strict models developed following a strict scientific process. Rather, these models utilize indigenous knowledge and perspectives. The PIWBS is an attempt at integrating indigenous Pacific knowledge with Western methods. We did not seek to test other Pacific models against our exploration of the structure of Pacific identity and wellbeing; however, what we have found does support them.

It is possible that the resulting model reflects how the holistic conceptualization of the Pacific self is cognitively organized and structured. This is a critical point that suggests that to understand Pacific peoples, it is best to adopt a Pacific lens when viewing the self-concept. Say for example a non-Pacific clinical psychologist was dealing with a strongly identified Pacific client, knowledge of how the client may understand their self-concept can aid cultural competency during an assessment. It may be beneficial to know that a Pacific individual may view him or herself

holistically, despite various identifiable aspects of the self. Furthermore, it is important for clinicians to understand that religion and spirituality (regardless of one's religious status) could have an influence on a Pacific individual's identity and wellbeing due the intertwined nature of religion, Pacific cultures and Pacific societies.

The structure of identity and wellbeing according to the hierarchical PIWBS model provides valuable information that can assist in theory building and future research. As Houkamau and Sibley (2010) point out, this method of analysis provides one with a quantitative model in which research questions, evaluations or interventions can be assessed by particular dimensions of the model. For example, if one were interested in researching ethnic-specific behaviours, such as Pacific language use and maintenance, our model would suggest that utilizing the factors subsumed underneath the broad Identity Engagement factor in the third level would be the best course of action. This would mean focusing on areas as indexed by the three factors that fall underneath it (PCB, GME and RCE). Alternatively, if one were interested in, say, developing a particular clinical therapy technique for Pacific peoples wellbeing, our model suggests utilizing factors subsumed underneath the broad Cultural Wellbeing factor in the third level would be most effective. This would mean focusing on areas as indexed by PFW, PSW and RCE. Indeed, prior research on therapy for Pacific clients has suggested these factors can be beneficial (Te Pou, 2010).

A general comment on the application of the hierarchical model to Pacific suicide research

Why is knowing about the cognitive structure of Pacific identity and wellbeing important? We think it can help answer many research questions and generate

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directions for future research on important applied and theoretical areas in a number of Pacific disciplines. To further highlight the potential that a hierarchical model of Pacific identity and wellbeing provides, we briefly apply our model to research on Pacific suicide. We choose suicide as it is a social problem that is disproportionately affecting Pacific communities in NZ. We argue that our hierarchical model fits with existing research on risk and protective factors surrounding suicide for Pacific peoples and can be used as a basis for future research in this area.

Currently, Māori and Pacific peoples have a disproportionately higher rate of suicidal behaviour, suicide ideation and suicide attempts in comparison to other ethnic groups in NZ (Oakley-Browne *et al.*, 2006). In 2010, there were 21 Pacific suicides with an age standardized rate of 33.5 per 100,000 amongst the Pacific population (Ministry of Health, 2012). Numbers are expected to increase with the growing population, particularly if the Pacific communities continue to show a youthful age structure (Ministry of Health, 2012). These rates are also nested within a paradigm that focuses on Westernized mental health explanations for suicidal behaviours, which may not be suitable for Pacific populations in NZ (Tiatia, 2003). Furthermore, a Western focus on issues surrounding Pacific suicide may distract from culturally relevant aspects that influence suicidal behaviours, such as relational factors (Henare and Ehrhardt, 2005). Western measures and models of ethnic identity and wellbeing also show deficits in terms of culturally important aspects of identity and wellbeing that are important for Pacific peoples. As such, our model provides a culturally relevant and holistic assessment tool that can help understand and predict risk factors of suicide at a larger group-based level.

Pacific research has indicated that risk factors of suicidal behaviour can include familial pressures, parental conflicts, lack of communication with parents,

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acculturative stress, cultural expectations and obligations, and conflicts between Pacific and NZ cultures (Faleafa *et al.*, 2007). Furthermore, research by Tiatia (2003) found that in 2000, 63 % of suicide attempts by young Samoans were preceded by familial or partner conflict.

In regards to protective factors against suicide that are culturally relevant to Pacific peoples, research suggests that family, friends and social support can act as protective factors for Samoan youth (Tiatia, 2003). This is supported by Henare and Ehrhardt (2005) who further postulate that strong links with one's community can also act as a protective factor. Finally, religious beliefs have been identified as both a protective factor against suicide (Faleafa *et al.*, 2007) and also as a mechanism through which interventions, preventions, or treatment programs can be made culturally relevant to Pacific peoples (Tiatia 2003).

As the small amount of research reviewed here shows, factors such as family, church and societal views can act as a double-edged sword in regards to suicide. On one hand, they can act as a source of conflict, whilst on the other they can act as a source of protection and support (Beautrais, *et al.* 2005).

There appears to be an over-arching socio-cultural theme regarding the protective and risk factors of suicide for Pacific peoples in NZ in the literature reviewed here.

Although it is not always certain what may lead an individual to consider suicide, applying the hierarchical model to this research may help identify who are potentially at risk in a population by assessing both social and cultural aspects and the relationship between the two (in conjunction with other useful measures and demographic information).

We know from the hierarchical model presented here that the two broad

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dimensions of Identity Engagement and Cultural Wellbeing are linked through the Religious Centrality and Embeddedness factor. Focusing on the Identity Engagement side first, the factors subsumed under this broad dimension (PCB, GME and RCE) may provide information about the identified risk factors of cultural expectations, conflicts between NZ and Pacific cultures, and/or the identified protective factors of support from friends, community and religious beliefs. On the other hand, the factors subsumed under the Cultural Wellbeing dimension (PFW, PSW and RCE) may provide information about the identified risk factors of familial conflict and acculturative stress, as well as potential protective factors of familial support, social and community support and religious beliefs. Furthermore, our model supports Tiatia's (2003) position that religion may serve as a mechanism to make interventions or treatments culturally relevant as evidenced by the RCE factor acting as a link between engagement with one's Pacific identity and wellbeing. Tiatia (2003) argues that the inclusion of religious or spiritual components in suicide is something that is missing from Western prevention programs, and may be beneficial for Pacific peoples dealing with suicide.

Given that our hierarchical model fits with current research in Pacific suicide, what advances can it make in this area? When using this model in conjunction with research as a guide to understanding the dual role factors can play in both risk and protection, it is possible to conduct large group surveys to assess the identity and wellbeing of Pacific individuals, especially for those who have experienced suicide within their community. When used in conjunction with other psychological measures, it is possible to see how the various Pacific identity and wellbeing factors, or the relationship between the two, predict negative or suicidal-related behaviours. More complicated analyses of the data may also identify at-risk sub-groups within the

Pacific population and provide information on specific risk factors for at risk groups.

Finally, scores on the PIWBS may indicate that some Pacific individuals may not strongly identify with particular aspects of Pacific identity and wellbeing. In this case, a Pacific oriented intervention or treatment program may not be beneficial or suitable. This tool can allow one to identify differences in identity and wellbeing within Pacific communities so as to be responsive to their specific cultural needs and cultural orientations, or develop interventions that can be more specific in their targeting towards at risk groups.

Limitations and Future Research

The study presented here is not without limitations. Firstly, the data used in this analysis is cross-sectional and describes the structure of identity and wellbeing at the point of time in which it was collected (2009). It is possible that the structure of Pacific identity and wellbeing may change over time, similar to how one's ethnic identity may not be static. Future research could explore the structure of Pacific identity and wellbeing longitudinally to see whether or not this structure holds for this group over time, or, alternatively, if the structure holds in a separate sample of Pacific individuals.

Secondly, these results are limited to Pacific peoples who reside in New Zealand. In addition to the specific Pacific communities that reside in their respective Pacific Nations, there are growing numbers of Pacific peoples who are now living in areas of Australia and America. It is unknown if this structure could be generalized to Pacific communities outside of New Zealand. Future research could explore this by adapting the PIWBS to the context of those specific countries and exploring the hierarchical factor structure in those samples. Furthermore, this analysis does not take

into consideration any intra-group differences. In other words, the analyses reported here are treating the respondents as if they were a homogenous group, despite the fact that the Pacific group as a whole is extremely heterogeneous. It is unknown if there are differences in the structure of our model between the specific Pacific Nations represented in this sample. Unfortunately, sample size limitations prevent us from trying to replicate our model within these specific subgroups.

Finally, there is a gender imbalance in the data used in this analysis. Despite this gender imbalance, previous analyses using this data has revealed no gender biases in the factors of the PIWBS (see Table 2 in Manuela & Sibley, 2013).

Conclusion

Examining the relationship between aspects of Pacific identity and wellbeing is crucial to understanding Pacific peoples in NZ. The model presented here shows that at broader levels, identity and wellbeing are linked for Pacific peoples, and that a key mechanism for that link is religion. The relationships between Pacific identity and wellbeing factors as highlighted here can help guide research by identifying what and how particular identity and wellbeing factors are related. The conceptual analysis of our hierarchical model of Pacific identity and wellbeing provides us with possible insights into furthering our understanding of phenomena such as Pacific suicides in New Zealand. By understanding and modeling how the Pacific self may be cognitively organized, as offered by our hierarchical model, we can make predictions about what factors of the Pacific self may be beneficial for positive psychological outcomes.

Bridging Comments

Study 1 highlights the PIWBS as both a quantitative tool and theoretical model of the Pacific self. A key strength of this study is how it relates to the Fonofale model as a conceptual framework for understanding a Pacific individual, and how it can be applied as a methodological tool.

Pacific research methodologies and frameworks bring Pacific worldviews and values to the forefront of research. As a methodological tool, the PIWBS is based on shared values of Pacific cultures. As such, it complements other Pacific methodological approaches like Talanoa. Talanoa allows for deep contextual analysis of an individual's experiences, and how the intimate relationships between different parts of their life have meaning to that individual. The hierarchical model presented above highlights those relationships quantitatively. The interconnected nature of the different facets of the Pacific self, as measured by the PIWBS, can then be understood within a Pacific framework and model such as Fonofale.

The application of the hierarchical model to research on Pacific suicide is just one example of how the PIWBS can be used to understand issues that face Pacific communities. There are a myriad of values, experiences and attitudes to consider when conducting any kind of research with Pacific peoples, and to understand experiences such as suicide. As such, the factors of the PIWBS can offer insight into how individuals connect with those shared values of identity and wellbeing, and how they can be related to other variables of interest. However, the PIWBS is limited in what it can measure. Any other variables of interest to researchers will need to be assessed using other existing measures.

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One aspect of Pacific cultural identities that was not assessed by the PIWBS is how Pacific individuals engage or actively participate in cultural practices. A factor indexing cultural participation was tested in the original development of the PIWBS, however it was not stable and thus not included in the final model. This was attributed to items of that particular scale framed in a way to assess behaviours associated with culture, rather than an individual's self-perceived engagement with their culture. By reassessing what cultural participation and engagement means, a factor assessing it can be developed.

In this next study, I outline a revision to the PIWBS including an additional factor of Cultural Efficacy – a factor that was excluded from the original model. To test the new and revised model, I will run various regression analyses where the factors of the PIWBS should predict criterion variables in distinct ways. I also use this as an opportunity to highlight various issues concerning Pacific peoples in NZ, and how the new revised version of the PIWBS can be used to elucidate this.

At this point it is important to note the timing and sequence of Study 1 presented above and Study 2 presented below. Study 1 used data from the original development of the PIWBS and was written whilst data collection was underway for Study 2. Although the hierarchical model presents interesting views of relationships between factors, the addition of another factor is likely to have some changes to the overall hierarchical structure. However, in the light of new data, the general direction of my research needed to change and I decided to leave the hierarchical model as its own separate analysis. It still provides valuable information that can be used by researchers interested in how the PIWBS can be applied and understood.

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Study 2: The Pacific Identity and Wellbeing Scale - Revised

Abstract

We develop and validate a revised version of the Pacific Identity and Wellbeing Scale (the PIWBS-R). This revision extends the original 5-factor PIWBS model to include a sixth subscale assessing Cultural Efficacy (CE). The definition and item content for CE was based on a synthesis of research on self-efficacy and Pacific cultural capital. Confirmatory Factor Analysis ($N = 919$) supported the revised 6-factor PIWBS-R model. Validation analyses using a sample subset indicated that the PIWBS-R subscales predicted distinct criterion outcomes ($Ns = 452-522$). CE uniquely predicted self-reported Church Attendance, travel to the Pacific Islands, confidence in speaking Pacific heritage language, and satisfaction with health. Critically, Pacific Connectedness and Belonging and Perceived Societal Well-being predicted a *lower* likelihood of having been diagnosed with diabetes. These findings highlight the potential of the PIWBS-R model for research assessing the protective function of certain aspects of Pacific identity on health-related outcomes. A copy of the PIWBS-R, scale psychometrics, and construct definitions are provided.

Keywords: Pacific nations, identity, wellbeing, Cultural Efficacy, health

Introduction

Understanding culturally specific elements of identity and subjective wellbeing for Pacific peoples is a growing area of research. One recent approach to this field of study is the Pacific Identity and Wellbeing Scale (PIWBS; Manuela & Sibley, 2013). The PIWBS provides a quantitative platform to statistically model Pacific identity and explore how culture and identity contribute to positive health outcomes. However, our earlier formulation of the PIWBS missed a potentially important factor assessing the expression of culture and sense of efficacy concerning cultural engagement. Here we describe and validate an updated version of our instrument, the Pacific Identity and Wellbeing Scale-Revised (PIWBS-R) that includes a sixth subscale assessing Cultural Efficacy (CE). We evaluate the factor structure and reliability of the PIWBS-R and assess its construct validity by testing the extent to which the subscales predict unique variance in behaviour and health outcomes.

To give context for the PIWBS-R as a research tool, we provide a brief outline of the Pacific populations in New Zealand (NZ). We use the term “Pacific peoples” to describe groups of people with a variety of ethnic backgrounds, but primarily from nations in the South Pacific (Bedford & Didham, 2001). Pacific peoples comprise approximately 6.9% of the NZ population (Statistics New Zealand, 2006). The Pacific group as a whole consists of communities with links to Samoa, Cook Islands, Tonga, Niue, Fiji, Tokelau, and many more. Approximately 60% of Pacific peoples are now born in NZ, with the population becoming increasingly multiethnic (Statistics New Zealand, 2010). The diversity of the Pacific communities is reflected through various languages, dance, music, food, and cultural practices specific to each group. For a more in-depth review of Pacific peoples and identities in NZ we recommend Macpherson (1996).

Pacific research is growing rapidly, particularly as researchers seek to understand psychological and health-related outcomes for the growing Pacific population in NZ (see, e.g., Pulotu-Endemann *et al.*, 2004; Suaalii-Sauni *et al.*, 2009; Tamasese *et al.*, 2005; Te Pou, 2010). There is also a growing body of research exploring Pacific ethnic identities and wellbeing (Agee, McIntosh, & Culbertson, 2013) that generally uses Pacific methodologies (such as Anae, 2010; Thaman, 1993; Vaioleti, 2006). However, ways of understanding and modeling Pacific identity and wellbeing in a culturally relevant way, whereas leveraging the power of quantitative methods remain relatively scarce. Currently, the only tool developed specifically for Pacific peoples is the PIWBS (Manuela & Sibley, 2013).

The PIWBS

The PIWBS is a culturally appropriate, 31 item self-report measure that assesses five factors of Pacific identity and well-being. These factors are important for the holistic conceptualization of the Pacific self-concept. It was developed in two studies, integrating psychological and Pacific research (see Manuela & Sibley, 2013 for a detailed analysis and review). The PIWBS-R has been used to statistically model the wellbeing of multiethnic Pacific peoples (Manuela & Sibley, 2014b) and the hierarchical organization of the Pacific identity and wellbeing factors (Manuela & Sibley, 2014a). Construct definitions for the PIWBS are presented in Table 3.

The PIWBS also has potential to inform research concerning Pacific peoples in a variety of disciplines. Research assessing the empirical links between identity and health is a growing area in general, and we think this is particularly pertinent for Pacific research (see Haslam, Jetten, Postmes, & Haslam, 2009). Pacific peoples are diagnosed with Type 2 diabetes at about three times the rate of the total NZ

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population (Ministry of Health, 2008a) and experience higher rates of diabetes related complications (Ministry of Health, 2008b). Diabetes is also more prevalent among older Pacific individuals, and gender differences indicate that Pacific women have slightly higher rates of obesity (a risk factor for diabetes) than Pacific men (Smith, Papa, & Jackson, 2008). Furthermore, Pacific health outcomes are generally better when health treatments are culturally relevant and involve families and communities (Statistics New Zealand and Ministry of Pacific Island Affairs, 2011). Therefore, it is crucial that we have up-to-date tools that further research related to positive outcomes for Pacific peoples.

Manuela and Sibley (2013) discussed how they included items intended to assess CE in the original PIWBS. However, these items failed to form a coherent factor, so were excluded from the model. This was attributed to the phrasing of items related to cultural practices and language use. Here, we update the PIWBS and present a revised version (the PIWBS-R) with improved item content indexing a reliable and distinct measure of CE. However, why is CE important for the PIWBS?

Using health outcomes as an example, understanding how individuals engage with their culture can allow us to make well-informed decisions regarding effective health care plans, research directions, and engagement with Pacific communities. Work on Pacific cultural competency in the health sector highlights the need to understand, apply, and integrate Pacific cultural values underlying Pacific perspectives on health (Tiatia, 2008). This is important as Pacific peoples' cultures may influence help-seeking behaviour, health care preferences, and decision-making processes. Although it is important that clinicians, researchers, and health care professionals have a level of cultural competence when dealing with Pacific clients, it is equally important that we understand the subjective experience Pacific peoples

have with their own culture.

Table 3 *Construct definitions for the Pacific Identity and Wellbeing Scale – Revised (PIWBS-R).*

Factor	Construct Definition
Perceived Familial Wellbeing (PFW)	Perceived satisfaction with one’s family. Indicated by satisfaction with familial relationships, respect, happiness and security.
Perceived Societal Wellbeing (PSW)	Perceived satisfaction with NZ society. Indicated by satisfaction with support from government, local communities and one’s position in NZ society.
Group Membership Evaluation (GME)	Subjective evaluations of one’s perceived membership in the Pacific group. Indicated by positive affect derived from group membership.
Pacific Connectedness and Belonging (PCB)	A sense of belonging and connections with Pacific others and the Pacific group at a general level.
Religious Centrality and Embeddedness (RCE)	The extent to which an individual feels that religion is intertwined with one’s Pacific culture and identity.
Cultural Efficacy (CE)	The extent to which an individual feels they have the personal and cultural resources to act within a Pacific cultural or social context.

Ethnic Identity and Behaviors: Conceptual Clarity

Problems with the original CE factor were attributed to item content about cultural behaviours. When analyzing ethnic or cultural practices, a review of measures suggested two broad areas: participating in cultural activities and participating in social groups with other ethnic group members (Phinney, 1990). Although ethnic behaviours and ethnic identities are linked, acculturation re- search suggests that identity and behaviours are conceptually distinct and should be assessed separately.

In her work with urban American Indians, Walters (1999) used a culturally specific identity attitudes measure to predict acculturative behaviour. She found evidence that components of urban American Indian identity attitudes differentially predict distinct acculturation typologies. As such, Walters (1999) suggests that behaviours or measures of identity not be used as proxies for one another in research. Although behaviours can express ethnic identity, this does not necessarily mean behaviors must be displayed, or as Phinney and Ong (2007) state, “*an ethnic identity is an internal structure that can exist without behavior*” (p. 272).

If ethnic behaviors are problematic measures for ethnic identity, this explains why the initial CE factor failed to cohere. Many of those items were related to language use and engagement in Pacific events. Language use across Pacific communities varies with ~63% of Samoans compared with 16% of Cook Islanders being able to speak their respective languages (Statistics New Zealand, 2013). Similar language-use rates have been found among Pacific youth, despite an overall high level of ethnic pride (Helu *et al.*, 2009). However, Pacific languages are important to Pacific identities and cultural preservation (Starks, 2006; Starks *et al.*, 2005; Taumoevalau *et al.*, 2002). This lends support to Phinney and Ong’s (2007) assertion

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of behaviors not being necessary for ethnic identity. This does not imply that language plays no role in ethnic identity, rather, using language-related items as a measure of ethnic identity is problematic.

To address this problem, we borrow from research on self- efficacy. Self- efficacy refers to the beliefs that one holds regarding their ability to use motivation, cognitive resources, and courses of action to meet a situational demand (Wood & Bandura, 1989). These beliefs can vary based on task difficulty, certainty about successfully performing a task given its difficulty, and the extent to which beliefs can generalize across situations (Bandura, 1986). Antecedents of self-efficacy include experiences of mastery, verbal persuasion, and social modeling (Bandura, 1986; 1997). An influential antecedent of self-efficacy can be the accumulation of experiences over time (Shelton, 1990).

Applying self-efficacy beliefs to ethnic identity, we gather an idea of the extent to which individuals believe they possess cognitive resources to assist performance in a given task or behavior within a cultural context; their CE. This may be influenced by mastery of cultural practices, verbal encouragement from others, modeling cultural behaviors on others, and an accumulation of cultural experiences over time.

Pacific identity research provides solid ground for the accumulation of experiences that may act as an antecedent for CE. Tiatia (1998) provides an account of cultural conflicts that NZ-born Pacific peoples may experience as they resolve differences in the interactions between NZ society and Pacific ways of life. Pacific ways of life are shared cultural beliefs and behaviors often derived through familial interactions, churches, and community events. For many participants in Tiatita's (1998) research, for example, church was seen as a way to provide Pacific knowledge

and experiences for their members. Similarly, in her work with Samoan identities, Anae (1998) explored how individuals experienced periods of “identity confusion” in relation to a lack of language proficiency. However, because participants grew up *fa’asamoa* (Samoan way of life), language was not seen as a necessary marker of identity.

Anae’s (1998) and Tiatia’s (1998) research highlights potential sources of cultural knowledge and experiences that may influence Pacific CE. As Pacific individuals navigate what it means for them to be a Pacific person in NZ, they may develop their own sense of what it means to be a Pacific person and how they can go about “*being*” Pacific. This may include reevaluating or redefining the role of cultural behaviors, or placing greater emphasis on different aspects of cultural behaviors and values. Through this, it is possible to accumulate more experiences toward greater Pacific CE.

The idea of accumulating cultural resources has also been theorized by Mila-Schaaf’s (2010) Polycultural Capital. By drawing upon Bourdieu’s (2007) concept of cultural capital, Mila-Schaaf argues that exposure to culturally distinct social spaces provides NZ-born Pacific peoples with cultural capital, the accumulation of which can be advantageous to individuals. Forms of Pacific cultural capital can include pride in Pacific identity, speaking Pacific languages, and placing importance on Pacific cultural values (Mila-Schaaf, 2010). As these resources are accumulated over time, they may provide Pacific individuals with efficacious beliefs in their ability to express their Pacific identity in a culturally specific manner or context.

Assessing Cultural Efficacy

To develop a subscale of Pacific CE, we draw upon Mila-Schaaf’s (2010) theoretical

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concept of Polycultural capital. Items for this subscale will be around a subjective evaluation of the extent to which one feels they have the capacity to engage in a Pacific cultural context. The items we propose here were adapted from Manuela and Sibley's (2013) original development of the PIWBS1 to better suit the conceptual distinction between identity and behavior (Phinney & Ong, 2007; Walters, 1999). We propose four possible items to assess CE:

- I find it easy to participate in Pacific cultural events.
- I feel I am easily able to express who I am as a Pacific person.
- I enjoy participating in Pacific cultural events.
- I find it difficult to express my Pacific culture. (*reversed*)

The items assess self-efficacious beliefs surrounding participation within a Pacific cultural context. Furthermore, the items also take into consideration the potential conflict of cultures alluded to by Anae (1998) and Tiatia (1998), and assess beliefs around cultural expression. We argue that those with high CE should report high levels of ease in Pacific cultural contexts and expression of the Pacific self.

Hypotheses

We validate the model by showing how CE predicts distinct criterion outcomes beyond those predicted by the initial PIWBS factors. We assess whether CE predicts confidence in speaking a Pacific language, frequency of church attendance, and the likelihood of international travel to the Pacific Islands. As outlined earlier, ethnic identity and ethnic behaviors are conceptually distinct from each other but related aspects (Phinney & Ong, 2007).

As the theoretical basis of our new factor is based around efficacious beliefs regarding cultural expression, we predict that the CE factor should be the strongest

predictor of how confident one feels in speaking the language associated with their Pacific ethnicity. Religious Centrality and Embeddedness should also positively predict language confidence because those that score high on this factor are more likely to attend a place of worship where Pacific languages are spoken. CE and Religious Centrality and Embeddedness should also similarly predict the frequency of church attendance within the past month.

We predicted a positive relationship between CE and the likelihood of travel to the Pacific Islands in the past 2 years. Travel to the Pacific Islands would expose one to an environment where Pacific cultural values and practices are more salient, thus, providing experiences to assist in CE.

Finally, we assess the utility of the PIWBS-R in predicting global subjective health evaluations and self-reports of being diagnosed with diabetes by a doctor. We expected results to be similar to demographic trends with older individuals more likely to have been diagnosed with diabetes. This study represents the first ever test assessing whether culture-specific measures of Pacific identity and wellbeing are uniquely linked with the likelihood of diabetes diagnosis.

Method

Participants and Procedure

Participants were 919 Pacific peoples who completed the 35- item PIWBS-R (665 female, 204 male, 50 unreported; 347 Samoan, 118 Cook Island, 218 Tongan, 100 Niuean, 52 Other Pacific, and 84 unreported). Participants had a mean age of 28.77 years (range = 18–74 years; $SD = 10.38$). There were 521 of these participants who completed a larger version of the survey also containing criterion measures used to validate the PIWBS-R (387 female, 134 male; 201 Samoan, 78 Cook Island, 130

Tongan, 67 Niuean, 34 Other Pacific, and 11 unreported). Participants in the subsample had a mean age of 31.23 years (range = 18–74 years; $SD = 10.75$).

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, organizations, and community networks. A snowballing sampling method was also used, where participants were asked to invite others in their networks to participate in the study. These data cannot be considered representative of the Pacific population in NZ. Participants were entered into a draw to win \$300 grocery vouchers.

Materials

Participants completed the 35-item PIWBS-R, plus demographic variables, including annual household income. The PIWBS-R contained 7 items assessing Perceived Familial Well-being (PFW), 7 assessing Perceived Societal Wellbeing (PSW), 6 items assessing Pacific Connectedness and Belonging (PCB), 5 items assessing Group Membership Evaluation (GME), 6 items assessing Religious Centrality and Embeddedness (RCE), and 4 additional items assessing the hypothesized CE factor (see Table 5 for item content). Items were rated on a Likert scale for both the identity related constructs (PCB, GME, RCE, and the proposed CE factor; 1 = *strongly disagree* to 7 = *strongly agree*) and the wellbeing related constructs (PFW, PSW; 1 = *completely dissatisfied* to 7 = *completely satisfied*). There was no wording used for the center-points of each scale.

A subset of participants also completed a series of one item measures and self-report questions assessing various attitudes and behaviors. Participants were asked to indicate if they had been diagnosed by a doctor with diabetes (0 = *No*, 1 = *Yes*) and if

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they had traveled to any of the Pacific Islands during the last 2 years (0 = *No*, 1 = *Yes*). Two one-item measures where participants were asked to rate “How satisfied are you with your health?” (1 = *completely dissatisfied* to 7 = *completely satisfied*). Participants were asked to think of the language associated with their Pacific ethnicity and then indicate how they agreed with the statement “I am confident in speaking my language” (1 = *strongly disagree* to 7 = *strongly agree*). Participants were asked to report how many times they had visited a church or other place of worship within the last month.

Estimation of Models Assessing Construct Validity of the PIWBS-R

We use Confirmatory Factor Analysis (CFA) to assess the overall factor structure. We assess the construct validity of the PIWBS-R by assessing the extent to which subscale scores uniquely predicted variance in five relevant concurrent criterion outcomes. These outcome measures represent a range of aspects relevant to Pacific peoples and that we argue the different dimensions of the PIWBS-R should predict. Our criterion outcomes are modeled using logistic regression (for categorical outcomes), standard linear regression (for continuous outcomes), and censored regression, also known as Tobit estimation (for outcomes where the manifest indicator has a threshold above or below which scores are not observed, but may theoretically occur). These criterion outcomes we assessed were: diabetes diagnosis (categorical), travel to Pacific Islands (categorical), satisfaction with health (continuous), confidence speaking heritage Pacific language (continuous), and rates of church attendance (censored).

Church attendance is indexed using self-reported number of times one had attended Church in the past month. This attendance measure was designed to indicate

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average (latent) attendance rates overall. As such, a value of 0 represented a threshold below which scores were unreported (as sampled from the last month), rather than an absolute minimum. This is an important technical point because a value of zero may simply reflect zero times in the last month, rather than an absolute value of zero over a longer time-frame in our latent variable. Consider if church attendance per month were multiplied by 12 to estimate average yearly attendance, a score of 0 would still be 0 if modeled in absolute terms. This is potentially incorrect (imagine someone who goes to church once or twice a year, but had not gone in the past month). Therefore, a score of 0 represents a censor point or threshold that the manifest indicator does not go below, but that the latent variable it represents may extend beyond. To address this, we estimate church attendance as a censored variable, with censoring below zero. This is a common approach in econometrics, where an observed indicator may reflect only part of the distribution of the underlying latent variable, as is the case with our measure of frequency of church attendance.

For all analyses, we enter subscale scores for the six dimensions of the PIWBS-R as well as the following demographic covariates: gender (women 0, men 1), age, and the log of household income (we performed a log transformation on this variable to approximate a normal distribution of scores). Our regression models tested the extent to which each of the six PIWBS-R subscales predicted unique variance in our criterion outcomes when adjusting for possible overlap with gender, age, and (log) income.

Results

Descriptive statistics, internal reliabilities, and correlations between the PIWBS-R mean subscale scores and criterion outcomes are reported in Table 4. As shown, the six PIWBS-R subscales all evidenced acceptable internal reliability with α 's $> .70$.

Confirmatory Factor Analysis of the PIWBS-R

A CFA was conducted assessing the factor structure of the PIWBS-R. The structure of this CFA is outlined in Figure 5, and standardized CFA parameter loadings and item content for the PIWBS-R are presented in Table 5. When evaluating model fit, Hu and Bentler (1999) suggested that the reasonable measurement models should generally have a standardized Root Mean Square Residual (sRMR) of near or below .08, a Root Mean Square Error of Approximation (RMSEA) of near or below .06, and a Comparative Fit Index (CFI) around or above .95. The hypothesized six-factor model for the PIWBS-R provided a reasonable fit according to these indices χ^2 (545, N 919) 1842.71, $p < .05$; sRMR .049, RMSEA .051, CFI .909.

Critically, the hypothesized six-factor model provided a significantly better fit than various alternative models. The hypothesized six-factor model fit better than an alternative single factor solution ($\chi^2_{\text{diff}}(15)$ 7360.67, $p < .001$) and an alternative two-factor solution differentiating between identity and wellbeing ($\chi^2_{\text{diff}}(14)$ 3981.42, $p < .001$). The hypothesized six-factor model also provided a significantly better fit than an alternative five-factor model in which items assessing CE and GME loaded on a single factor ($\chi^2_{\text{diff}}(5)$ 571.59, $p < .001$).

Table 4 *Descriptive Statistics, internal reliabilities and correlations between the PIWBS-R mean subscale scores and criterion outcomes.*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Gender (0 Female, 1 Male)														
2. Age	.01													
3. Income	.10*	.07												
4. Diabetes (0 No, 1 Yes)	.09*	.26*	.04											
5. Travel (0 No, 1 Yes)	.02	.02	.15*	.05										
6. Health	-.01	.06	.08	-.04	.02									
7. Language	-.02	.19*	-.03	.06	.05	.13*								
8. Church	-.04	-.03	-.02	.04	.02	.09*	.22*							
9. PFW	-.11*	.04	.14*	-.06	.02	.42*	.11*	.10*						
10. PSW	-.07	-.02	.08	-.07	.06	.42*	.08*	.08	.49*					
11. PCB	-.02	.06	-.01	-.01	.01	.03	.20*	.05	.19*	.07*				
12. GME	-.03	.02	-.00	.01	.06	.09*	.14*	-.02	.27*	.10*	.58*			
13. RCE	-.04	-.07*	-.02	.03	.00	.04	.29*	.20*	.17*	.09*	.33*	.34*		
14. CE	-.02	.10*	.03	.02	.12*	.18*	.40*	.15*	.29*	.17*	.47*	.41*	.27*	
M		28.77	95,138			5.11	4.23	3.70	5.93	4.89	5.73	6.37	5.38	5.39
SD		10.38	65,862			1.59	2.21	4.39	.94	1.17	1.03	.92	1.43	1.23
N	869	860	536	919	744	813	812	644	919	919	918	918	918	803
Cronbach's alpha									.86	.88	.79	.88	.84	.74

Note: * $p < .05$, M and SD for Gender, Diabetes and Travel are not presented as they are categorical variables. (Bivariate correlations used listwise deletion)



Figure 5. Overview of CFA model testing the PIWBS-R (item content and factor loadings reported in Table 5).

Table 5 *Standardized CFA parameter loadings and item content for PIWBS-R*

Item Content	Loading
Perceived Familial Wellbeing (PFW)	
Your relationship with your parents.	.73
Your position in your family.	.71
Communication with your family.	.76
The respect you give for your parents.	.65
The respect you receive from your family.	.73
Your family's happiness.	.71
Your family's security.	.59
Perceived Societal Wellbeing (PSW)	
Support provided to you by the New Zealand government to you as a Pacific Islander.	.74
Your position in New Zealand as a Pacific person.	.69
The support you receive as a Pacific Islander in New Zealand.	.79
Your personal needs being met by New Zealand.	.73
Your relationship with New Zealand society.	.69
The support you receive as a Pacific Islander in the community you live in.	.70
The support you receive in the community you live in.	.68
Pacific Connectedness & Belonging (PCB)	
I feel at home around other Islanders, even if they are not from my island.	.76
I feel connected to other Pacific peoples in general.	.74
I feel connected to people from a different Pacific Island to myself.	.64
I feel comfortable in places with lots of other Pacific peoples.	.77
I feel most comfortable in Pacific communities.	.69
I don't <i>get along</i> with other Island groups (r).	.19
Group Membership Evaluation (GME)	
The fact that I am an Islander is an important part of my identity.	.80
Being an Islander is an important part of how I see myself.	.77
Being a Pacific Islander gives me a good feeling.	.78
I am glad to be a Pacific Islander.	.76
I am proud to be a Pacific Islander.	.75
Religious Centrality & Embeddedness (RCE)	
Going to church is part of my culture and religion.	.74
God has a strong connection to my culture.	.73
Religion is not important for my culture (r).	.38
Our religion is the centre of our culture as Pacific Islanders.	.76
Religion is the root of our Pasifika culture.	.73
Part of being a Pacific Islander is having a connection with God.	.78
Cultural Efficacy (CE)	
I find it easy to participate in Pacific cultural events.	.83
I feel I am easily able to express who I am as a Pacific person.	.62
I enjoy participating in Pacific cultural events.	.74
I find it difficult to express my Pacific culture (r).	.43

*(r) reversed item.

Construct Validity of the PIWBS-R

Logistic regression models for diabetes diagnosis (0 no, 1 yes) and having traveled to the Pacific islands (0 no, 1 yes) are presented in Table 6. Linear regression models for satisfaction with health and confidence in speaking heritage Pacific language are presented in Table 7. A censored regression model for Church attendance rates is presented in Table 8. The logistic regression model of diabetes diagnosis was significant and explained 48% of the variance ($R^2 = .48$, $SE = .08$, $z = 6.00$, $p < .05$). As shown in Table 6, PCB was associated with a lower likelihood of having (or least reporting being diagnosed with) diabetes (Odds Ratio [OR] .50, 95% CI = .28 –.87). PFW was also significantly associated with a lower likelihood of diabetes (OR = .72, 95% = CI .52–.99). In addition men were more likely to have diabetes (OR = 4.28., 95% = CI 1.55–11.81), as were older Pacific people (OR = 1.12, 95% CI = 1.07–1.18).

The logistic regression model of travel to the Pacific islands was significant and explained 6% of the variance ($R^2 = .06$, $SE = .031$, $z = 1.96$, $p < .05$). As shown in Table 6, CE was associated with an increased likelihood of having traveled to the Pacific islands within the last 2 years (OR = 1.35, 95% = CI 1.08 –1.69). The linear regression model for satisfaction with one's health was significant ($R^2 = .29$, $SE = .03$, $z = 8.52$, $p < .001$). As shown in Table 7, PFW ($\beta = .33$) and PSW ($\beta = .26$) were both positively and independently associated with increased satisfaction with health. Critically, CE was also significantly and uniquely associated with increased satisfaction with one's health ($\beta = .09$). Finally, PCB was negatively associated with health satisfaction ($\beta = -.12$).

The linear regression model for how confident one is speaking their heritage

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Pacific language was significant ($R^2 = .21$, $SE = .03$, $z = 6.661$, $p < .001$). As shown in Table 7, CE was significantly associated with language confidence when adjusting for all other predictors in the model ($\beta = .33$). Age ($\beta = .02$) and RCE ($\beta = .24$) were also positively associated with language confidence. Finally, GME showed a significant negative association with language confidence ($\beta = -.10$).

The censored regression model explained 14% of the variance in Church attendance rates ($R^2 = .143$, $SE = .033$, $z = 4.38$, $p < .01$). As shown in Table 8, and consistent with predictions, RCE was strongly and significantly associated with church attendance ($\beta = .29$). CE also predicted church attendance independently of all other PIWBS-R subscales ($\beta = .16$). Also as expected, PFW was linked to increased church attendance ($\beta = .13$), and when controlling for all other aspects of Pacific identity, the GME factor was negatively linked to Church attendance ($\beta = -.24$).

Table 6 Logistic regression models predicting diabetes diagnosis and having travelled to the Pacific islands within the last two years.

	Model predicting diabetes diagnosis (0 no, 1 yes)					Model predicting travel to Pacific Islands (0 no, 1 yes)				
	b	se	OR	95% CI for OR		b	se	OR	95% CI for OR	
				Low 95%	High 95%				Low 95%	High 95%
Threshold	6.60	2.67				-.77	1.20			
Gender (female 0, male 1)	1.45*	.52	4.28	1.55	11.81	-.20	.28	.81	.47	1.42
Age	.12*	.03	1.12	1.07	1.18	-.02	.01	.98	.96	1.01
Income (log)	.30	.48	1.35	.53	3.44	.10	.06	1.10	.94	1.25
PFW	-.47	.30	.63	.35	1.13	-.22	.17	.81	.57	1.13
PSW	-.33*	.16	.72	.52	.99	.15	.13	1.17	.90	1.52
PCB	-.70*	.30	.50	.28	.87	-.18	.16	.84	.61	1.15
GME	.35	.37	1.42	.68	2.96	.26	.15	1.30	.97	1.73
RCE	.35	.22	1.42	.93	2.17	-.07	.10	.93	.77	1.12
CE	.31	.31	1.37	.75	2.50	.30*	.11	1.35*	1.08	1.69

Note: $p < .05$, OR = Odds Ratio, Income is the Log of Household Income, N(diabetes) = 521, N(travel) = 520.

Table 7 *Linear regression models predicting satisfaction with health and confidence in speaking heritage Pacific language.*

	Model predicting satisfaction with health				Model predicting confidence in speaking heritage Pacific language			
	b	SE	β	t	b	SE	β	t
Constant	-.32	.56		-.58	.15	.81		.18
Gender (female 0, male 1)	.14	.14	.04	1.04	-.07	.20	-.01	-.36
Age	.01	.01	.06	1.50	.03	.01	.02	4.03*
Income (log)	-.02	.05	-.02	-.40	.03	.07	.16	.41
PFW	.58	.08	.33	7.55*	-.13	.11	-.05	-1.13
PSW	.37	.06	.26	6.27*	.05	.09	.02	.54
PCB	-.19	.08	-.12	-2.49*	-.01	.11	-.00	-.07
GME	.06	.08	.04	.72	-.26	.12	-.10	-2.12*
RCE	-.03	.04	-.02	-.57	.38	.06	.24	5.86*
CE	.12	.06	.09	2.10*	.60	.08	.33	7.22*

Note: Income is the log of household income, * $p < .05$, N(health) = 522, N(language

Table 8 *Censored regression model predicting Church attendance.*

	Model predicting Church attendance (in last month)			
	b	SE	β	t
Constant	-3.01	2.59		12.49*
Gender (female 0, male 1)	-.50	.56	-.04	-.83
Age	.01	.02	.02	.34
Income (log)	.03	.21	.01	.13
PFW	.01	.35	.13	2.31*
PSW	-.12	.25	-.02	-.46
PCB	.01	.33	.00	.04
GME	-1.53	.35	-.24	-4.35*
RCE	1.27	.22	.29	5.79*
CE	.75	.25	.16	2.96*

Note: Income is the log of household income, * $p < .05$, $N = 452$

Discussion

We developed and validated a revised version of the PIWBS-R. This revision extends the original five-factor PIWBS model to include a sixth subscale assessing CE. Using a theoretical basis of self-efficacy (Wood & Bandura, 1989) and Mila-Schaaf's (2010) Polycultural Capital we adapted a previous subscale to assess an underlying construct of CE. Fit indices of a Confirmatory Factor Analysis supported a six-factor model with the inclusion of the CE factor.

The CE factor was defined as an assessment of the extent to which one feels they have the cultural and personal resources to engage with Pacific others or express their Pacific identity in a given context. These resources are subjective to each individual and can include knowledge of Pacific values and language; however, it is the perceived capacity of an individual to utilize what resources they have to express their Pacific identity that this measure assesses. Construct definitions for the six factors indexed by the PIWBS-R are presented in Table 3. It is unlikely that the CE factor covers the entire range of this construct with the number of items that are presented here. However, we argue that our simple analyses, discussed below, provide

evidence that the factor does indicate an underlying CE construct.

Construct Validity of the CE Factor

We used the CE factor to predict a series of single item measures and behaviors where we expected to see positive associations between the predictor and criterion variables. Furthermore, we included the additional factors of the PIWBS-R in our analyses to see if CE would predict unique variance above and beyond that predicted by demographic variables and other Pacific identity and wellbeing factors. Our results supported this and showed that the CE factor is in fact predicting behaviors in the way that it is expected.

The model predicting confidence in speaking one's Pacific heritage language provided initial support for the CE factor. CE was the strongest predictor indicating that the more resources one feels they possess to participate within a Pacific cultural context, the more confidence they will report in speaking their heritage Pacific language. Furthermore, we found that age was a significant predictor where older individuals reported greater confidence. Because of our cross-sectional data, we are unable to say whether language confidence increases with age, or if it is a cohort effect where older individuals are more confident in speaking their heritage Pacific language. However, demographically, older Pacific individuals are more fluent in speaking their languages so it is likely our findings are supporting the latter.

RCE significantly predicted language confidence. Those that see religion as a centrally defining aspect of the Pacific self are more likely to be engaged in religious activities and practices. Typically in Pacific communities, this means fellowship at a Church for specific Pacific communities where ethnic practices are common and sermons often conducted in Pacific languages (Anae, 1998; Macpherson, 1996; Tiatia,

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1998). For those that do see religion as a central aspect of their self, it is more likely that increased exposure to language outside of the familial home, within the church setting, would translate to greater confidence in speaking language. This is further supported by our model of church attendance where both RCE and CE were positively associated with more frequent church attendance. The results here are similar to a scale of Māori identity where a similar factor of CE predicted fluency in Te Reo and the frequency of having visited a Marae in the past month (Houkamau & Sibley, 2010).

GME was negatively associated with both language confidence and church attendance. This indicates that the more positive evaluations one has about their perceived membership within the Pacific group at a general level, the less confidence they express in speaking their heritage Pacific language and the less frequent they attend a church or place of worship. It is possible that this finding is highlighting the conceptual distinction between ethnic identity and ethnic behaviors. Alternatively, although individuals may have positive evaluations about their group membership, they may not see such behaviors as a necessary aspect of a Pacific identity, and thus, place greater emphasis on other domains of life.

CE was the only significant predictor for the likelihood of having traveled to the Pacific Islands within the last 2 years. This indicates that those that feel they possess cultural resources to assist them within a Pacific cultural context were more likely to have traveled. This is something we would expect to find as individuals with greater exposure to a society where Pacific values and practices are the norm (as opposed to NZ society) would be more likely to accumulate experiences that will benefit their CE.

Our findings support assertions by Walters (1999) and Phinney and Ong (2007) that ethnic identity and cultural behaviors should be assessed separately for conceptual clarity. In the original PI- WBS (Manuela & Sibley, 2013) model, items intended to assess CE were specific to behaviors. Changing the items to assess a general level of CE were more suitable, and strongly predicted language confidence, church attendance, and travel. We support separately assessing identity and behaviors for conceptual clarity, and suggest that research concerning ethnic behaviors, such as the maintenance of Pacific languages, use measures of such behaviors as an outcome. The findings presented here provide evidence of the construct validity of the CE subscale.

Applying the PIWBS-R to Pacific Health

We evaluated models predicting two health-related outcomes: Satisfaction with health, and diagnosis of diabetes. This is the first that we are aware of where a culturally specific measure of Pacific identity and wellbeing has been used to explore aspects of Pacific health, which may be beneficial for culturally relevant preventative health care.

There were three factors significantly and positively associated with satisfaction with health. The two wellbeing factors, PFW and PSW indicate that the increases in satisfaction with family and/or society are associated with increased satisfaction with personal health. In addition, the CE factor was also significant, indicating that the extent to which one feels they are able to participate and express their self within a Pacific cultural context is positively associated with personal satisfaction with health. This may be a reflection of the, collective and interdependent nature of Pacific peoples. It is possible that perceptions of personal health are influenced by

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satisfaction with harmonious relationships within the self, family, and wider community. This can be further explained by holistic models of Pacific health, such as the Fonofale model (Crawley, Pulotu-Endemann, & Stanley-Findlay, 1995), that posit for overall wellbeing of an individual all aspects of one's life (physical, mental, spiritual, societal, familial, and cultural) should be balanced.

PCB was negatively associated with health satisfaction. This suggests that the more one feels connected to and part of the Pacific community at a general level, the less satisfied they are with their personal health. This could be an influence of comparisons of the self to the Pacific group at a general level. By doing so, individuals may be comparing the self to stereotypes of Pacific peoples, which typically include overrepresentations in negative health indices. This may have a negative influence on perceptions of personal health, or thoughts of the self as at risk for negative health outcomes associated with Pacific peoples.

The likelihood of having being diagnosed with diabetes was also modeled. This is a critical outcome for Pacific peoples in NZ, as rates of diabetes among Pacific peoples are higher than that of Māori and other non-Pacific ethnic groups in NZ. PSW and PCB were associated with a lower likelihood of being diagnosed with diabetes with those who reported a higher sense of belonging and connections with Pacific others being half as likely to have been diagnosed with diabetes. Critically, these results indicate that controlling for age, gender, and household income, factors of satisfaction with society and a sense of belonging to the Pacific group predict *lower* odds of diagnosis with diabetes. We hope that future research can expand on our findings to identify the mechanisms underlying such effects for Pacific peoples in particular (cf. Haslam *et al.*, 2009).

It is possible that this finding may indicate that facets of Pacific identity and wellbeing may act as a buffer for physical health. This information can be used by public health promoters, practitioners, and researchers, where the PIWBS-R can be used to gather empirical evidence or support for how to approach particular problems, or even evaluate culturally specific health interventions.

Limitations

We have shown that the CE factor is an appropriate addition for the PIWBS-R model. We have also shown how the PIWBS-R can be used to predict a variety of culturally relevant outcomes. The purpose of this research was not to provide a detailed study into each of these outcomes, but to highlight the utility of the PIWBS-R. Our results highlight the potential applications of the PIWBS-R in specific contexts, but these are analyses of single- item outcomes so the results should be interpreted cautiously.

Focusing specifically on diabetes, we have made no distinction between Type 1 and 2 diabetes. Had a distinction been made, we might be able to provide a more detailed explanation for these results, as Type 2 diabetes can be influenced by lifestyle and behaviors (Knowler *et al.*, 2002). Additionally, we have not controlled for other known risk factors of diabetes. We hope that the development of the PIWBS-R will lay foundations for comprehensive models assessing the interplay between previously well- documented risk factors associated with Pacific health and aspects of Pacific identity, that our findings suggest may serve a protective function.

It is worth noting that one of the reverse-coded items in the PCB scale had a low factor loading (.19). This item was included in the original scale, and showed a reasonable loading (.45) during scale development (Manuela & Sibley, 2013). At this

stage, we have opted to retain this item given the need for reverse-coded items. However, if this low loading is replicated in future research, then further scale revisions could look to improve upon the reverse-coded items in the PCB factor.

Future Research

The PIWBS-R opens the door for a range of future research prospects. In addition to the health applications outlined above, the PIWBS-R can be applied in a longitudinal research to assess identity changes over time and predict positive psychological outcomes. The PIWBS-R could also be adapted to specific Pacific populations to help evaluate community driven cultural initiatives.

The PIWBS-R may also serve clinical applications. For example, clinical psychologists may use the PIWBS-R when dealing with Pacific clients to help further their understanding of how a Pacific individual views their self. Say a Pacific individual scores low on the RCE factor, this may indicate the client does not value religion as a central aspect of their Pacific identity despite their membership in their church community. This information could guide how the practitioner may go about dealing with their client in a culturally appropriate manner.

Summary and Conclusion

The CE factor is a valuable addition to the PIWBS (Manuela & Sibley, 2013). The CE subscale provides information that enhances understanding the identity and wellbeing of the diverse Pacific group in NZ. Furthermore, the analyses conducted in this study highlight potential applications of the PIWBS-R. Here we have shown that the various factors of the PIWBS-R predict confidence in speaking Pacific languages, frequency of church attendance, likelihood of international travel, satisfaction with health, and the likelihood of being diagnosed with diabetes. This is just a small

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selection of the potential applications that the PIWBS-R offers. We hope that this revised model will provide another methodological basis for research that benefits Pacific peoples.

Bridging Comments

The new Cultural Efficacy factor of the PIWBS provides a valuable improvement and contribution. It can now be used to explore and understand how Pacific peoples subjectively engage with their cultural practices. This is a crucial aspect of the lived experiences of Pacific peoples, as cultural practices and participation are consistently highlighted within other research as a valuable tool of self-expression, cultural preservation and maintenance.

Although the earlier iteration of cultural efficacy in the original PIWBS was unstable, this was most likely due to item content being framed around language use. This highlights a tension in what identity means for Pacific peoples and how it can be measured. Despite the important role language plays in ethnic and cultural identity, language use in the context of a larger Pacific group is problematic. I argue that this is because of the differences in language use between the specific Pacific groups present in NZ. As highlighted in the paper, language use is higher amongst Samoan and Tongan groups, but lower amongst Niuean and Cook Islands. Because of the links between language and identity, it is possible (although not explored here) that language can play a different role in identity for the different Pacific groups present in NZ. This is not to say that language is not important for the identities and cultures of Cook Islands and Niueans in NZ, but rather that acculturative processes have led to changes in language use and how language is viewed within the NZ context.

It is common to hear within public discourse that without language one's identity is lost. I agree that language is important to identity, but disagree that without language that one is lost. Whilst not knowing one's language limits their ability to participate in aspects of their cultural, to say that one is unable to identify with other

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members of their group is a very damaging approach to understanding the role of language in identity. I say this cautiously, as I do not want to diminish our languages, because they are important and should be nurtured. However, to say that one is lost without their language excludes (unintentionally) one from their group. This is where I feel that the damage occurs. An aspect of identity is a sense of belonging to the group. However, exclusion or rejection from the ingroup has can have a negative influence on wellbeing (Leary, 1990) and creating a sense of exclusion from the group on the basis of language proficiency is an unintentional way of creating harm.

A better indication, as the one we have done here, is to look at the way individuals engage with their culture identity, or how comfortable they are in doing so. This does not adopt the position that one must meet certain criteria (such as speaking one's heritage language) to be able to identify with one's culture, but rather gauges one's own efficacious beliefs in doing so. This does not have the position of 'othering' people that are unable to partake in specific aspects or behaviours associated with one's culture.

Having developed the Cultural Efficacy factor, the PIWBS now provides a broader snapshot of the self-concept for Pacific peoples. At this point, it is important to note that the success of this factor changed the general directions of the research. As such, I have decided to leave the hierarchical model as it stands. It is possible to re-assess the hierarchical structure to see how it may change with the additional cultural efficacy factor. I imagine that it would emerge from under the larger cultural wellbeing factor. However, given the new model and surprising results to do with health and diabetes from the paper above, I decided to proceed ahead with more pressing applications to Pacific research. The hierarchical model can still be used for

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guiding research directions with the PIWBS, and I still recommend it along with other Pacific research methodologies.

Up until now, the PIWBS has been presented as a tool based on core elements of identity and wellbeing across the various Pacific groups within NZ. The original development and subsequent revision have provided strong evidence of the psychometric properties for the scale, suggesting it is an appropriate tool for use with Pacific peoples generally.

I have presented research with the PIWBS at various conferences and symposia during this PhD. The tool has always been met with a healthy dose of intrigue and excitement. Perhaps the most common theme of questions about it has been around the applicability of the PIWBS with specific Pacific groups. There was interest regarding if it would be appropriate to use specifically, for example, with Tongans. My usual response to such questions was uncertainty. I suggested that because the PIWBS was developed on core elements of identity and wellbeing common throughout Pacific cultures that it should perform reasonably well. However, as it was intentionally developed to assess identity and wellbeing more generally for Pacific peoples, it is unlikely to capture some of the more culturally-nuanced aspects of identity for specific ethnic groups. Furthermore, as the PIWBS had been developed based on a diverse sample of Pacific individuals, again I assumed that because the psychometric properties and model fit indices were good for the sample more generally, then they must also be reasonable for Pacific groups more specifically.

In this study, I address the concerns of how the PIWBS performs across groups. I do this by using a technique called Multigroup Confirmatory Factor Analysis. This is explained in greater detail in the study below, however in a nutshell,

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it compares the model fit indices for multiple groups. Should the PIWBS be useful for the groups that it was intended for, the results should show reasonable model fit for each group. Further to this goal, I also compare the means of each factor across Pacific groups. This is to provide information for researchers on the mean levels of the identity and wellbeing factors across each group. Generally speaking, there are similarities in the experiences of identity within the NZ context for Pacific peoples. However, given the differences in the relationships that different groups have in NZ, there is a possibility for some subtle differences in some of the factors within the PIWBS.

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Please see:

Manuela, S., & Sibley, C. G. (2015b). The Pacific Identity and Wellbeing Scale – Revised: Comparisons across Pacific groups. *New Zealand Journal of Psychology*, 44(1), 60-69.

**Study 3: The Pacific Identity and Wellbeing Scale – Revised: Comparisons
across Pacific groups**

Abstract

We test the factorial equivalence of the Pacific Identity and Wellbeing Scale – Revised (PIWBS-R) across the four largest Pacific Nations groups in New Zealand (Samoa, Cook Islands, Tonga, Niue). Using Multigroup Confirmatory Factor Analysis (N = 684) we show that the PIWBS-R exhibits similar properties within each Pacific group. Results indicate that across the four groups, the PIWBS-R shows the same basic factor structure, item factor loadings and intercepts. We also compare the group means for the individual factors of the PIWBS-R, whilst statistically adjusting for demographic covariates. Results showed a small but significant difference in Religious Centrality and Embeddedness, where Tongan participants scored higher relative to both Cook Island and Niuean participants. These results mirror population proportions of religious affiliation within Pacific groups in NZ. There were no other significant differences between groups in the other factors of the PIWBS-R. Together, these results provide strong evidence of the PIWBS-R as a valid tool for research with Pacific peoples at a general level, and within specific Pacific ethnic groups.

Keywords: Pacific Nations, Identity, Wellbeing, Measurement Equivalence

Introduction

Quantitative research on Pacific identities and wellbeing is a growing area of interest for Pacific researchers (Savila, Sundborn, Hirao & Paterson, 2011). One advancement in this area is the development and revision of the Pacific Identity and Wellbeing Scale (PIWBS-R: Manuela & Sibley, 2015a). The PIWBS-R is the first psychometric measure developed specifically for Pacific peoples in New Zealand (NZ) and provides researchers with alternative avenues to explore Pacific identities and wellbeing. Here we test the measurement equivalence of the PIWBS-R and provide evidence to show it holds similar psychometric properties across the largest Pacific Nations groups represented in NZ (people from Cook Islands, Niue, Samoa and Tonga). We also compare the PIWBS-R across the Pacific Nations groups while controlling for key demographic variables that may influence identity and wellbeing.

The PIWBS-R is a culturally appropriate measure that assesses six factors of Pacific identity and wellbeing. It was developed through an integration and synthesis of both Pacific and psychological research concerning ethnic identity and subjective wellbeing (See Manuela & Sibley, 2013, 2014a, 2015a). It is a unique tool as it provides a quantitative approach to understanding the holistic conceptualisation of the Pacific self (see for example the Fonofale model of health: Crawley, Pulotu-Endemann & Stanley-Findlay, 1995). The PIWBS-R has six factors assessing Perceived Familial Wellbeing, Perceived Societal Wellbeing, Group Membership Evaluation, Pacific Connectedness and Belonging, Religious Centrality and Embeddedness and Cultural Efficacy. A formal list of construct definitions for the six PIWBS subscales is presented in Table 9 and a list of items is presented in the appendix.

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Table 9 *Construct definitions for the Pacific Identity and Wellbeing Scale – Revised (PIWBS-R; from Table 1. Manuela & Sibley, 2015a).*

Factor	Construct Definition
Perceived Familial Wellbeing (PFW)	Perceived satisfaction with one's family. Indicated by satisfaction with familial relationships, respect, happiness and security.
Perceived Societal Wellbeing (PSW)	Perceived satisfaction with NZ society. Indicated by satisfaction with support from government, local communities and one's position in NZ society.
Group Membership Evaluation (GME)	Subjective evaluations of one's perceived membership in the Pacific group. Indicated by positive affect derived from group membership.
Pacific Connectedness and Belonging (PCB)	A sense of belonging and connections with Pacific others and the Pacific group at a general level.
Religious Centrality and Embeddedness (RCE)	The extent to which an individual feels that religion is intertwined with one's Pacific culture and identity.
Cultural Efficacy (CE)	The extent to which an individual feels they have the personal and cultural resources to act within a Pacific cultural or social context.

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The PIWBS-R is both a specific and general measure of identity and wellbeing (Manuela & Sibley, in 2015a). On the one hand, the PIWBS-R is specifically tailored to Pacific peoples. In this instance, it has more nuanced representations of ethnic identity and wellbeing pertinent to Pacific peoples. This separates it from more general measures such as the Multigroup Ethnic Identity Measure (Phinney, 1992) that assesses ethnic identity as a general phenomenon across all groups, and does not take on a holistic approach that includes measures of wellbeing or religion. On the other hand, the PIWBS-R was not developed for any one specific Pacific ethnic group. Instead, it is based on the common elements of identity and wellbeing across Pacific groups. In this way, the PIWBS-R is a general measure of ethnic identity and wellbeing specific to Pacific peoples.

In the initial development of the tool, Manuela & Sibley (2013) reflected on how it is “*a pan-Pacific scale in construct, aimed at being relevant equally for all Pacific peoples*” (p. 99). This paper seeks to test this earlier aim and with causes that extend beyond the psychometric. The PIWBS-R is a tool that is responsive to the needs of Pacific communities and Pacific researchers. One such need is a call for more ethnic specific interventions for Pacific communities, for example Pacific community perspectives on suicide prevention that include ethnic specific approaches and the importance of a secure cultural identity (Le Va, 2014). By providing evidence that a pan-Pacific measure can be used with single Pacific groups, we attempt to answer this call.

Testing Factor Equivalence

Because the PIWBS-R is developed for research with Pacific peoples at a general level, we need to show that it is suitable for use across Pacific groups. In

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other words, do the psychometric properties of the PIWBS-R hold across individual Pacific groups represented in NZ? Pacific peoples, as a group are a diverse population, so we need to show that the PIWBS-R is actually assessing the same constructs for different groups. That is, do Samoan people, for example, respond to the items in a similar way, or interpret them as referring to the same Pacific concepts, as Tongan peoples, Cook Island peoples, or Niuean peoples? This is the same conceptual problem that cross-cultural research faces when aiming to compare scores on the same scale, for example self-esteem, across different cultural contexts, nations and languages (Farruggia, Chen, Greenberger, Dmitrieva & Macek, 2004; Schmitt & Allik, 2005).

MCFA is an extension of Confirmatory Factor Analysis (CFA – see Kline, 2005, for an introduction to CFA and Walkey & Walch, 2010, for an introduction to EFA). MCFA provides a way to test factorial equivalence by estimating a CFA model for separate groups (in our case, Pacific Nations groups) at the same time (Jöreskog, 1971). Factorial equivalence (otherwise known as measurement invariance) in a specific sense is defined by Kline (2005) as “*whether a set of indicators assesses the same constructs in different groups*” (p. 295) and can be assessed at three levels: configural, metric and scalar. These three levels increase in how stringent a test they provide for equivalence.

Configural equivalence assesses the extent to which the same basic factor structure, or loading pattern, holds across different groups. In our case, configural equivalence reflects the extent to which all the items assessing each factor hang together; or the extent to which the measurement model is similar across groups. Metric equivalence (or measurement unit equivalence/construct equivalence) is a step up from configural equivalence because it tests the extent to which the factor loadings

themselves are similar. In the case of the PIWBS-R, metric equivalence would thus indicate that the actual values for the factor loadings are comparable. This would imply that different groups are interpreting the questions in the same way, or that the same construct is being assessed across groups. Scalar equivalence is more restrictive again. Extending the assumptions for configural and metric equivalence, tests of scalar equivalence assess whether the intercepts for the indicators are comparable across groups. In the case of the PIWBS-R, scalar equivalence would indicate that in addition to the pattern and values for factor loadings being similar, the intercept (mean) scores on the actual PIWBS-R items are comparable too. This is important because in addition to the same intervals, if the model shows scalar invariance, then the scales share the same origins across groups thus indicating that comparisons of mean differences in the latent scale scores are valid.

Pacific Peoples, Identity and Wellbeing

We compare mean scores on the PIWBS-R constructs across four Pacific Nations in NZ (Cook Islands, Niue, Samoa and Tonga). Although we only focus on the four largest Pacific groups, there are numerous groups represented in NZ. As a whole, Pacific peoples make up approximately 7.4% of the NZ population, and consist of communities from Samoa (49%), Cook Islands (21%), Tonga (20%), Niue (8%), Fiji (4%), Tokelau (2%), Tuvalu (1%), in addition to smaller communities from other Pacific Nations (3%).

While the specific Pacific Nations communities deserve to have their unique cultures and histories recognised within research, quite often it can be difficult to collect large enough samples to reach statistical power. As such, Pacific peoples are often systematically categorised into a single group in research which can conceal

inter-group differences, such as variability in Pacific peoples' mortality rates (Statistics New Zealand and Ministry of Pacific Island Affairs, 2011). This can lead to a misconception of a single group. However, there are shared histories and experiences of Pacific peoples that have allowed them to develop a unique identity that is different from the first Pacific migrants (see Macpherson, 1996 for an extensive review and history of Pacific peoples in NZ). We do not aim to define or test this theorized collective identity. We do note, however, that the PIWBS-R was explicitly designed to draw on and represent identity and wellbeing common across the Pacific groups (Manuela & Sibley, 2013).

The demographic characteristics of initially immigrant populations, such as Pacific peoples, are important to consider when conducting research. For example, in a study of discrimination and psychological distress for Asian adults in America, ethnic identity buffered the effect of discrimination for middle-aged individuals born in America, whilst exacerbating the effect for American-born individuals above and below middle age (Yip, Gee & Takeuchi, 2008). It is possible that demographic characteristics of Pacific peoples may also influence relationships between ethnic identity and wellbeing in a similar manner. As a general group, Pacific peoples are young and highly religious relative to the overall NZ population, with an increasing proportion born in NZ (Statistics New Zealand, 2014). To account for this, we will compare group means whilst statistically adjusting for gender, age, country of birth and religious status. We provide a brief outline of how these variables could influence Pacific identities and wellbeing below.

Age

As a group, Pacific peoples are very young. Pacific peoples have a median age of 21.1 years (compared to 41 years for Europeans), giving them the highest proportion of young people of any ethnic group in NZ (Statistics New Zealand, 2014). Research from a national study on NZ youth shows that Pacific secondary school students report high levels of ethnic pride and the importance of being recognised as a member of their ethnic group relative to other non-Pacific ethnic groups in NZ (Clark *et al.*, 2013).

There have been suggestions of intergenerational differences within Pacific communities. Pacific cultures are generally gerontocratic where the voices of elders are given authority over the voices of youth. This can potentially lead to cultural conflicts with Pacific youth in NZ feeling marginalised within their own cultural contexts (Tiata, 1998). However the influences of older Pacific generations are crucial for the identity development of many Pacific youths. It is very common for Pacific families to have multiple generations within a single household, with older generations usually instilling cultural values into younger generations (Pene, Peita & Howden-Chapman, 2009). Previous research with the PIWBS-R has also shown that age is associated with confidence in speaking a Pacific language (Manuela & Sibley, 2015a) which may also assist in the transfer of cultural knowledge to younger generations.

Age is an interesting covariate for Pacific peoples as it shows how demographic variables are related to each other, the combination of which could influence scores on the PIWBS-R. For example, older Pacific individuals are more likely to have been born overseas and more likely to identify with a religion (Statistics

New Zealand, 2007) both of which are outlined in more detail below. As such, we control for age in our analyses to adjust for potential differences in our scores.

Country of Birth

The country of birth of Pacific peoples highlights the biggest change among Pacific communities in NZ. Originally a migrant group in the 1950's, approximately 60% of the Pacific populations that reside in NZ are now NZ-born and this is likely to increase. There are also more Cook Islands and Niue peoples born and/or living in NZ than there are born and/or living in the Cook Islands and Niue. The increasing proportion of Pacific peoples being born and raised in NZ has led to changes in the ways that Pacific identities are expressed and conceptualised.

Early Pacific settlers tended to identify their selves along their village and familial lines as they did in their respective mother-nations (Macpherson, 1996) despite being viewed as a homogenous group by non-Pacific others in NZ. The subsequent generations of the early Pacific migrants found themselves in a social context markedly different to the one the previous generation grew up in, where they interacted with others from a variety of Pacific and non-Pacific backgrounds in a largely multicultural setting. The subsequent NZ-born generations found they had common experiences with each other that differed from those of the Island-born generation before them. Although there are first-generation Pacific migrants and NZ-born Pacific peoples of all ages, the majority of Pacific youth are born in NZ.

The influence of the NZ context on the identities of Pacific peoples born highlights the complexity of Pacific identities in NZ. For example, Anae (1998) explored the identity journey of NZ-born Samoans within the church setting, and how individuals came to what she defined as a 'secure identity' in which one readily

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defined their self as Samoan. Similarly, Tiatia (1998) explored the experiences of NZ-born Pacific peoples, highlighting experiences of being caught between cultures; trying to navigate what it means to be engaged in both Pacific culture and NZ society when the cultural values of both may contradict each other. Furthermore, Mila-Schaaf (2010) explored the experiences of NZ-born Pacific peoples and how exposure to both Pacific and NZ social spaces was advantageous to individuals.

There are noted differences in mental health between Pacific peoples born in NZ and in the Pacific. Findings from Te Rau Hinengaro, a NZ mental health survey, show that 31.4% of NZ-born Pacific people had a mental disorder within the past 12 months of the time of the survey relative to 15.1% of those born in the Pacific (Foliaki, Kokaua, Schaaf, & Tukuitonga, 2006). It is important to note that age at the time of migration to NZ was influential in the experience of mental disorder rather than the time since migration. For example, of those born in NZ, 93.6% were aged under 45 compared to 47.1% of those who had migrated at 18 years or over.

These findings could represent the immigrant paradox, a counter-intuitive finding that second-generation individuals experience more negative outcomes than their immigrant counterparts (Sam, Vedder, Ward, & Horenczyk, 2006). The results of Te Rau Hinengaro show some evidence of the immigrant paradox with NZ-born Pacific peoples experiencing higher prevalence of mental disorders (Foliaki, Kokaua, Schaaf, & Tukuitonga, 2006). Additional research with Pacific youth has found evidence of first and second generation immigrants reporting higher levels of wellbeing than their NZ-born peers (Spijkers, 2011). This highlights a need to understand how both Pacific identities and wellbeing may be influenced within an acculturative process, and how taking into account one's country of birth may provide a more nuanced approach to understanding wellbeing outcomes. It is also possible

that the experience and development of ethnic identity and wellbeing differs between NZ-born and Pacific-born individuals. As such, we control for birthplace in our analyses to adjust for potential differences in scores.

Religion

Religion plays a crucial role in many Pacific cultures in New Zealand. The Pacific group at a general level is highly religious with approximately 82% of Pacific peoples affiliating themselves with at least one religion in the 2006 NZ census (compared to 61% of the total NZ population). Religion, religious practices and spirituality have been widely researched in Pacific communities, largely in regards to the role of religion in culture. For example, Macpherson (1996) notes that many early Pacific migrants to NZ viewed their church as a village away from the islands. In their explorations of ethnic identity for NZ born Pacific peoples, identity narratives were explored within Church settings (Anae, 1998; Tiatia, 1998). Religious practices such as church attendance have also been seen as an avenue to promote and improve health outcomes for Pacific peoples (Dewes, Scragg & Elley, 2013) and recognised as a critical aspect of counselling for Pacific clients (McRobie & Makasiale, 2013).

Table 10 *Proportion of religious affiliation and non-religious affiliation by Pacific ethnic groups in New Zealand from each census year (Data from Statistics New Zealand).*

Year	At least one religion				No Religion			
	1996	2001	2006	2013	1996	2001	2006	2013
Cook Is.	.82	.77	.70	.65	.18	.21	.24	.31
Fijian	.85	.79	.82	.83	.15	.15	.15	.15
Niuean	.82	.76	.70	.66	.18	.22	.24	.30
Samoan	.92	.90	.86	.83	.08	.09	.11	.14
Tokelauan	.95	.91	.86	.83	.05	.09	.10	.14
Tongan	.94	.92	.90	.88	.06	.07	.08	.10
Tuvaluan	-	.97	.96	.93	-	.02	.02	.05

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The NZ population as a whole has seen a steady decline in religious affiliation. It appears that the Pacific population has followed suit, although to a lesser extent. Over the 10 year period from 1996 to 2006, the proportion of Pacific peoples that affiliated with at least one religious group decreased from 89% to 83%. A more nuanced look into religious affiliation across Pacific communities shows that the proportion of people that affiliate with at least one religious group has decreased across most Pacific groups, but this decrease is more pronounced amongst Cook Island and Niuean communities (see Table 10). Furthermore, the proportion of Pacific peoples that identified with no religion has increased across all Pacific groups (except Fiji which has remained relatively consistent) with the highest proportions in the Niue and Cook Islands groups. It is interesting to note that those that do not affiliate with any religion tend to be younger and New Zealand born, which suggests that there may be a change in the role of the church in the lives of Pacific youth in NZ (Anae, 2011). Despite the decreasing proportion of religious affiliation and increasing proportion of religious non-affiliation, the Pacific groups are still the most religious in New Zealand, even amongst Niue and Cook Islands groups.

As the proportion of Pacific peoples affiliating with a religion is changing and the suggestion of a change in the role of churches (and potentially religion) in the lives of Pacific peoples, we opt to include religious status as a covariate in our analyses. It is possible that identification with a religion may influence scores of the PIWBS-R, particularly the Religious Centrality and Embeddedness factor.

Overview and Guiding Hypotheses

To show that the PIWBS-R is a suitable pan-Pacific tool for identity and wellbeing research, it is imperative that the scale is suitable for the groups it was

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developed for. Here, we will test the measurement properties of the PIWBS-R with the four largest Pacific groups in NZ: Cook Islands peoples, Niuean peoples, Samoan peoples and Tongan peoples. We will first conduct a MCFA to see if the relationship between the scale items and their latent constructs hold across the four Pacific groups. As the PIWBS-R was developed upon general aspects of identity and wellbeing pertinent to Pacific peoples, we expect that we will find evidence of measurement invariance for the PIWBS-R across the four Pacific groups.

In addition to testing the measurement invariance of the PIWBS-R, we compare the mean scores across the Pacific groups for the PIWBS-R subscales. Further to this, it is important to note potential influences of demographic factors such as age, place of birth and religious status on the PIWBS-R scores. As the PIWBS-R is assessing general aspects of identity and wellbeing that are specific to Pacific peoples, we expect to see no difference in mean scores on the PIWBS-R constructs, in as much as one can predict the null hypothesis. We do however expect there to be a difference in scores on the Religious Centrality and Embeddedness factor that will reflect the current proportions of religious affiliation within the specific Pacific groups. We conduct a Multivariate Analysis of Covariance (MANCOVA) to simultaneously test for differences between the means of the PIWBS-R constructs for Cook Islands, Niuean, Tongan and Samoan peoples, whilst controlling for demographic covariates of gender, age, birthplace and religious status.

Method

Participants and Procedure

Participants were 684 (530 female, 154 male) members of the NZ public who took part in the Pacific Identity Study, and identified as being of Pacific Nations

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ancestry (106 Cook Islands, 89 Niuean, 294 Samoan, 195 Tongan). Participants had a mean age of 29.49 years ($SD = 10.43$). Other analyses of the Pacific Identity Study are reported in Manuela and Sibley (2013; 2014a; 2014b; 2015a). Pacific peoples are a notoriously difficult to reach population, and as far as we are aware, our survey represents the largest social psychological survey of Pacific identity and well-being ever conducted in New Zealand

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, organizations and community networks. A snowballing sampling method was also employed, where participants were asked to invite others in their networks to participate in the study. These data thus cannot be considered representative of the Pacific population in New Zealand. Participants were entered into a draw to win \$300 grocery vouchers.

Materials

Participants completed the 35-item PIWBS-R (Manuela & Sibley, 2015a). The PIWBS-R contained seven items assessing Perceived Familial Wellbeing (PFW, $\alpha = .86$), seven assessing Perceived Societal Wellbeing (PSW, $\alpha = .87$), six items assessing Pacific Connectedness and Belonging (PCB, $\alpha = .78$), five items assessing Group Membership Evaluation (GME, $\alpha = .87$), six items assessing Religious Centrality and Embeddedness (RCE, $\alpha = .84$) and four items assessing Cultural Efficacy (CE, $\alpha = .75$). Items were rated on a Likert scale for both the identity related constructs (PCB, GME, RCE and CE; 1 = strongly disagree to 7 = strongly agree) and the wellbeing related constructs (PFW, PSW; 1 = completely dissatisfied to 7 = completely satisfied).

Participants were also asked to indicate demographic information about whether they identified with a religion (Yes, No) and their place of birth. Birthplace was then coded into two groups (NZ-Born, Overseas).

Results

Multigroup CFA

We conducted a MCFA assessing the configural, metric and scalar invariance of the PIWBS-R across four Pacific Nations groups in New Zealand (Cook Islands, Niue, Samoa, and Tonga). We estimated our model using Maximum Likelihood with robust error estimation (MLR) using *MPlus* 7.2. The analysis involved several steps; a) investigating the independent CFA for each Pacific group; b) testing the measurement model specifying configural equivalence across the four groups; c) testing the measurement model imposing metric equivalence across the groups by constraining the factor loadings to equality between groups; and d) testing the measurement model imposing scalar equivalence across the groups by further constraining item-level intercepts to equality between groups. Table 11 presents fit indices for configural, metric and scalar tests of the model, as well as the fit indices when each group were examined independently. In the interpretation of model fit we rely on the recommendations of Hu and Bentler (1999) and present the Standardised Root Mean Square Residual (SRMR) and the Root Mean Square Error of Approximation (RMSEA), assuming the RMSEA of around .06 and the SRMR around .08 as indicators of acceptable model fit. We further present the model χ^2 and the associated degrees of freedom, as well as the Akaike Information Criterion (AIC).

As shown in Table 11, independent CFAs for each specific group indicated that the *PIWBS-R* fit reasonably well when used within each group independent of the

others. The PIWBS-R also provided reasonable fit when assessed across our sample of Pacific people as an overall group.

Critically, tests of the multi-group CFA indicated the PIWBS-R exhibited similar properties within each Pacific group. The model tests configural equivalence performed reasonably well, with an RMSEA of .064 and sRMR of .072. This suggests that the overall measurement model, or pattern of loadings, for the PIWBS-R is fairly similar across different Pacific groups.

Even more important, chi-square difference tests indicated that more constrained models imposing metric and scalar equivalence did not differ in their fit from the less restricted configural model (Metric against Configural model, $\chi^2(87) = 99.05, p = .18$. Scalar against Configural model, $\chi^2(174) = 199.58, p = .09$). The scale and metric model also did not differ significantly in fit ($\chi^2(87) = 100.93, p = .15$). As reported in Table 11, the fit indices for the metric and scalar models were consistent with these non-significant Chi-square tests, and indicate that the PIWBS-R performed reasonably well under these additional restrictive assumptions.

Mean differences in the PIWBS-R

A one-way MANCOVA compared mean levels of Perceived Familial Wellbeing, Perceived Societal Wellbeing, Pacific Connectedness and Belonging, Group Membership Evaluation, Religious Centrality and Embeddedness, and Cultural Efficacy across four Pacific Nations groups in New Zealand (Cook Islands, Niue, Samoa and Tonga). Gender, age, religious status and birthplace were entered as covariates. Raw and covariate-adjusted means and standard errors are presented in Table 12.

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The only significant difference across the four ethnic groups occurred for the Religious Centrality and Embeddedness (RCE) factor ($F(3, 681) = 4.903, p = .002$, partial $\eta^2 = .021$). Bonferroni-corrected post hoc tests indicated that there was a significant difference in the mean levels of *RCE* between Tongans ($M = 5.638, SE = .093$) and Cook Islanders ($M = 5.106, SE = .123, p = .004$), and between Tongans and Niueans ($M = 5.174, SE = .136, p = .035$).

There were no significant differences across ethnic groups for Perceived Familial Wellbeing ($F(3, 676) = .242, p = .867$, partial $\eta^2 = .001$), Perceived Societal Wellbeing ($F(3, 681) = .1227, p = .299$, partial $\eta^2 = .005$), Pacific Connectedness and Belonging ($F(3, 681) = .159, p = .924$, partial $\eta^2 = .001$), Group Membership Evaluation ($F(3, 681) = 1.795, p = .147$, partial $\eta^2 = .008$) and Cultural Efficacy ($F(3, 681) = .712, p = .545$, partial $\eta^2 = .003$).

Table 11 *Fit indices for Multigroup CFA assessing the equivalence of the PIWBS-R across different Pacific groups.*

	χ^2	<i>df</i>	AIC	RMSEA	90% CI $\epsilon_a\Delta$	SRMR
Standard CFAs						
Cook Island	922.35	545	12706.58	.077	[.068, 0.085]	.087
Samoan	1241.70	545	37793.05	.061	[.056, .065]	.060
Niuean	963.50	545	11300.97	.088	[.079, .097]	.086
Tongan	1100.57	545	23439.25	.068	[.063, .074]	.073
Overall model	4482.00	2354	85145.74	.068	[.065, .071]	.088
Multigroup CFA						
Configural model	3923.07	2180	85239.85	.064	[.061, .067]	.072
Metric model	3998.63	2267	85218.69	.062	[.059, .066]	.086
Scalar model	4103.93	2354	85145.74	.062	[.058, .065]	.088

Metric against Configural model, $\chi^2 (87) = 99.05, p = .18$. Scalar against Configural model, $\chi^2 (174) = 199.58, p = .09$. Scalar against Metric model, $\chi^2 (87) = 100.93, p = .15$. Multigroup model estimated using Maximum Likelihood with robust error estimation (MLR). Standard CFAs estimated using Maximum Likelihood (ML), as all fit indices for standard CFA models are not available under MLR.

Table 12 *Raw means, covariate-adjusted means and standard errors of the PIWBS-R factors.*

Raw Means	PFW	PSW	PCB	GME	RCE	CE	N
Cook Islands	5.97 (.08)	5.01 (.11)	5.72 (.10)	6.55 (.07)	4.96 (.16)	5.30 (.12)	106
Niuean	5.90 (.11)	4.70 (.14)	5.69 (.12)	6.40 (.11)	4.93 (.15)	5.41 (.15)	89
Samoan	5.92 (.05)	4.86 (.07)	5.80 (.06)	6.35 (.06)	5.48 (.08)	5.41 (.07)	294
Tongan	5.95 (.07)	4.96 (.09)	5.83 (.07)	6.47 (.06)	5.78 (.09)	5.54 (.08)	195
Total	5.94 (.04)	4.89 (.05)	5.78 (.04)	6.42 (.03)	5.41 (.05)	5.43 (.05)	684
Covariate Adjusted Means							
Cook Islands	6.00 (.09)	5.04 (.12)	5.75 (.10)	6.57 (.09)	5.11 (.12)	5.32 (.12)	106
Niuean	5.94 (.10)	4.73 (.13)	5.73 (.11)	6.44 (.10)	5.17 (.14)	5.44 (.13)	89
Samoan	5.92 (.05)	4.86 (.07)	5.78 (.06)	6.35 (.05)	5.45 (.07)	5.40 (.07)	294
Tongan	5.92 (.07)	4.93 (.09)	5.82 (.07)	6.45 (.07)	5.64 (.09)	5.53 (.09)	195
Total	5.95 (.04)	4.89 (.05)	5.77 (.04)	6.45 (.04)	5.34 (.05)	5.42 (.05)	684

PFW = Perceived Familial Wellbeing; PSW = Perceived Societal Wellbeing; PCB = Pacific Connectedness and Belonging; GME = Group Membership Evaluation; RCE = Religious Centrality and Embeddedness; CE = Cultural Efficacy. Values in brackets represent the standard error of the means.

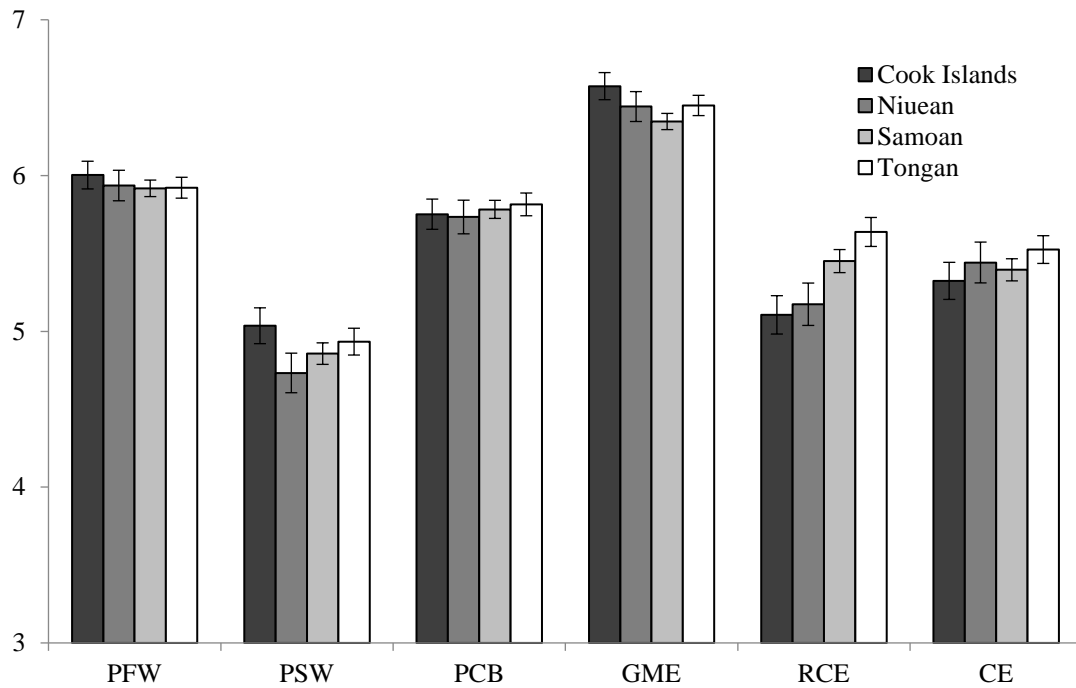


Figure 6. Mean levels of the PIWBS-R constructs across ethnic groups. Means have been adjusted for gender, age, religious status and birthplace covariates (error bars represent the standard error of the mean, y axis ranged from 1 to 7; PFW = Perceived Familial Wellbeing; PSW = Perceived Societal Wellbeing; PCB = Pacific Connectedness and Belonging; GME = Group Membership Evaluation; RCE = Religious Centrality and Embeddedness; CE = Cultural Efficacy

Discussion

We tested the measurement equivalence of the PIWBS-R to see if the psychometric properties of the PIWBS-R hold for Cook Islands, Niuean, Samoan and Tongan peoples in NZ. Our results indicate that the PIWBS-R provides a reliable measure of pan-Pacific identity which holds across the four largest Pacific Nations groups in NZ. The PIWBS-R can thus be used with confidence to make comparisons across these four groups.

We also compared covariate-adjusted mean scores of the PIWBS-R constructs across the Pacific groups. Our results indicate that after adjusting for differences in gender, age, country of birth and religious status, there were no significant differences between Cook Islands, Niuean, Samoan and Tongan peoples on their mean scores for five out of six of the PIWBS-R constructs. That is, there were no significant differences in covariate-adjusted mean scores for Perceived Familial Wellbeing, Perceived Societal Wellbeing, Pacific Connectedness and Belonging, Group Membership Evaluation, and Cultural Efficacy.

We did however find a significant difference in the mean scores for the Religious Centrality and Embeddedness (RCE) factor. Our results show that as a group, Tongans scored higher on the RCE factor relative to their Cook Island and Niuean counterparts, even after statistically adjusting for gender, age, birthplace and religious status. There were no other differences in adjusted mean scores between the Pacific groups on the RCE factor. The RCE factor reflects the extent to which individuals feel their Pacific culture is intertwined with religion. As mentioned earlier, there has been a decline in religious affiliation across all Pacific groups, and this is more pronounced among Cook Islands and Niuean groups. It is likely that our

findings are reflecting this trend. Pacific groups with a higher proportion of individuals not affiliating with a religion are more likely to, on average, score lower on the RCE factor relative to Pacific groups with a lower proportion of religious non-affiliation. In other words, Cook Islands and Niuean peoples view religion as an integral aspect of their Pacific identity to a marginally lesser extent than Tongan peoples.

Despite the significant difference in RCE scores, the effect size is small. All Pacific groups that were included in this study have moderate/high mean scores on this factor. At a general level, this would suggest that all Pacific groups surveyed here view religion as an integral component of their Pacific culture. A more specific intra-Pacific view shows that although scores on RCE are relatively high overall, some groups score higher relative to others. Exploring the other factors of the PIWBS-R, we see that there are no significant differences in the covariate-adjusted means. This shows that participants were responding to the scale items in a similar way, regardless of what Pacific group they identified with, their gender, age, place of birth and religious status. We can also see an important difference in the two wellbeing measures of the PIWBS-R. Firstly, we can see that participants score high on Perceived Familial Wellbeing, indicating that participants are generally highly satisfied with their family relationships. In comparison, we see that participants scored moderately, but relatively lower than Perceived Familial Wellbeing, for Perceived Societal Wellbeing. This indicates that Pacific participants are moderately satisfied with NZ society. Moreover, this comparison is showing that Pacific peoples in general are reporting more satisfaction from micro-level wellbeing domains relative to macro-level wellbeing domains.

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Exploring the other identity domains of the PIWBS-R, there were no significant differences between the ethnic groups on their mean scores. Focussing on Pacific Connectedness and Belonging, we see that participants are scoring moderate/high. This indicates that participants generally feel a sense of belonging and a sense of connections to other Pacific peoples at a general level. Looking at Group Membership Evaluation, participants scored very high regardless of their ethnicity. This indicates that Pacific peoples have a lot of positive affirmations about their self-perceived membership within the Pacific groups. This finding is similar to that of the Youth '12 research that shows that large proportions of Pacific youth reported high levels of ethnic pride relative to other ethnic groups (Clark *et al.*, 2013).

It appears that regardless of what Pacific ethnic group one belongs to, self-perceived membership within that group or identification with the Pacific group at a general level is rated as a highly positive aspect. Finally, focussing on Cultural Efficacy, our results show that participants scored moderate/highly on this factor. This indicates that participants feel they have the personal and cultural resources to express their selves in a Pacific cultural or social context to a moderate-high extent. It is interesting to note that scores on Cultural Efficacy were lower relative to Group Membership Evaluation. This indicates that despite Pacific individuals' self-perceived capacity of participating in a cultural context, or their cultural efficacy, self-perceived membership in one's Pacific group is still regarded as a positive aspect of identity. Similar findings have been found by Manuela and Sibley (2015a), who found that Cultural Efficacy was positively associated with confidence in speaking one's Pacific language, whilst Group Membership Evaluation was negatively associated.

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The results presented here provide evidence that the PIWBS-R is performing equally well across groups. This is important for two reasons. Firstly, the PIWBS-R was explicitly designed as a pan-Pacific research tool. As the scale was developed based on common elements of identity and wellbeing across the Pacific Nations, we argue that it can be used to pursue identity and wellbeing research for the Pacific group at a general level. This is the first psychometric tool developed specifically for Pacific peoples that incorporates a holistic view of the self from a Pacific perspective. Although the individual factors of the PIWBS-R can be used independently for researchers' purposes, the overall model provides the best psychometric and quantitative equivalent to the holistic conceptualisation of the Pacific self to date.

Secondly, the evidence presented here shows that the PIWBS-R performs well for the groups assessed this may lead to even more specific measures of identity and wellbeing for the Pacific groups. The PIWBS-R as it stands provides an avenue for intra-ethnic Pacific research to understand identity and wellbeing within the Pacific group at a general level and potential differences and similarities between the groups. It is also possible, as shown by our tests of configural, metric and scalar equivalence, that the *PIWBS-R* can be used for research with specific Pacific ethnic groups in NZ. For example, should one wish to conduct research specifically with Cook Islands communities in NZ, our findings lend support to the PIWBS-R provides a valid assessment of ethnic identity and wellbeing for them.

Limitations

Our findings provide evidence that the PIWBS-R works well for research with Pacific groups in NZ. However, we had to limit the groups included in our analyses to the four largest Pacific groups represented here. As such, we are unable to provide

evidence of measurement equivalence for the numerous other peoples from Pacific Nations represented in NZ such as Fiji, Tokelau and Tuvalu. This was due to inadequate sample sizes for the other Pacific Nations groups represented in NZ to conduct our analyses. One option would have been to combine the smaller numbers of the other Pacific Nations groups into another “Other Pacific” category. However, as part of the aim of this study was to test measurement equivalence across groups, combining groups into a single category would be inappropriate. Further research with large enough samples could test this again to see how the PIWBS-R performs within the smaller Pacific groups represented in NZ. We would expect to observe similar findings for the other Pacific groups not represented in this study.

Conclusion

The Pacific Identity and Wellbeing Scale—Revised (PIWBS-R) is a measure of ethnic group identification and wellbeing designed specifically for Pacific peoples living in New Zealand. A copy of the original PIWBS is presented in Manuela and Sibley (2013), and a copy of the PIWBS-R in Manuela and Sibley (2015a). Here, we document the measurement properties of the PIWBS-R, and show that the scale performs well with different Pacific groups. Our analyses indicate that participants that identify with the four largest Pacific Nations groups in NZ (Samoa, Cook Islands, Tonga and Niue) are responding to, and interpreting, items of the PIWBS-R in a similar way to each other. This allows researchers using the PIWBS-R to make meaningful comparisons of group means between the Pacific groups assessed here. Furthermore, we found a small but significant difference in the Religious Centrality and Embeddedness factor where Tongan participants scored higher relative to their Cook Island and Niuean counterparts, even after controlling for gender, age, place of birth and religious status. This finding was consistent with patterns of religious

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affiliation within Pacific groups in NZ. There were no other differences between groups in other constructs of the PIWBS-R. These findings show that the PIWBS-R provides an important and psychometrically sound tool to advance psychological knowledge concerning the ethnic identity and wellbeing of Pacific peoples in NZ.

Bridging Comments

This chapter provides strong evidence for the utility of the PIWBS as a tool for Pacific research. Not only can it be used as a tool to assess identity and wellbeing across Pacific groups more generally, the evidence above suggests that it can also be used for conducting research with specific Pacific groups.

The PIWBS was developed to assess common elements of identity and wellbeing unique to the Pacific cultures in NZ. An alternative approach would have been to develop a scale specifically for one group. This would most likely have been for Cook Islanders, given my own ethnic background. However, I decided to take a broader, more general approach in the hope that the PIWBS could perhaps be used as a springboard for more specific ethnic scales as per researchers' need. It appears that this was a good decision. For the PIWBS to show good psychometric properties in various Pacific groups changes the scope of its research potential. It is possible to use the PIWBS for research with specific groups. Perhaps, it would even be possible to tailor items within the PIWBS for specific groups.

Together, the three studies presented above show the PIWBS as a well-constructed and appropriate tool to use with Pacific peoples. In summary:

- Understanding the hierarchical relationships of the factors can guide researchers on how to use the tool to understand specific research questions.
- Taking a broader approach to cultural engagement allows the PIWBS to assess Cultural Efficacy – the extent to which one feels they are able to participate within a Pacific cultural context.

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- The PIWBS is assessing the same constructs across the four major Pacific groups in NZ, providing evidence that it can be used for ethnic-specific Pacific research.

III. SCALE APPLICATION

Having provided evidence of the PIWBS as psychometrically sound tool to be used with Pacific peoples, I now provide studies that show how it can be used to address Pacific research questions. Part Three of this thesis presents two studies that use the PIWBS as a primary research tool. These two studies will explore:

1. Differences in wellbeing between those who identify with a single Pacific group, those that identify with multiple Pacific groups and those that identify with a Pacific and non-Pacific group.
2. How facets of Pacific ethnic identity can protect wellbeing from discrimination.

Aside from showing how the PIWBS can be applied to Pacific psychological research, these two studies will also use data from the New Zealand Attitudes and Values Study (NZAVS). The NZAVS is a longitudinal national probability study that tracks the social attitudes, personality and health outcomes of nearly 20,000 New Zealanders. Analyses using data that was collected specifically for the PIWBS and this thesis will be compared to data that was collected during the same time periods for the NZAVS.

Testing hypotheses and analyses from independent samples and studies is an excellent way to provide evidence for the effects that are being observed and the theories that are being tested. Aside from this advantage, using data from separate datasets can also provide evidence of the convergent validity of the PIWBS.

Convergent validity refers to how constructs that are theoretically related, are actually observed to be related. This is typically done by assessing participants on

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both measures, assessing the relationship between the measures, and seeing if they predict outcomes in a similar manner. Theoretically, if the two measures (identity measures in this case) are measuring a similar underlying construct, they should be strongly related to each other. The data that is being used in these studies are from independent samples and studies, and as such do not use the same identity measures. Because participants are not being assessed on the same measures, providing evidence for the convergent validity in the traditional sense is not possible here. However, I argue that if the PIWBS is measuring aspects of universal ethnic identity within a unique Pacific context, then the patterns of results between the PIWBS and more general measures within the NZAVS should be similar. Furthermore, the analyses used to test the PIWBS in the studies above provide a stringent test for the psychometric properties of the scale in general. I am satisfied the PIWBS is providing a suitable measure for the underlying constructs of Pacific identity and wellbeing.

The studies presented below provide two purposes: (1) to show how the PIWBS can be applied to research, and (2) evidence for the convergent validity of the PIWBS, so that it is in fact measuring unique aspects of Pacific identities in a way that is consistent with what would expect to be seen in general ethnic identity and wellbeing research.

The next study (Study 4) has been published in a peer-reviewed journal. Again, this study was conducted with the available information at the time (in 2012). This study was the first to be written for this thesis and was done whilst data collection was underway. As such, it uses data from a previous analysis that was collected in 2009. Again, each study is intended to be read as a stand-alone piece of work, so the introductory section may seem repetitive.

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This study explores differences in wellbeing outcomes for Pacific peoples of various ethnic affiliations – either single or mixed ethnic heritages, of which at least one is Pacific. Multi-ethnic identities is a fascinating and complex area that is relatively understudied in comparison to research on single ethnic identities in general. The limited research that does exist is very diverse, largely due to the complexity of experiences that multi-ethnic individuals have with their ethnic identity.

The Pacific group itself is incredibly diverse. However, this diversity is amplified when taking into consideration the diverse ethnic backgrounds of many Pacific peoples, particularly amongst younger age groups. Research in this field is generally of a qualitative nature, and rightfully so. The complexity of multiethnic identities needs a deeper level of understanding that is not able to be fully articulated using quantitative methods alone. We also need to be able to assess the identity and wellbeing of multiethnic individuals in order to track changes and predict outcomes over time.

Quantitative research on multiethnic individuals is scarce, and even rarer for Pacific peoples. As such, research has used general measures of ethnic identity and either asked individuals to indicate if they identify with two or more ethnic groups or asks them to indicate which ethnic group they identify with more strongly. Both have their limitations in that they are unable to accurately capture the experience of multiethnic identities, and the complexities that come with them. One potential way to address this problem is to use ethnic specific measures that allow us to assess one facet of a multiethnic identity. In the following study, I use the PIWBS as a way to explore potential differences in Pacific aspects of wellbeing for individuals that

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identify with a single or multiple Pacific groups, and non-Pacific groups and address why these potential differences may exist.

The research article that follow's is the author's copy of a manuscript published in Social Indicators Research, Copyright © 2013 Springer Science+Business Media Dordrecht. Please see:

Manuela, S., & Sibley, C. G. (2014b). Why do Pacific people with multiple ethnic affiliations have poorer subjective wellbeing? Negative ingroup affect mediates the identity tension effect. *Social indicators research*, *115*(1), 319-336. DOI: 10.1007/s11205-012-0220-8

Study 4: Why Do Pacific People with Multiple Ethnic Affiliations Have Poorer Subjective Wellbeing? Negative Ingroup Affect Mediates the Identity Tension

Effect

Abstract

We argue that multi-ethnic affiliation as a member of both the Pacific and majority (European) group creates tension in psychological wellbeing for Pacific peoples of mixed ancestry. Study 1 showed that multi-ethnic Pacific/non-Pacific people were lower in Pacific Familial Wellbeing relative to mono-ethnic Pacific and multi-ethnic Pacific/ Pacific people (n = 586). Study 2 replicated this effect in a New Zealand (NZ) national probability sample using a measure of self-esteem (n = 276). Study 2 also modelled the mechanism driving the identity tension effect, and showed that group differences in negative affect toward Pacific peoples fully mediated the effect of ethnic mixed or mono- ethnic group affiliation on self-esteem. This currently affects the one-third of Pacific people who identify as Pacific/non-Pacific in NZ and occurs because multi-ethnic identification promotes the endorsement of negative societal attitudes toward Pacific peoples. Our model indicates that endorsement of such attitudes produces a more negative self-evaluation and generally corrodes subjective wellbeing and family integration. Population projections indicate that this potentially at-risk Pacific/non-Pacific group may increase dramatically in subsequent generations (upwards of 3.3 % of the population by 2026). Implications for the study of Pacific wellbeing, and avenues for applied research targeting this newly-identified emerging social problem are discussed.

Introduction

Research on mixed-ethnic affiliation has largely focused on ethnic identity development and its relationship with self-esteem and subjective wellbeing. Findings have been inconsistent across this area, and such inconsistencies are generally attributed to the diverse ways that identity for multi-ethnic individuals has been conceptualized (Shih & Sanchez, 2005). In some cases multi-group identification may provide a protective buffer through increased identity complexity (Roccas & Brewer, 2002). For Pacific peoples, however, we suggest the opposing direction of effects: that Pacific people with multiple ethnic affiliations may have poorer subjective wellbeing. We present two studies assessing Pacific multi-ethnic and mono-ethnic individuals testing this hypothesis using different culture-specific (Study 1) and culture-general (Study 2) measures of wellbeing. We argue that in the Pacific context, identification with multiple Pacific and non-Pacific ethnic groups may create an identity tension effect in psychological wellbeing, and that this tension occurs because multi-group identification may lead to increased negative affect toward the minority group aspects of one's ethnic affiliation, thus leading to reduced self-esteem and poorer familial connections.

The Multi-ethnic Individual

Early research and conceptualizations of ethnic identity for multi-ethnic individuals assumed that they faced additional challenges in forming an ethnic identity (Johnson, 1992; see Shih & Sanchez, 2005, for a review). This body of research suggested that this might produce confusion (McRoy & Freeman, 1986), feelings of marginalization (Comas-Diaz, 1996) and conflict (Nakashima, 1992), which in turn lead to poorer psychological outcomes (Thornton, 1996). Later models suggested that ethnic identity development for multi-ethnic individuals was no

different from that of their mono-ethnic counterparts (see for example, Root, 1996). Still others have argued that these models did not fully capture the experiences of multi-ethnic individuals (Thornton, 1996; Poston, 1990). More recently, researchers have adopted a view of multi-ethnic identity as a distinct process through which individuals progress. This process can engender feelings of conflict and tension between different ethnic identities within the individual, or feelings that one has to choose between ethnic groups. This is ideally followed by the successful integration and appreciation of all of one's ethnic identities and multiple ethnic affiliations (Poston, 1990). In their comprehensive summary of this research, Shih and Sanchez (2005) highlighted that the unique experiences faced by multi-ethnic individuals may negatively influence psychological outcomes, but only in certain cases and for certain aspects of wellbeing.

Numerous theories state that ethnic identity can provide a buffer to self-esteem (Crocker & Major, 1989) and wellbeing (Dukes & Martinez, 1997; Smith & Silva, 2011) in the face of negative experiences. Here too however, research on multi-ethnic individuals has shown mixed findings. Some studies have found no differences between multi- and mono- ethnic individuals in self-esteem (Phinney & Alipuria, 1996). Others have reported that multi-ethnic individuals fall somewhere between their two respective ethnic group peers (Bracey *et al.*, 2004; Ward, 2006) and in some cases those that explicitly identified as multi- ethnic had higher levels of self-esteem than those who did not (Lusk *et al.*, 2010). In their review of these studies, Shih and Sanchez (2005) again stressed that these variable findings may be influenced by small sample sizes, the way multi-ethnic identities have been operationalized, and that such effects may vary across outcomes. Context matters; the specific mixed group memberships one is examining matter, and the ways in which subjective wellbeing is

assessed for a given group matters.

Issues of Multi-ethnic Measurement

One challenge for research on ethnic group differences in subjective wellbeing is that comparisons between groups may tap aspects of wellbeing that are at least partially culture-specific. Thus, such differences may reflect a different emphasis or different values placed on prior aspects of wellbeing that may be more relevant in some cultures than others (Ratzlaff *et al.*, 2000; Diener & Tov, 2007).

Research on the cross-cultural validity of self-esteem and subjective wellbeing sheds some light on these differences. Studies have shown that measures such as the Personal Wellbeing Index (Cummins *et al.*, 2003) and the Rosenberg (1965) Self Esteem Scale afford reasonable validity for cross-cultural comparisons. Nevertheless, at a more conceptual level, various researchers have commented on possible cultural biases, where for example, more collective cultures tend to report lower levels of wellbeing and self-esteem (Lau *et al.*, 2005; Ganglmair-Wooliscroft & Lawson, 2008; Schmitt & Allik, 2005). Such cultural response biases have been attributed to inclinations for collective cultures to adapt to one's group as opposed to individual satisfaction (Lau *et al.*, 2005), as well as cultural differences in the interpretation of negatively worded items (Schmitt & Allik, 2005). Moreover, it is possible that multi-ethnic individuals who straddle two different cultural worlds may have blended cultural values that are reflected in their responses to such measures (Ward, 2006).

In one study conducted in New Zealand (NZ), Ward (2006) examined the self-esteem of Māori, NZ European and multi-ethnic Māori/NZ European individuals. Her findings showed that multi-ethnic individuals were in between their mono-ethnic peers in terms of values, self-perceptions, identity and adaptation. Ward (2006)

suggested that the intermediary placement of multi-ethnic individuals was reflective of a blending and integration of Māori and European cultural values. Ward (2006) further commented that self-esteem measures may not be culturally appropriate for Māori and part-Māori individuals due to cultural values of humility and inclinations to not put oneself above others. While not necessarily invalid, such measures do risk missing other specific aspects of identity and wellbeing that are unique to that ethnic group (see Houkamau & Sibley, 2010; Sibley & Houkamau, 2013, for such examples in the Māori context).

Multi-ethnic Pacific Peoples

Pacific peoples make up approximately 7 % of the NZ population (Ministry of Social Development, 2010). The majority group in NZ, Europeans, by contrast makes up around 67 % and the indigenous group, Māori make up another 15 %. The Pacific group as a whole comprises peoples of various Pacific Nations (Samoa, Cook Islands, Tonga, Niue, Fiji, Tokelau and other smaller Pacific groups). Of the Pacific population in NZ, approximately 30 % identify with multiple ethnic groups, particularly amongst youth. In one of the only longitudinal studies of its type, Carter *et al.* (2009) showed that 20–25 % of Pacific people identified with multiple ethnic groups, and that Pacific peoples were the most likely of any broad group to have changed their ethnicity to affiliate with multiple specific ethnicities.

Although the composition of multi-ethnic affiliations varies for multi-ethnic peoples, for Pacific peoples in NZ, multiple ethnicities can be highly complex. Pacific peoples do not generally identify their selves as ‘Pacific’ in most social contexts, but rather along specific Pacific ethnic lines. Multi-ethnic Pacific people may identify with a Pacific group and a non-Pacific group as part of their multi-ethnic makeup.

Despite this, Pacific peoples are often viewed as a homogenous entity (MacPherson 1996) or stereotyped as all belonging to one broad 'Pacific' group (Sibley *et al.*, 2011a, b) despite the various nations that comprise the Pacific. Although there are similarities between the various Pacific groups, categorization under the Pacific term collapses the cultural differences between them and overlooks the multiple ethnic backgrounds individuals can identify with within the Pacific category (e.g. Tongan/Cook Island). This creates some interesting possibilities regarding multi-ethnic Pacific identity.

The importance of family in Pacific cultures emphasizes the importance of family relations in exploring multi-ethnic wellbeing. Family is crucial in the collective lives of Pacific peoples (Tiatia, 1998; 2008; Pene *et al.*, 2009). Pacific concepts of family refer to the varied organizations of close and extended kin, which are bound by genealogy, familial roles, reciprocity, interdependence and tapu (sacred) relationships. Whereas the notion of family in Western societies refers to the nuclear family, Pacific notions of family extend further and incorporate uncles, aunties, grandparents and cousins, with children belonging to the wider group in addition to parents (Taule'ale'ausumai, 1997). In Pacific families, relations with others are considered with utmost importance (Tamasese *et al.*, 1997). For example, in Tongan family structures, the paternal aunt holds a special status within the family and thus outranks her brothers (Filihia, 2001); whilst in other Pacific Nations this is not the case. The way family structures, relationships and roles are organized varies across the Pacific Nations; however, it is the nature of those relationships that define Pacific families.

In Pacific models of health and wellbeing, family is considered as the foundation (Crawley *et al.*, 1995) and the avenue by which Pacific individuals receive

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social support and learning (Anae, 1998; Tiatia, 1998; 2008). A low level of family well-being can thus put Pacific peoples, especially youth, at high risk for a range of other negative health and wellbeing outcomes (Helu *et al.*, 2009).

There is limited research on multi-ethnic Pacific individuals. The two studies that have been conducted highlight the importance of family as a central element of wellbeing for Pacific peoples (Keddell, 2006; Culbertson & Agee, 2007). Given the cultural significance of family in Pacific cultures, and the influence that it has on Pacific notions of wellbeing and identity, we employed a cultural-specific measure developed by Manuela and Sibley (2013) to assess Perceived Familial Wellbeing in the unique Pacific context in Study 1. This allowed us to explore the unique cultural influence family has on the wellbeing of multi-ethnic Pacific individuals.

Research by both Keddell (2006) and Culbertson and Agee (2007) highlight some of the negative experiences that multi-ethnic Pacific/European peoples may face. Although not specifically focusing on familial relations, family was a consistent theme in both studies. Participants in both studies expressed a variety of views ranging from perceptions of differential treatment on both sides of their family; feeling closer to one's Pacific side of their family due to greater contact; feelings of exclusion because of not being fluent in Pacific languages; a diverse ethnic identity being both an advantage and disadvantage; non-Pacific family members expressing open hostility towards some Pacific cultural practices and a sense of belonging gained from participation in Pacific cultural practices. Overall the issues faced by the participants of Keddell's (2006) and Culbertson and Agee's (2007) studies highlight an underlying tension in relation to unique multi-ethnic identity experiences that may influence psychological wellbeing for Pacific peoples.

The Identity Tension Effect

We present two studies examining differences in the familial wellbeing (Study 1; N = 586) and self-esteem (Study 2; N = 266) of (a) mono-ethnic and (b) multi-ethnic individuals of Pacific ancestry. We argue that:

- Premise 1: Multi-group affiliation as both Pacific and non-Pacific creates identity tension in the psychological wellbeing of Pacific people of mixed ancestry.
- Premise 2: This tension occurs because multi-ethnic affiliation promotes a greater endorsement of the attitudes and stereotypes held by the majority (European) group, which causes Pacific people of mixed ancestry who identify jointly as European to internalize negative affect toward Pacific peoples, and thus toward that aspect of their own identity.

To test these two premises, Study 1 first compares (a) mono-ethnic Pacific, (b) multi-ethnic Pacific/Pacific and (c) multi-ethnic Pacific/non-Pacific individuals on a culturally-specific measure of Pacific Perceived Familial Wellbeing. Study 2 compares (a) mono-ethnic Pacific and (b) multi-ethnic Pacific/non-Pacific individuals on a more culture-general index of well-being, that of self-esteem. Our second study also tests the mechanism which we argue should drive the proposed identity tension effect. That is, identity tension should predict decreased wellbeing because multi-ethnic affiliation with a Pacific and non-Pacific group causes one to internalize negative affect toward the Pacific aspect of one's identity.

Studies that have looked at the perceived warmth of ethnic groups have found that ethnic groups are often viewed with ambivalent stereotypes in which they are seen as being either high or low in warmth and competence, but usually not high or

low in both (Fiske *et al.*, 2002). In the NZ context, Pacific peoples tend to be viewed as reasonably warm overall (Sibley *et al.*, 2011a, b). However, there are also clear differences in ingroup and outgroup attitudes across groups in NZ. Sibley and Ward (2012) showed that all ethnic groups in NZ show an ingroup bias where they express warmer attitudes toward their ethnic ingroup relative to the level that other groups express toward them. Pacific people in NZ are no exception, and on average, express highly warm attitudes toward their ingroup. Other ethnic groups in NZ (NZ Europeans, Māori and Asian peoples), in contrast, expressed slightly lower levels of warmth toward Pacific peoples. Thus, the ‘default’ majority group position, and one held by all three of the other main ethnic groups in NZ, is to express lower levels of warmth toward Pacific peoples, than Pacific peoples do toward themselves.

Following Premise 2, we argue that Pacific individuals who have multi-ethnic affiliations with both a majority group (European) and minority or disadvantaged (Pacific group) will be more likely to internalize negative stereotypes and decreased positive affect toward their Pacific group membership. Those who identify solely as Pacific, or who identify with multiple Pacific groups (but not the majority group) should be less likely to internalize such negative views of Pacific people as a general category, however. Thus, we posit that the lower level of wellbeing and self-esteem observed for Pacific/non-Pacific individuals, relative to Pacific individuals, will be fully mediated by their (lower) affective evaluation of Pacific peoples as a general category. We test this prediction in Study 2 in a nationally representative sample of Pacific people drawn from a larger national probability sample.

Study One

This study compares the wellbeing of (a) mono-ethnic Pacific, (b) multi-ethnic

Pacific/ Pacific and (c) multi-ethnic Pacific/non-Pacific individuals. A core strength of this study was that we employed a culturally appropriate measure of wellbeing developed by Manuela and Sibley (2013) specifically for use with Pacific peoples in NZ. Manuela and Sibley (2013) argued that Perceived Familial Wellbeing should form a central crux of wellbeing for Pacific peoples. Of course, familial influences on identity and wellbeing are not unique to multi-ethnic Pacific peoples and have been shown to be important in the lives of other multi-ethnic groups (Jourdan, 2006; Cauce *et al.*, 1992; Miller & Miller, 1990; Shih & Sanchez 2005). We assert that familial influences are however of critical importance for any unified model of Pacific wellbeing and psychological health (Manuela & Sibley 2013; Crawley *et al.*, 1995).

Stated formally, we hypothesized that mono-ethnic Pacific individuals would have a higher mean level of familial wellbeing relative to multi-ethnic Pacific/non-Pacific individuals. This should occur because of the unique experiences and tensions that multi-ethnic Pacific/non-Pacific individuals face in subscribing to negative societal stereotypes of the Pacific aspects of their identity (tested in Study 2). As a corollary, we further hypothesized that if the reduced wellbeing evidenced by multi-ethnic Pacific/non-Pacific individuals occurs because of their mixed identity with both a non-Pacific majority group (which should make them more prone to adopting majority group stereotypes), then there should be no detectable difference between mono- and multi-ethnic Pacific/Pacific individuals as they should not experience the same identity tension. Study 1 tested these predicted mean differences in a large convenience sample of 586 Pacific peoples collected from all across NZ by Manuela and Sibley (2013). As far as we are aware this is one of the largest datasets ever collected that has focused specifically on the psychological identity and wellbeing of Pacific peoples.

Methods

Participants

Participants were 586 members of the NZ public who identified as being of Pacific Nations ancestry. The sample included 379 mono-ethnic Pacific individuals, 89 multi-ethnic Pacific/Pacific individuals, and 118 multi-ethnic Pacific/non-Pacific people. Participants had a mean age of 26.41 years. The sample over-represented women relative to men (197 men, 386 women, 3 unspecified). The data for this study is a reanalysis of the combined data used in two studies in the development of the Pacific Identity and Wellbeing Scale (Manuela & Sibley, 2013).

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. Participants were entered into a draw to win \$250 worth of grocery vouchers.

Measures

Participants completed the Perceived Familial Wellbeing Index of the Pacific Identity and Wellbeing Scale (Manuela & Sibley, 2013). Participants were instructed to indicate on a 7-point scale how satisfied they were with particular areas of their family life ranging from 1 (completely dissatisfied) to 7 (completely satisfied). The scale was modelled on the item format developed by Cummins *et al.* (2003) to assess more global aspects of subjective wellbeing, and has a reliable internal factor structure (see Manuela & Sibley, 2013, for details about scale validation). The Perceived Familial Wellbeing Index was highly internally reliable ($\alpha = .90$, $M = 6.06$, $SD = .93$) and included the following items (which were averaged to give a scale

score):

- ‘Your relationship with your parents.’
- ‘Your position in your family.’
- ‘The respect you give for your parents.’
- ‘Communication with your family.’
- ‘The respect you receive from your family.’
- ‘Your family’s happiness.’
- ‘Your family’s security.’

Results

A one-way ANOVA compared mean levels of Perceived Familial Wellbeing between mono-, multi-ethnic-Pacific/Pacific and multi-ethnic Pacific/non-Pacific groups. Means and standard deviations are presented in Table 13. The ANOVA was significant ($F(2,580) = 4.44, p = .01, \text{partial } \eta^2 = .02$) indicating significant differences between the group means. This main effect held in an ANCOVA in which age and gender were also entered as covariates ($F(2,574) = 3.76, p = .02, \text{partial } \eta^2 = .013$). As suggested in Figure. 7, Bonferroni-corrected post hoc tests indicated that there was a significant difference in the mean levels of Perceived Familial Wellbeing between mono-ethnic-Pacific ($M = 6.11, SD = .88$) and multi-ethnic Pacific/non-Pacific individuals ($M = 5.82, SD = 1.14, p = .01$). There was no significant difference between mono-ethnic-Pacific and multi-ethnic Pacific/Pacific individuals ($M = 6.13, SD = .81, p > .05$).

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Table 13 *Means and standard deviations for the three Pacific ethnic groupings on perceived familial wellbeing (Study 1), self-esteem and warmth toward the Pacific group (Study 2).*

	Mono-ethnic Pacific	Multi-ethnic Pacific/non-Pacific	Multi-ethnic Pacific/Pacific
<i>Study 1</i>			
Perceived Familial Wellbeing	6.11 (.88)	6.13 (.81)	5.83 (1.14)
<i>Study 2</i>			
Self-esteem	5.29 (1.15)	4.81 (1.26)	-
Warmth toward Pacific group	6.03 (1.33)	5.39 (1.44)	-

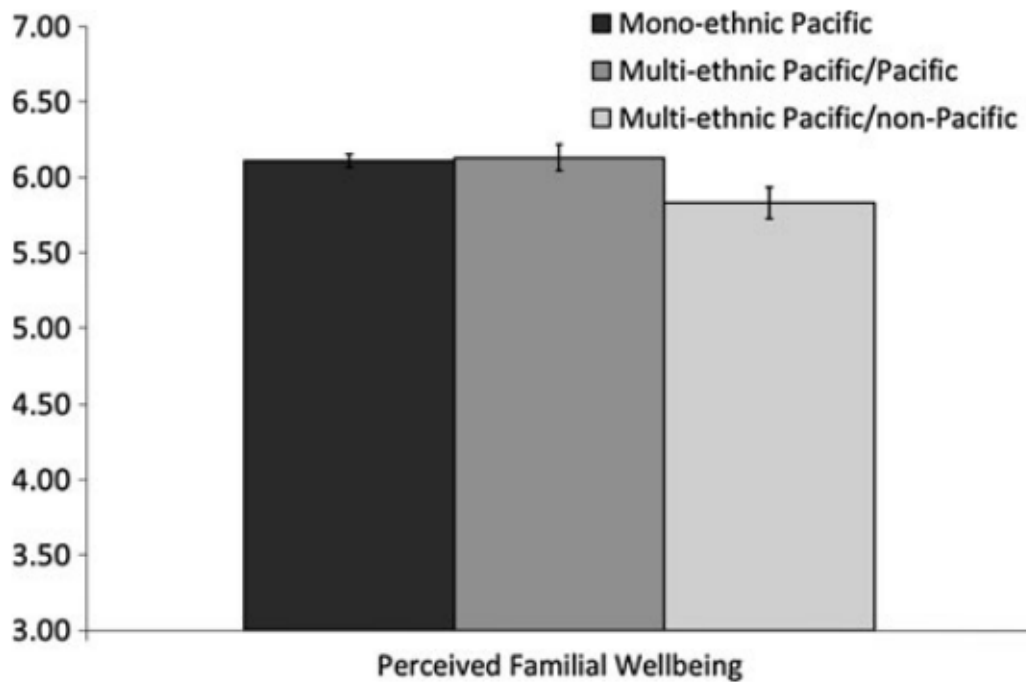


Figure 7. Mean levels of perceived familial wellbeing for the three Pacific ethnic groupings (error bars represent the standard error of the mean, y axis ranged from 1 to 7)

Discussion

Study 1 compared the wellbeing of (a) mono-ethnic Pacific, (b) multi-ethnic Pacific/Pacific and (c) multi-ethnic Pacific/non-Pacific individuals. Moreover, this study used a culturally- appropriate measure of wellbeing developed specifically for use in the Pacific context: the Perceived Familial Wellbeing Index (Manuela & Sibley, 2013). We found good support for the proposed identity tension effect experienced by multi-ethnic Pacific/non-Pacific people. Consistent with our hypothesis, mono-ethnic-Pacific individuals had a significantly higher level of Perceived Familial Wellbeing relative to multi-ethnic-Pacific/non-Pacific individuals, and there was no significant difference between multi-ethnic-Pacific/Pacific individuals and mono-ethnic-Pacific individuals. The decreased wellbeing experienced by multi-ethnic Pacific people was thus limited specifically to those who identified with an additional

non-Pacific ethnic group (such as Samoan and European), rather than those who identified with multiple Pacific ethnic groups (such as Samoan and Tongan). This study establishes that the Pacific identity tension effect is a reliable phenomenon, at least in a large convenience sample and when wellbeing is assessed in the specific domain of family connectedness.

Study Two

Our second study sought to replicate the identity tension effect observed in Study 1 in a representative sample, and using a more general measure of subjective wellbeing (self-esteem). Study 2 also modelled the proposed mechanism that we posit explains why the identity tension effect occurs for Pacific people who also identify with a non-Pacific (more advantaged) group in the NZ context. Study 2 examined differences in the subjective wellbeing of mono-ethnic Pacific and multi-ethnic Pacific/non-Pacific individuals using the widely validated Rosenberg (1965) Self Esteem Inventory. The study also employed data from Pacific people included in a large national probability sample of New Zealanders, and thus can be considered broadly representative of the NZ Pacific population.

Consistent with Study 1, we hypothesized that mono-ethnic Pacific individuals would have a higher level of self-esteem than multi-ethnic Pacific/non-Pacific individuals. We further assert that multi-group identification as both Pacific and non-Pacific may create tension in psychological wellbeing for Pacific people of mixed ancestry, and this tension occurs because multi-ethnic identification is associated with reduced warmth toward Pacific peoples as an overall group. Thus we predicted that Pacific/non-Pacific individuals would also show lower levels of positive affect toward Pacific people as a social category, and that the more negative attitudes toward the

group making up this aspect of identity would mediate the group difference in self-esteem.

Method

Participants

Participants were 276 (124 men, 152 women) self-identified Pacific individuals who were part of the larger NZ Attitudes and Values Study (N = 6,518). As in Study 1, the majority of participants (n = 185) were Pacific Only individuals (those identifying solely as being of Pacific ancestry, either from one Pacific group, or multiple Pacific groups) and 91 were multi-ethnic Pacific/non-Pacific individuals. Participants had a mean age of 40.80 (SD = 13.80) and were part of a national probability sample conducted via postal mail within NZ (see Sibley *et al.*, 2011a, b, for further details about sampling procedures for the NZ Attitudes and Values Study more generally).

Measures

Self-esteem was measured using three items from the Rosenberg (1965) self-esteem inventory: “On the whole am satisfied with myself”, “Take a positive attitude toward myself”, and “Am inclined to feel that I am a failure” (reverse coded). Participants rated how accurately the items described them on a scale from 1 (very inaccurate) to 7 (very accurate). Items were averaged to give a self-esteem score, and the scale had a reasonable level of internal reliability given it contained only three marker items ($\alpha = .56$).

Affective evaluations of Pacific people as a social group were measured using an affective thermometer scale modelled on the measure used in the National Election Study surveys conducted in the United States (see Kinder & Drake, 2009, for a recent

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summary). The scale was administered with instructions to “Please rate the warmth of your feelings toward [Pacific Islanders] using the “feeling thermometer scale.” A rating of “1” indicates your feeling toward that group to be least warm (least favourable) while a rating of “7” indicates your feeling is most warm (most favourable).”

We also measured and controlled for gender, age and socio-economic status. We measured socio-economic status using the 2006 New Zealand Deprivation Index. The deprivation index reflects the average level of deprivation of different small neighbourhoods or community areas across the country (White *et al.*, 2008). The index is based on a principal components analysis of census data on nine variables for each area unit. These are (in weighted order): proportion of adults receiving a means-tested Government supplied welfare benefit, household income, the proportion not owning their own home, the proportion of single-parent families, the proportion who were unemployed, the proportion lacking qualifications, proportional household crowding, the proportion with no telephone access, and the proportion with no car access. We used the percentile deprivation index, which gives an ordinal score from 1 (most affluent) to 10 (most deprived) for each mesh block area unit based on 2006 census data. The mean level of deprivation in our sample was 7.70 (SD = 2.49).

Descriptive statistics and bivariate correlations between demographic covariates, self-esteem and perceived warmth toward the Pacific group are reported in Table 14.

Table 14 *Descriptive statistics and bivariate correlations between demographic variables, self-esteem and perceived warmth toward the Pacific group for Study 2*

	1.	2.	3.	4.	5.	6.
1. Warmth toward Pacific group	-					
2. Self-esteem	.287*	-				
3. Gender (0 female, 1 male)	.043	.018	-			
4. Age	.043	.133*	.205*	-		
5. Socio-economic status	.041	.064	.070	.121*	-	
6. Pacific ethnic grouping (0, 1)	-.213*	-.184*	-.184*	-.213*	.277*	-
<i>M</i>	5.814	5.128	-	40.797	7.696	-
<i>SD</i>	.1395	1.201	-	13.778	2.487	-

Pacific ethnic grouping was coded as 0 = mono-ethnic, 1 = multi-ethnic Pacific and non-Pacific affiliations. Socio-economic status was measured using the New Zealand 2006 Deprivation Index, which ranged from 1 = affluent to 10 = deprived

* $p < .05$; $n = 276$

Results

Mean Differences

We compared the mean levels of self-esteem and warmth toward Pacific people for mono- Pacific and multi-ethnic-Pacific/non-Pacific individuals (see Figure. 8).

The mean difference in self-esteem was significant ($F(1, 270) = 9.61, p < .01$, partial $\eta^2 = .034$). As shown in Figure. 8, mono-ethnic-Pacific individuals were higher in self-esteem ($M = 5.29, SD = 1.15$) than Multi-ethnic Pacific/non-Pacific individuals ($M = 4.81, SD = 1.26$). This difference remained significant in an ANCOVA with age, socio-economic status and gender entered as covariates ($F(1,267) = 6.77, p < .01$, partial $\eta^2 = .025$).

The mean difference in warmth toward Pacific people was also significant ($F(1,264) = 12.76, p < .01$, partial $\eta^2 = .046$). As shown in Figure. 8, mono-ethnic Pacific individuals ($M = 6.03, SD = 1.33$) expressed more warmth toward Pacific people relative to that expressed by multi-ethnic Pacific/non-Pacific individuals ($M = 5.39, SD = 1.44$). This difference also remained significant when age, socio-economic status and gender were entered as covariates ($F(1,261) = 11.48, p < .01$, partial $\eta^2 = .042$).

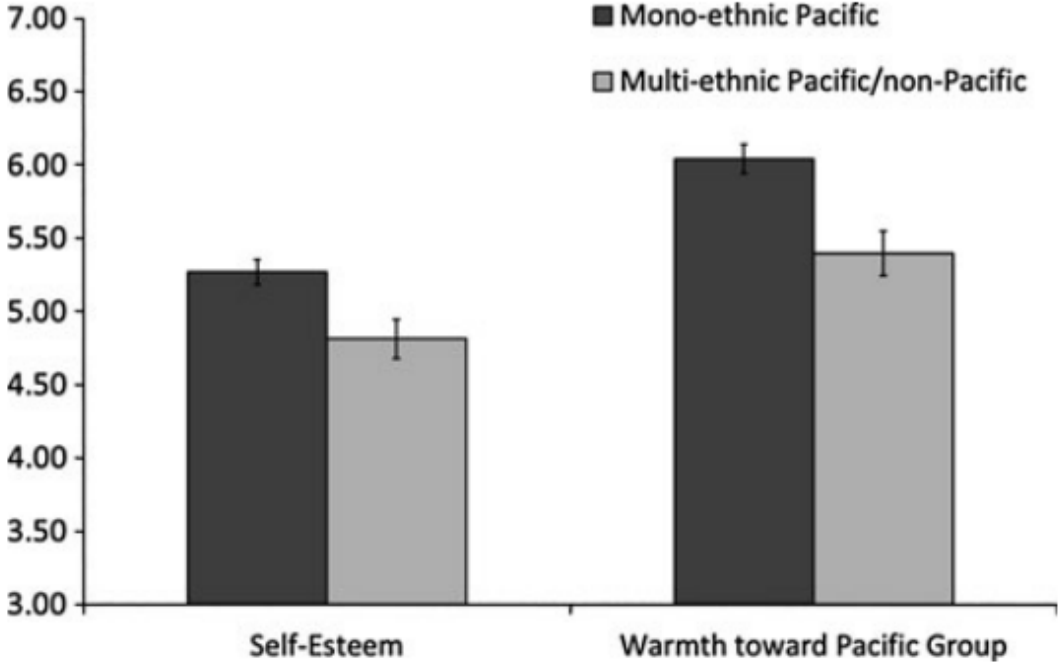


Figure 8. Mean levels of self-esteem and warmth toward the Pacific group for mono-ethnic Pacific and multi-ethnic Pacific/non-Pacific individuals (error bars represent the standard error of the mean, y axis ranged from 1 to 7)

Path Model

Our first set of analyses documented mean differences across groups in both self-esteem and warmth toward the Pacific group. We next tested whether the difference between mono- and multi-ethnic-Pacific/non-Pacific individuals in self-esteem was mediated by the corresponding difference in warmth toward the Pacific group. To test this, we conducted a path model using Maximum Likelihood Estimation with 5,000 bootstrapped re-samples. All confidence intervals (CIs) represent bias corrected estimates based on this bootstrap re-sampling procedure. The full path model with standardized parameter estimates is presented in Figure. 9. We also included gender, age and socio-economic status (measured using the NZ deprivation index) as demographic covariates in this model. This statistically adjusted for the effect of these demographic covariates when assessing the direct and indirect effects of Pacific ethnic grouping on both warmth toward the Pacific group and self-esteem.

As shown in Figure. 9, Pacific ethnic grouping significantly predicted warmth toward the Pacific group ($b = -.65$, $SE = .21$, 95 % CIs = $-.98, -.31$; $b = -.22$, $z = -3.15$, $p < .01$). This replicates that mean difference tested using ANOVA, and indicates that mono-Pacific individuals expressed higher levels of warmth toward the Pacific group, whereas multi-ethnic-Pacific/non-Pacific individual expressed lower warmth toward the Pacific group, or put another way, higher levels of negative ingroup affect. Warmth toward the Pacific group in turn predicted higher levels of self-esteem ($b = .23$, $SE = .06$, 95 % CIs = $.13, .33$; $b = .26$, $z = -3.62$, $p < .01$).

The path model also indicated that when controlling for warmth toward the Pacific group, the direct effect of Pacific ethnic group on self-esteem was non-

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significant ($b = -.28$, $SE=.17$, 95% CIs= $-.56$, $.00$; $b=-.11$, $z=-1.62$, $p =.11$). This group difference in ingroup warmth was significant when controlling for gender, age and socio- economic status, as per the ANCOVA. However, the lower self-esteem reported by those who identified as multi-ethnic Pacific/non-Pacific relative to those who identified as mono- ethnic Pacific was no longer apparent when also controlling for how warm people felt toward the Pacific group. Rather, the lower level of self-esteem reported by multi-ethnic Pacific/non-Pacific relative to their mono-ethnic Pacific counterparts was fully mediated by a corresponding decrease in warmth toward the Pacific group ($b = -.15$, $SE = .07$, 95 % CIs = $-.29$, $.06$; $b = -.06$, $z = -2.11$, $p = .04$).

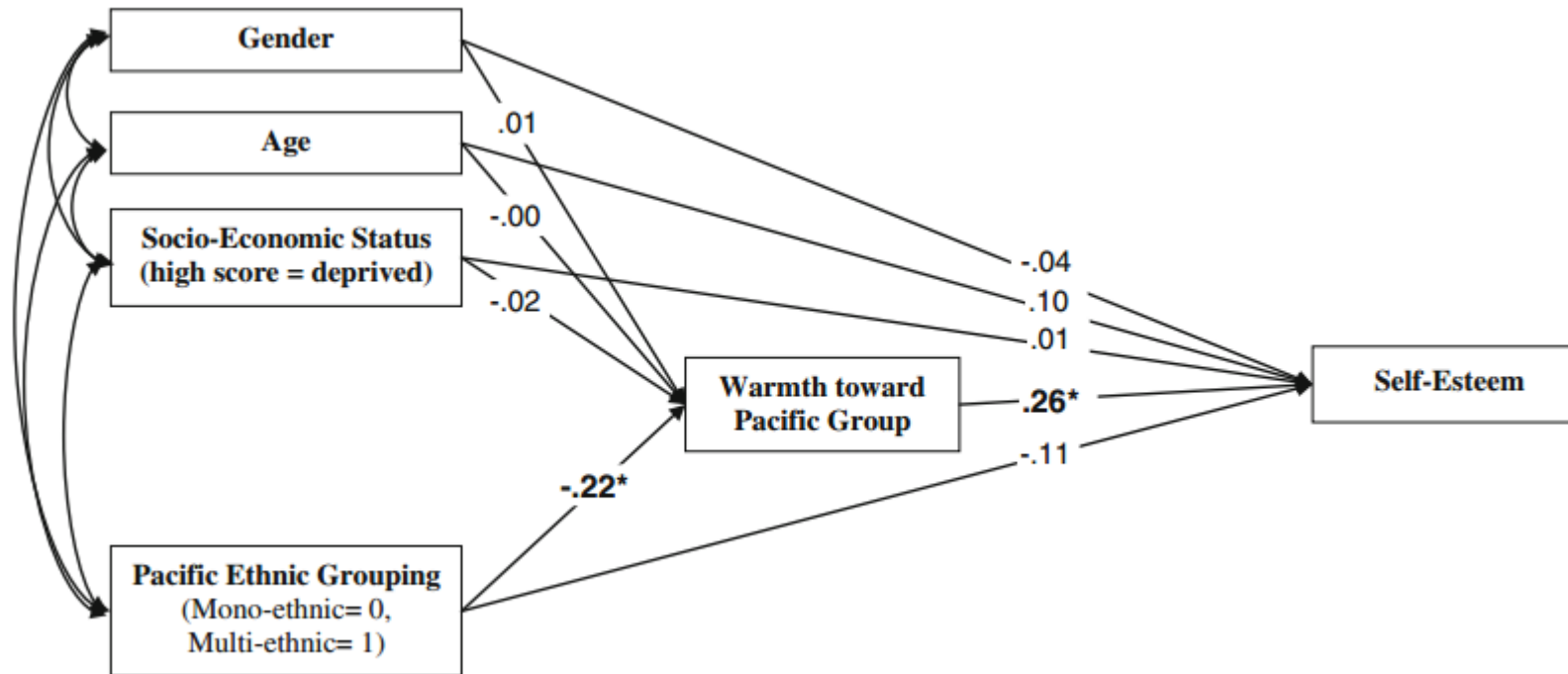


Figure 9. Path model with standardized parameter estimates assessing the effect of Pacific ethnic group on self-esteem mediated via warmth toward the Pacific group (Pacific ethnic grouping was coded as 0 = mono-ethnic, 1 = multi-ethnic Pacific and non-Pacific affiliations. * $p < .05$, $n = 276$).

Discussion

Study 2 replicated the identity tension effect observed in Study 1 in a representative sample and using a measure of self-esteem. As hypothesized, our mediation model indicated that the difference in subjective wellbeing for those identifying as mono-Pacific and Pacific/ non-Pacific occurred because of the decreased warmth toward Pacific people also expressed by those identifying as Pacific/non-Pacific. The decreased subjective wellbeing of such multi-ethnic individuals seems to occur because they experience more negative affect toward the Pacific group that makes up part of their own identity.

General Discussion

This research sought to examine differences in wellbeing and self-esteem for mono- and multi- ethnic individuals of Pacific ancestry. We assessed these differences in two large independent samples of Pacific peoples (Ns = 586 and 266) using both a culture-specific measure of Pacific perceived familial wellbeing (Study 1) and a general measure of self-esteem (Study 2). The representative national probability sample of Pacific peoples analyzed in Study 2 indicated that roughly one-third Pacific people living in NZ identified as being of both Pacific and non-Pacific ethnic group ancestry. Given that census data indicate that Pacific peoples form roughly 7 % of the NZ population, this multi-ethnic group should form roughly 2.3 % of the total NZ population. Both studies showed a similar identity tension effect, where mono-ethnic Pacific peoples scored higher than their multi-ethnic identified Pacific/non-Pacific counterparts on distinct indicators of self-esteem and culture-specific familial wellbeing. This identity tension effect was thus robust, and of a

practically meaningful effect size, with the difference between groups accounting for around 2 % of the variance in wellbeing in Study 1, and around 4 % of the variance in self-esteem in Study 2.

Consistent with our predictions, the results of Study 2 indicated that the identity tension effect occurred because Pacific/non-Pacific individuals showed lower levels of positive affect toward Pacific people as a social category, which fully mediated the group difference in self-esteem. These findings, from two of the largest samples of Pacific peoples ever collected in the study of identity and wellbeing, indicate (a) that multi-group identification as both Pacific and non-Pacific may create tension in psychological wellbeing for Pacific people of mixed ancestry. The findings are also highly consistent with our theory that (b) this tension occurs because multi-ethnic identification promotes the endorsement of negative societal attitudes toward Pacific peoples, which when internalized also produces a more negative self-evaluation and generally corrodes subjective wellbeing.

In Study 1 we showed that mono-ethnic Pacific individuals scored higher in Pacific familial wellbeing relative to multi-ethnic Pacific/non-Pacific individuals. Critically, this identity tension effect was limited to those of mixed Pacific/non-Pacific (majority group) ethnic affiliation. Pacific and multi-ethnic Pacific/Pacific individuals (e.g. those identifying as both Samoan and Tongan, or as both Tongan and Niuean) scored almost identically, indicating that the decrease in wellbeing resulting from multiple ethnic affiliations only occurred for Pacific people who identified with two very different groups with dramatically differing levels of advantage and disadvantage within society (such as Samoan and European, or Cook Island and European). This observation is complemented by qualitative studies by Culbertson and Agee (2007) and Keddell (2006), both of which describe case studies and

interviews in which Pacific/non-Pacific individuals reported feelings of alienation, marginalization and cultural conflict. As far as we are aware, our research is the first ever empirical study to look at the psychological correlates and possible outcomes of mixed Pacific ancestry and formally model the magnitude of such effects.

In Study 2 we showed that the decreased subjective wellbeing of multi-ethnic Pacific individuals occurred because they expressed more negative attitudes toward the ethnic group that makes up part of their own identity. This negative attitude toward an aspect of one's identity then presumably translates into a negative attitude toward oneself, thus lowering self-esteem. We argue that this negative attitude likely occurs because mixed Pacific/non-Pacific people are more prone to share the attitudes of other members of the dominant European majority group than they are that of members of the other (Pacific) part of their identity.

How do the different groups in NZ feel about one another and about Pacific people in particular? Sibley and Ward (2012) reported nationally representative average ratings of intergroup affect for each of the main ethnic groups in NZ toward their own and the other groups. They reported that while overall levels of warmth toward Pacific peoples were reasonably high, European, Māori and Asian peoples all expressed lower levels of warmth toward Pacific people relative to Pacific peoples' own ratings of their own group. Critically, Sibley and Ward (2012) also showed that this bias was asymmetric. Pacific people were significantly warmer toward both Māori and NZ Europeans than Māori and NZ Europeans were toward them. This asymmetric bias puts Pacific/non-Pacific people in a particularly troubling position, as to endorse the attitudes, norms and mores of group members from the non-Pacific part of their identity likely means endorsing a more negative attitude toward Pacific people relative to what Pacific people themselves hold of those other groups.

Future Research Directions and Policy Recommendations

One obvious direction for future research is to explore how the transmission and internalization of lower attitudes toward the minority aspects of one's identity may occur for Pacific peoples and possibly others more generally. Such research should seek to answer a key question raised by our findings: that of why Pacific people are more prone to align their attitudes toward Pacific peoples with those held by members of the European or other dominant majority group. We suspect that System Justification Beliefs would be one likely candidate moderating how likely people of such mixed identity are to endorse or subscribe to negative beliefs about the minority group to which they belong. This is because System Justification Beliefs should generally make one more strongly motivated to adopt the majority group position within society, even if it acts against the interests of one's own group (see Jost & Banaji, 1994).

Our identity tension model also suggests specific directions for applied research and social policy initiatives seeking to promote the wellbeing of Pacific peoples. Our findings highlight that such initiatives would do well to focus on Pacific peoples of mixed Pacific and non-Pacific ethnic affiliation. Our mediation model further suggests specific ways in which subjective wellbeing and self-esteem may be improved for this specific mixed-ethnic group. Our findings suggest that if we can target the reduced warmth that people of mixed Pacific and non-Pacific ethnic ancestry express toward Pacific peoples, then we may be able to break the link between multi-ethnic affiliation and lower self-esteem. This observation may also illuminate some of the findings reported in extant research, which also indicates that

in certain cases multi-ethnic individuals may experience lower self-esteem and wellbeing (see Shih & Sanchez, 2005). We suspect that interventions seeking to address the disparity in wellbeing outcomes experienced by Pacific/non-Pacific peoples would do well to focus on promoting pride in Pacific culture, language and positive ingroup contact. We also suspect that such interventions may be particularly effective for Pacific/non-Pacific youth who are actively engaged in the identity formation process.

The Measurement of Pacific Wellbeing

A key strength of our research is that we replicated the effect using both a cultural-specific measure of wellbeing developed specifically for use with Pacific peoples: the Pacific Familial Wellbeing Index (Manuela & Sibley, 2013) and the more general Rosenberg (1965) self-esteem scale in a second independent study. As mentioned earlier, familial wellbeing is not unique to Pacific peoples. However, this specific familial wellbeing measure was developed as part of a larger conceptual model that unifies Pacific identity and wellbeing in a manner consistent with Pacific conceptualizations of the self. Whilst current models and measures of familial wellbeing in NZ acknowledge subjective components of familial wellbeing, the focus tends to be on more objective indicators such as income, employment, housing and education (Milligan *et al.*, 2006). While these objective indicators are useful, our measure goes deeper into culturally relevant aspects of family relations related to wellbeing. Our measure focuses on the subjective component of wellbeing in regards to one's family as opposed to purely individual wellbeing. Under Pacific conceptualizations, the self is relational (Tamasese *et al.*, 1997) where tapu (sacred) relationships need to be treated with respect, and overall wellbeing is partly dependent on harmonious relationships with family. With this measure, we are able to assess one

component of the holistic Pacific conceptualization of the self, to further our understanding of the overall psychological experience of the Pacific individual.

Culture-specific measures can provide further insight into the psychological outcomes of multi-ethnic individuals, and for specific ethnic groups. Likewise, there is evidence to suggest that when general measures are adapted to a specific ethnic group that they can perform well and inform multi-ethnic research (Abu-Rayya, 2006a, b). Our view is that both culture-specific and more general measures are important, and showing replication across both methods provides a high degree of certainty that our effects capture valid experiences for Pacific peoples. The use of both measures also links these findings into the more general pan-cultural research literature (see also Houkamau & Sibley 2011). Phinney and Alipuria (1996) suggest that participants be allowed to respond in a way that is reflective of their ethnic background. The orientation in which multi-ethnic individuals identify should also be taken into consideration. This was done by Lusk *et al.* (2010) who found that those identified explicitly as multi-ethnic showed favorable psychological outcomes compared to those who did not. Phinney and Alipuria (1996) also suggest collecting information on parental ethnicity, which can further inform on the orientation in which multi-ethnic individuals identify.

The findings from Study 1 highlight avenues of further research for other larger ethnic group categorizations. Multi-ethnic research has typically focused on racial groups or those that identify with groups in which cultural differences are potentially quite extreme (e.g. Black/White). More subtle group differences within a broader superordinate category (in this case the category 'Pacific') remain relatively unexplored in multi-ethnic research. There is variability within the superordinate Pacific group (Tiatia, 2008; Macpherson, 1996) and Pacific peoples tend to identify

with their specific ethnic groups as opposed to a larger Pacific category. However this is overlooked when larger categorizations are used.

Population Projections for an Emerging Social Issue?

Our findings are important for a number of reasons. Our results indicate that there are important differences between Pacific peoples, and that those Pacific peoples with a mixed ancestral identification as both Pacific and non-Pacific may be particularly at risk from a number of negative outcomes. This holds both in terms of outcomes linked with lower self-esteem, and outcomes linked specifically to decreased engagement and feelings of support within one's family in the Pacific context. Our identity tension model highlights one way in which social policy and applied research interventions may seek to address this disparity. That is, by focusing on promoting positive ingroup (Pacific) stereotypes and increased positive affective evaluations toward Pacific peoples as an overall social category. It is mixed-ancestry Pacific and non-Pacific peoples who may benefit most from programs promoting Pacific education and challenging the validity of negative stereotypes expressed toward Pacific peoples by others in NZ society.

Currently, the identity tension effect may impact roughly 2.3 % of the total NZ population (1 in 3 of the 7 % of the NZ population identifying as Pacific). However, population projections indicate that this potentially at-risk Pacific/non-Pacific may increase dramatically in subsequent generations. Interventions and policy addressing this at-risk group are thus likely to become more pressing for NZ society in the years to come. Ethnic population projections provided by the Ministry of Social Development (2008) indicate that Pacific people are likely to grow by 60 % from 2006 to 2026, resulting in an increase from roughly 7 % of the NZ population to

roughly 10 % of the NZ population. If the proportion of mixed-ethnic Pacific/non-Pacific people remains constant relative to this growth rate, then the identity tension effect will impact around 3.3 % of the NZ population by 2026 (1 in 3 of the projected 10 % of NZ population identifying as Pacific in 2026). We suspect that this estimate is conservative, however, given that intermarriage between ethnic groups should also become more likely as Pacific people continue to grow and acculturate within an increasingly multicultural NZ society.

Concluding Comments

This research focused specifically on Pacific peoples living in NZ. We documented an identity tension effect for Pacific peoples, where those with multiple (Pacific and non-Pacific) ethnic affiliations showed consistently lower levels of subjective wellbeing. Study 1 showed that multi-ethnic Pacific/non-Pacific people were lower in Pacific Familial Wellbeing relative to mono-ethnic Pacific, multi-ethnic Pacific/Pacific people (n = 586). Study 2 replicated this effect in a national probability sample of Pacific people in NZ using a general measure of self-esteem (n = 266). The representative data analyzed in our second study indicates that roughly one-third of Pacific people living in NZ identify as being of joint Pacific and non-Pacific ethnic affiliation, and are thus are likely to experience the identity tension effect.

Our findings answered an important question relevant to a sizeable proportion of Pacific people living in NZ: why do Pacific people with multiple ethnic affiliations have poorer subjective wellbeing? We argue that the identity tension effect occurs because multi-ethnic identification promotes the endorsement of negative societal attitudes toward Pacific peoples, which when internalized also produces a more negative self-evaluation and generally corrodes subjective wellbeing. We tested this

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explanation by statistically modeling the mechanism driving the identity tension effect, and showed that the group difference in self-esteem was, as predicted, fully mediated by a corresponding difference in the affective evaluation (lower warmth ratings toward Pacific people) expressed by multi-ethnic Pacific people relative to their mono-ethnic peers. Additional research should be conducted and social policy initiatives should be instigated now, before this newly-identified emerging social issue can further increase. Our model suggests that one likely avenue for addressing the identity tension effect experienced by Pacific people of mixed ancestry is to promote increased positive affect toward Pacific people overall, and thus increase positive self-evaluations and integration with one's family.

A response to a critique

This study generated interest from other researchers looking at multi-ethnic individuals. A commentary on the paper was published in the same journal (Keddell, 2014) in which the author examined and critiqued the use of the PIWBS, the sampling method and the inference of the findings from the paper, in addition to offering alternative explanations for the results. In this section I will address each of the issues Keddell raised.

Familial Wellbeing

Keddell (2014) raised an issue of the use of the Perceived Familial Wellbeing factor of the PIWBS with a multiethnic population. Keddell queries whether it is appropriate to use a measure developed for a “homogenous Pacific context” (p. 1290) to assess familial wellbeing in which the family come from both Pacific and non-Pacific backgrounds. Keddell (2014) states *“I query whether such a tool is appropriate for examining the wellbeing of those with both Pacific a non-Pacific identification, as their specific family cultures are unlikely to fully endorse a traditional Pacific worldview, therefore this measure may not adequately capture their family’s wellbeing within their own, perhaps unique, cultural worldview.”* (p. 1290). Keddell further states that there may be differing cultural values regarding the role and importance of family for multi-ethnic individuals, thus the assumption that the PWF factor captures wellbeing is difficult to make, given that we are unable to predict what their construction of a ‘good family’ is.

The point Keddell has made here speaks to what I consider a larger critique of psychology’s lesser focus on multi-ethnic identity research and the limitations our current quantitative measures have in assessing them. Keddell offers a fair critique on

whether the use of a Pacific tool with a multi-ethnic Pacific sample is appropriate. I argue that until we have measures that do assess familial wellbeing within a multi-ethnic family, the PIWBS factor is appropriate to use. In fact, we are limited in choices given the only other alternatives would be more Western measures that may highlight an individualistic notions of familial values, upon which the same queries that Keddell raises would apply. The item content of the factor asks participants to rate satisfaction with different elements of their family, which is not unique to Pacific cultures, although some items are informed by general Pacific cultural values of respect. What is unique about this factor however is that it is part of a larger model informing the holistic view of Pacific identity and wellbeing.

At the time this study was conducted, there were no measures available to assess the identity or culturally-specific domains of wellbeing for multi-ethnic individuals. However, a recent study provides the initial development and validation of new measure designed to assess the experiences of those with multiple ethnic backgrounds. The Multiracial Experiences Measure (MEM: Yoo, Jackson, Guevarra, Miller & Harrington, 2016) assesses different domains of:

- Shifting Expressions - how one expresses their identity within different contexts.
- Perceived Racial Ambiguity - experiences of being questioned or misclassified because of an ambiguous racial appearance.
- Creating Third Space – creation of new spaces to support and bolster one’s multiracial identity.
- Multicultural Engagement – experiences of cultural participation within one’s multiple cultural backgrounds.

- Multiracial Discrimination – experiences of discrimination because of one’s multiracial background.

The development of this new measure highlights growing interest within a dynamic area of research, and how researchers are trying to adapt and develop their available methods to address the needs of this growing population.

Warmth toward Europeans

Keddell raises another point concerning the measures of this study, specifically the use of warmth towards Pacific people as a mediating variable in study two. Whilst acknowledging that this was a logical choice given the research question, Keddell suggests another analysis to see and compare the mediating effect of warmth towards Europeans. Keddell states that by not testing this pathway, the interpretation of the results do not have firm evidence.

The focus of this paper was specifically Pacific oriented. Given my position within psychology as a Pacific researcher, and being a multi-ethnic Pacific/non-Pacific person myself, I wanted to focus on the Pacific aspect of multi-ethnic peoples’ heritage.

Although warmth towards Europeans was not the focus, Keddell is correct in her position that testing this mediating pathway would strengthen the arguments made in this study. As such, a re-analysis was conducted using “Warmth towards NZ Europeans” as the mediating variable. The effect of ethnic grouping (0 = Mono-ethnic, 1 = Multi-Ethnic) on warmth towards NZ Europeans was not significant ($\beta = -.01$, $SE = .06$, $p = .83$). This suggests that is in fact warmth towards the Pacific group, not warmth towards NZ Europeans that explains the difference between mono-ethnic and multi-ethnic groups.

Sampling

Issues of the sampling method were also raised. First, Keddell notes that recruitment through Pacific networks could have resulted in multi-ethnic individuals that do not strongly identify as Pacific self-selecting out of the study. This is true and just like any other study, the method of data collection is subject to sampling errors and self-selection biases of this kind. Keddell also notes that a similar pattern of results was found in study two, that had a larger, representative sample and multiple measures.

Māori and Pacific

Keddell also queries how those that identified as Pacific and Māori were accounted for, highlighting that inclusion for those that also identify with Māori within the Pacific/non-Pacific category would challenge conclusions based on the effect of dominant group racism on self-esteem for this group. I agree with Keddell that this is an exceptionally important issue. It speaks to another complex layer of multi-ethnic research within the NZ context and should have been addressed in the article.

The definition of Pacific used throughout this thesis has been exclusive of Māori and as such, classifies those that affiliate with Pacific and Māori ethnic groups as multi-ethnic Pacific/non-Pacific. As Keddell highlights, this does question the interpretation of the findings based on the effect of dominant group racism on self-esteem. However, system justification may be able to shed some further light on how to interpret this finding based on the classification of Māori multi-ethnic participants used.

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System justification is a motivation for members of high and low status groups to perceive the status quo of social arrangements as fair (Jost & Banaji, 1994). When focusing on ethnic-specific system justification, the motivation to believe that ethnic group relations in NZ are fair, Pacific peoples reported greater fairness relative to both Māori and Europeans, both of whom reported similar fairness to each other (Sengupta, Osborne, & Sibley, 2014). Māori and European ratings of ethnic specific system justification will have different motivations behind them, however they do help elucidate the findings of warmth ratings towards Pacific peoples. Sibley and Ward (2013) also showed that Pacific peoples reported higher warmth toward Māori compared to the warmth ratings of Māori toward Pacific peoples. Perhaps these ambivalent warmth ratings and views of ethnic-fairness are a reflection of ambivalent kinships discussed by Teaiwa and Mallon (2005) between Māori and Pacific peoples within NZ. It may not be that lower warmth toward Pacific peoples by multi-ethnic Pacific/Māori is an endorsement dominant group views. Perhaps it is a manifestation of the conflict between being pro-Māori and pro-Pacific within a bi-cultural context where historical injustices are still fought for by Māori, and the needs of the Pacific group (that also experience unfavourable outcomes relative to Europeans) means competing for the same resources for equitable outcomes.

The above explanation is only one possibility for participants that also affiliate with Māori. Unfortunately, sample size does not permit specific analyses to test this effect separately for Mono-ethnic Pacific, Multi-ethnic Pacific/Māori and Multi-ethnic Pacific/non-Pacific. Despite the histories of Māori and Pacific peoples in NZ, many Pacific Nations do have shared histories of colonial influences as was outlined in the introductory section of this thesis. Furthermore, the similar inequities in outcomes Pacific and Māori peoples share suggest similar experiences within NZ,

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although for Māori this will generally be informed by the effects of colonialism, and the effects of acculturation for Pacific peoples. Given that there was no difference found between Multi-ethnic Pacific/Pacific and Mono-ethnic Pacific peoples in the first study, I re-ran the path-model explaining the difference in self-esteem, only this time categorising those that also affiliate as Māori with Mono-ethnic Pacific, on the assumption that shared histories and experiences in NZ may make integration of Māori and Pacific ethnic backgrounds easier. Should integration of Māori and Pacific backgrounds be easier, including Māori/Pacific participants with Mono-ethnic Pacific should show a decreased coefficient compared to the original analysis, indicating a greater group mean difference in warmth. If the coefficient increases this would suggest the including Māori/Pacific with Mono-ethnic Pacific decreases the difference between the group means, making the two groups more similar.

Under this classification method, $N = 70$ participants were Multi-ethnic Pacific/non-Pacific. The association of ethnic grouping (0 = Mono-ethnic Pacific, inclusive of Māori, 1 = Multi-ethnic Pacific/non-Pacific) and warmth toward the Pacific group was $\beta = -.18$ ($SE = .07$, $p = .007$) compared to the original $\beta = -.22$. The effect of warmth on self-esteem was significant ($\beta = .27$, $SE = .07$, $p < .001$), however the overall indirect effect was not significant (indirect effect = $-.14$, $SE = -.05$, $p = .056$). This suggests that including Māori/Pacific participants with Mono-ethnic participants decreased the difference in warmth toward the Pacific group. This implies that including multi-ethnic Pacific/Māori with the Mono-ethnic Pacific makes the groups more similar, thus providing support for the original finding.

Interpretations of findings

Keddell questions the interpretation of the mediation analysis. She queries if the lower reports of self-esteem occurred because of lower warmth towards the Pacific group that makes up part of their identity. Specifically, Keddell highlights that our categories do not illustrate subjective evaluations of identity and thus our interpretation should be considered with caution. I agree with this position. There is no assessment of how strongly each group identifies with their ethnic background, nor if multi-ethnic individuals identify with one of their ethnic backgrounds more, identify equally, or have a more fluid and context dependent identification orientation. This information may provide a clearer picture of how strength of identity is related to self-esteem as opposed to our analysis which shows a group difference in self-esteem is explained by a group difference in warmth toward the Pacific group.

Alternative explanations

Finally, Keddell proposes alternative explanations for the results given in this study. Keddell points out some of the difficulty that Pacific multi-ethnic individuals may face could be explained by struggles with perceptions of authenticity or a sense of belonging whilst experiencing racism from white society. As such, Keddell offers that the difference observed in our study could be due to difficulty for multi-ethnic individuals to access a Pacific identity. Keddell further suggests that the results may also be a combination of the interpretations that we both offered: some internalization of negative societal beliefs together with authenticity beliefs from Pacific peoples. Furthermore, Keddell also suggests other factors that may be at play including familial attitudes towards 'race', appearance, cultural exposure and experiences within communities and educational contexts. I agree with this also and thank Keddell for alternative explanations that offer greater insight surrounding this effect.

These alternative explanations open up avenues for further research in this area which may elucidate this finding. For example, multi-ethnic individuals often appear ethnically ambiguous and as such may have different experiences in both Pacific and European contexts. By not looking like stereotypical members of either group, individuals may experience both the privilege that affords being white, together with the discrimination that comes with being brown within different contexts. Indeed, research with Māori has shown that the more individuals feel they possess features that signal their Māori ethnicity, the less likely they are to own their own home, perhaps reflecting institutional racism (Houkamau & Sibley, 2015).

Summary

In summary, what the article and its commentary have shown is that multi-ethnic research is an incredibly complex area. We currently do not possess the tools necessary to be able to capture the lived experiences of the growing diversity of our multi-ethnic Pacific populations, however the PIWBS is a step in the right direction toward this goal. The PIWBS offers an alternative way to access the specific aspects of Pacific identity that may be slightly different for multi-ethnic individuals who may potentially possess a more blended view of their self and their values.

In the article, I made a recommendation for applied research and social policy initiatives that promote wellbeing for Pacific peoples to also target multi-ethnic individuals. Keddell (2014) also proposes work to be more inclusive of younger multi-ethnic generations for which the highest proportion of multi-ethnic individuals is located. Another recommendation that I would like to make is to have our policies, methodologies, tools and interventions be more responsive to the growing diversity within Pacific populations and wider NZ society. The PIWBS was a response to the

growing Pacific populations and will hopefully inform future research on with multi-ethnic identities.

The points Keddell made in her commentary and critique of this study have been adequately addressed. However, it is important to note the timing in which this study was conducted and my own limitations as a Pacific and indigenous researcher at that time. It is crucial to reflect on the views and biases one has when conducting research, and how this shapes research output. This study was conducted at the beginning of my PhD journey in 2012, and as such represents the naivety of myself as a Pacific and Indigenous researcher at the time. This is very apparent in the difficulty I had with placing participants with Māori heritage. It was never my intention to marginalize Māori within this research. My eagerness to focus on Pacific clouded my judgment on the cultural security and safety of Māori and other non-Pacific participants within this research and to ensure that they are represented appropriately. My personal and professional development throughout the course of this PhD has given me new insight on how to ensure that the views of all participants are reflected accurately and how to approach multi-ethnic research using quantitative methods in the future.

Bridging Comments

A difference in familial wellbeing and self-esteem was observed between mono-ethnic and multi-ethnic individuals, and this has been explained via reduced warmth toward the Pacific group. However, this is not to imply that being multi-ethnic is a psychological risk, but perhaps more of a reflection that we as academics, families and society are not fully equipped on how to understand, celebrate and nurture diverse identities within an individual.

Although we did find a significant difference across two separate samples, the effect size is small. Previous research has found that multi-ethnic individuals do report greater wellbeing when identifying as multi-ethnic, however this was relative to multi-ethnic individuals that identify with only one group (Binning *et al.*, 2009). Understanding the experiences of multi-ethnic individuals may help us to understand the relationship between ethnic identity and wellbeing. The differences in familial wellbeing that were observed between Pacific/non-Pacific and mono-Pacific, but not Pacific/Pacific individuals may reflect differential experiences with different sides of one's family, and may also speak to a wider implication of inter-ethnic group relations in NZ.

Given that Pacific peoples are a minority group in NZ, it is likely that ethnic discrimination would be a common experience for many. Understanding experiences of ethnic discrimination can give insight into the role that ethnic identity has in its relationship to wellbeing and other positive psychological outcomes. For Pacific peoples, positive wellbeing is not only a subjective psychological state, but a holistic sense of being that is inclusive of physical health, spirituality, connections with others and the environment. Therefore, to understand a holistic view of overall wellbeing,

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we need to understand how threats to it are managed. As the previous study and other studies cited in it shows, experiences as a Pacific person in NZ can be both challenging and rewarding. The next study will test an interaction between Pacific peoples' ethnic identity and perceived discrimination, and their effects on various domains of wellbeing. Again this will be tested using data from the PIWBS and the NZAVS.

The research article that follows is a manuscript that is to be submitted for review.

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Study 5: Protecting Heart and Home: Pacific Ethnic Identity Buffers the Effects of Perceived Discrimination on Wellbeing and Health Satisfaction

Abstract

Research on the interaction between perceived discrimination and ethnic identity on psychological wellbeing has shown mixed findings: that ethnic identity can either exacerbate or buffer the effects of discrimination. Here, we test how ethnic identity moderates the effect of perceived discrimination for Pacific peoples in New Zealand across two studies. Study 1 ($N = 752$) uses a measure of identity developed specifically for Pacific peoples (The Pacific Identity and Wellbeing Scale, Manuela & Sibley, 2015) and shows that high Group Membership Evaluation buffers the effect of discrimination on Pacific familial wellbeing and satisfaction with health. Study 2 ($N = 472$) uses a general measure of ethnic identity and again shows the same buffering effect on satisfaction with life and satisfaction with health. Results are discussed under both a stress and coping framework and a Pacific health framework. Furthermore, the results highlight the benefit of using both ethnic-specific and general measures to understand the effects of discrimination for unique groups and understanding the effects of discrimination more broadly.

Key words: Ethnic Identity, Perceived Discrimination, Buffer, Wellbeing, Family, Life Satisfaction, Health

Introduction

Ethnic discrimination experienced by minorities can negatively impact physical health and psychological wellbeing. This may partially explain differences in physical and mental health outcomes between minority and majority ethnic groups. However, despite experiences of ethnic discrimination, ethnic identity may provide a psychological resource to buffer negative effects. Here we test how ethnic identity moderates the relationship between perceived discrimination, health satisfaction and psychological wellbeing for Pacific peoples, a diverse minority group in New Zealand (NZ). Looking at how Pacific peoples identify with their ethnicity allows us to understand the effects of discrimination for a group that experiences poorer physical and mental health outcomes relative to other ethnic groups. This will be done across two studies. Study 1 will adopt a culturally and ethnically nuanced approach, looking at the moderating effect of a specific aspect of Pacific ethno-cultural identity (group membership evaluation) on a culturally relevant domain of wellbeing (perceived familial wellbeing) and satisfaction with health. This will be done using the Pacific Identity and Wellbeing Scale (Manuela & Sibley, 2013; 2015a), a tool developed specifically for use with Pacific peoples in NZ. Study 2 will test a similar identity x discrimination interaction using data from the New Zealand Attitudes and Values Study; a longitudinal, nationally representative study on New Zealanders. This study will use measures that assess identity and subjective wellbeing more generally and that have been used cross-culturally; Ethnic identity centrality (Leach *et al.*, 2008), life satisfaction (Diener, Emmons, Larsen & Griffin, 1985) and satisfaction with health. This will be the first study to quantitatively explore the moderating effects of ethnic identity on perceived discrimination for Pacific peoples in NZ. In addition, this

will also be the first study to explore this effect using both indigenous and Western measures of ethnic identity and wellbeing for this group.

Discrimination

Discrimination on the basis of one's ethnicity is commonly experienced by members of ethnic minority groups and can be expressed in two general ways. First, overt displays of discrimination are generally easy to identify and attribute to the prejudice of others. In contrast, sometimes it can be difficult for individuals to determine if an interaction or situation is discriminatory. For example, an ethnic minority individual being followed by security in a department store may question if they are being followed because they may appear to be acting suspiciously, or because their ethnicity is associated with a negative stereotype (crime). This experience is what Crocker and Major (1989) refer to as attributional ambiguity; the difficulty that members of stigmatized groups have in deciding if the treatment they have received is due to their own behavior or negative stereotypes associated with their group.

With the difficulty individuals may have in pinpointing discrimination, in conjunction with the problematic methodological task of actually verifying everyday experiences of discrimination, research generally relies on self-report measures of perceived discrimination; the subjective evaluation that one has experienced discrimination. This is an important distinction to make as overt and subtle discrimination can have different effects on wellbeing outcomes (Major, Quentin, & Schmader, 2003). For example, ambiguous displays of prejudice impaired the cognitive performance of African-Americans, but not Europeans, whilst the opposite pattern occurred for overt displays (Salvatore & Shelton, 2007). Subtle forms of

discrimination have also been associated with increased depressive symptoms via increased cognitive appraisal of discriminatory experiences (Noh, Kaspar, & Wickrama, 2007) and negatively influencing job satisfaction for African Americans (Deitch *et al.*, 2003).

Although members of ethnic minority groups tend to experience more discrimination, this does not mean that all minority group members experience it in the same way. Some individuals may perceive less discrimination than what exists (minimization bias) whilst others may perceive more (vigilance bias: Kaiser & Major, 2006). Furthermore, a consistent finding in discrimination research is that individuals report more discrimination directed towards their group rather than towards their self personally. This is known as the Personal/Group Discrimination Discrepancy (PGD: Taylor, Wright, Moghaddam & Lalonde., 1990) and highlights distinct ways that discrimination can be perceived. Although we are not testing the PGD here, we will control for perceived discrimination towards one's group to understand the unique effects of personal discrimination on wellbeing outcomes.

Ethnic Identity & Wellbeing

Ethnicity is a salient feature of ethnic minorities (Phinney & Ong, 2007), who generally report greater identification with their ethnic group (Phinney & Alipuria, 1990; Xu, Farver & Pauker, 2015). Phinney (1990) proposes that ethnic identity refers to identification with an ethnic group, a sense of belonging, together with positive/negative attitudes towards that ethnic group and ethnic behaviours. From a Social Identity Theory perspective (Tajfel & Turner, 1986), ethnic identity could be defined as part of ones' social identity that is derived from their self-perceived membership with an ethnic group. Although ethnic minority groups tend to be over-

represented in negative social indicators, ethnic identity has been associated with positive outcomes such as self-esteem, academic achievement (Umana-Taylor, Diversi & Fine, 2002), mastery and fewer depressive symptoms (Hughes, Kiecolt, Keith & Demo, 2015). Furthermore, a meta-analysis of 184 studies found a positive relationship ($r = .13$) between ethnic identity and indicators of wellbeing (Smith & Silva, 2011).

Whilst research generally has focused on ethnic identity's relationship to mental health and psychological wellbeing, there has been a growing interest in the positive role of identity for physical health (Haslam, Jetten, Postmes & Jetten, 2009). For example, racial and ethnic identity has shown a positive association with self-rated physical health for Latino Americans (Ai, Aisenberg, Weiss, & Salazar, 2014) and health satisfaction and a lower likelihood of diabetes for Pacific peoples in New Zealand (Manuela & Sibley, 2015a). Despite some evidence of a positive association between ethnic identity and physical health, ethnic minorities are generally over-represented in negative health indicators which has been attributed to a combination of socio-economic factors, racism and discrimination (Bécares, Cormack & Harris, 2013; Karlsen & Nazroo, 2002; Nazroo, 2003)

Perceived Discrimination, Health & Wellbeing

There is a strong body of research that recognises perceived discrimination as a contributing factor for adverse physical and mental health outcomes. Paradies (2006) suggests that this effect may be stronger for mental health outcomes. Regardless, the negative associations between perceived discrimination and overall wellbeing outcomes have been well documented across a variety of ethnic and racial groups. For example, a number of meta-analyses show that perceived discrimination

is associated with negative outcomes for African Americans (Pieterse, Todd, Neville, & Carter, 2012), Asian Americans (Lee & Ahn, 2011), and across ethnic and racial groups more generally (Pascoe & Richman, 2009; Schmitt, Branscombe, Postmes, & Garcia., 2014).

Perceived discrimination has been linked with a variety of physical health outcomes and indicators including chronic pain, respiratory illness and cardiovascular disease among Asian Americans (Gee *et al.*, 2007), cortisol levels among Native Hawaiians (Kaholokula *et al.*, 2012), cardiovascular disease, chronic pain, obesity, diabetes and metabolic syndromes for the Sami people of Norway (Hansen, 2015) and differences in health outcomes between Māori and Europeans in New Zealand (Harris *et al.*, 2006).

The effects of perceived discrimination can be understood from a stress and coping framework. Stress associated with discrimination can occur when an individual feels that they do not possess the ability to cope with a situation or a threat to well-being (Lazarus, 1966) which can activate both psychological and physiological stress responses (Lazarus & Folkman, 1984). Cohen, Kessler and Gordon (1995) highlighted three pathways that stress can affect health: (1) creating psychological distress that can negatively influence health, (2) initiating unhealthy behaviours (e.g. tobacco use) as a behavioural coping resource, and (3) psychological and physiological responses to stressors leading to changes in physiological systems. For example, a meta-analysis of over 300 studies found that psychological distress was associated to changes to the immune system (Seegerstrom & Miller, 2004). Even anticipation of discrimination has been linked to psychological and cardiovascular stress responses (Sawyer *et al.*, 2012).

The negative effects of discrimination on health can develop over time. For instance a longitudinal study of American youth showed that racial discrimination predicted health-related work limitations, earlier reports discrimination increased the odds of having a health-related work limitation and that repeated experiences of discrimination were strongly related to chronic limitations (Gee & Walsemann, 2009). Furthermore, there is evidence of inter-generational effects of perceived discrimination. For example, discrimination perceived by women during pregnancy has been associated with low birth-weight for African American infants (Collins *et al.*, 2004), lower health satisfaction and higher cortisol levels for New Zealand mothers, plus increased cortisol reactivity for their infants (Thayer & Kuzawa, 2015).

Ethnic Identity x Perceived Discrimination

The general consensus of research is that ethnic identity is positively associated with health and wellbeing, whilst perceived discrimination is negatively associated. This begs the question of what happens when someone that strongly identifies with his or her ethnic group perceives ethnic discrimination.

The interaction between ethnic identity and perceived discrimination has been the subject of numerous studies, the findings of which have led to two broad hypotheses; (1) Ethnic identity buffers the effects of perceived discrimination (2) Ethnic identity exacerbates the effects of perceived discrimination.

The ethnic identity-buffering hypothesis proposes that a strong ethnic identity protects psychological wellbeing from the negative effects of ethnic discrimination. This hypothesis has been supported by findings with Filipino-Americans (Mossakowski, 2003), African-Americans (Neblett, Shelton & Sellers, 2004; Sellers & Shelton, 2003) and longitudinally (Greene, Way & Pahl, 2006). The identity-

buffering hypothesis suggests that ethnic identity acts as a psychological resource that can counteract the detrimental effects of perceived discrimination. A possible explanation for this is that individuals may attribute negative experiences to the prejudice of others, as opposed to aspects of the self, such as ethnicity (Crocker & Major, 1989).

A different but related theory that is not explored in this study is the Rejection Identification Model (Branscombe, Schmitt & Harvey, 1999). This model proposes that ethnic identity mediates the relationship between discrimination, where discrimination increases identification with the group, which is positively associated with positive psychological wellbeing, thus diminishing the direct effect of discrimination on wellbeing outcomes.

In contrast to the buffering effect of ethnic identity, other studies have found that ethnic identity exacerbates the effects of discrimination. For example, McCoy and Major (2003) showed that Latino-Americans that identified more strongly with their group reported more depressive emotions when reading about pervasive prejudice against their group. Yoo and Lee (2008) found that Asian-Americans with higher ethnic identity reported lower positive affect when told to imagine multiple incidents of ethnic discrimination. Likewise, Yip, Gee and Takeuchi (2008) found that ethnic identity exacerbated the effects of discrimination on mental health for younger and older, but not middle aged, America-born Asians. A potential explanation for these findings is that discrimination experienced by those with strong ethnic identity puts emphasis on differences between one's own ethno-cultural background and that of majority cultures, thereby increasing the stress that can be associated with one's membership within a minority group (Phinney, 1991).

As Yip, Gee and Takeuchi's (2008) study suggests, taken together it appears that ethnic identity can both buffer and exacerbate the detrimental effects of discrimination on wellbeing outcomes. One possibility for the variety of findings could be that different stages or facets of ethnic identity may offer more effective protective properties (McCoy & Major, 2003). For example Torres and Ong (2010) found in a daily diary study that ethnic identity exploration exacerbated the effects of discrimination for Latinos, whilst ethnic identity commitment acted as a buffer. For Latinos, ethnic affirmation is positively associated with mental health, and this association is stronger for those with greater ethnic identity centrality (Brittain *et al.*, 2013). Furthermore, Romero *et al.* (2014) suggest that ethnic affirmation and an achieved ethnic identity have protective properties. In contrast, Lee (2005) found that ethnic affirmation had a protective-reactive effect on depressive symptoms for Korean-Americans, where those with greater ethnic identity pride reported fewer depressive symptoms than those with lower ethnic pride, however depressive symptoms increased when perceived discrimination was high. Understanding how different aspects of ethnic identity or ethnic identity development can protect wellbeing highlights why the pattern of results in the interaction between ethnic identity and perceived discrimination vary.

Another possible avenue to further understanding of the moderating role of ethnic identity is to employ measures that adopt a more culturally-specific approach to understanding ethnic identity. Looking at the more nuanced and culturally unique aspects of ethnic identity can offer more detailed insight into the meanings that people ascribe to their ethnicity, and how that may interact with experiences of ethnic discrimination. For example, a study with American Indian/Native Alaskan two-spirit individuals (Chae & Walters, 2009) used the actualization subscale of the Urban

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American Indian Identity scale (Walters, 1995). The actualization subscale assesses the extent to which spiritual, political, cultural and ethnic dimensions of being American Indian have been positively integrated between self and group identities. Chae and Walters found that Actualization buffered the effect of micro-aggressions on self-rated health. Another example includes research with the Multidimensional Model of Māori Identity and Cultural Engagement (Houkamau & Sibley, 2010), which has shown that a sub-factor of cultural efficacy (feeling one is able to participate within a Māori cultural context) is associated with life satisfaction (Houkamau & Sibley, 2011) and protects against psychological distress (Muriwai, Houkamau & Sibley, 2015).

Ethnic specific measures offer crucial insight into meanings attached to being part of one's ethnic group and how culturally unique aspects of identity are related to wellbeing. Pacific identities are generally explored using Pacific or qualitative methodologies and have provided researchers with a wealth of information about a very diverse population. Here, we employ the Pacific Identity and Wellbeing Scale (PIWBS: See Manuela & Sibley, 2013; 2015a for an in depth review of this measure). The PIWBS was developed specifically to assess aspects of identity and wellbeing for Pacific people in the NZ context. It integrates indigenous Pacific theories and models of the holistic views of the self with Western psychological theories about ethnic identity and wellbeing. It contains six factors assessing Perceived Familial Wellbeing (satisfaction with family), Perceived Societal Wellbeing (satisfaction with NZ society), Group Membership Evaluation (positive evaluations regarding one's self-perceived membership within the Pacific group), Religious Centrality and Embeddedness (the extent to which one views religion as a defining aspect of one's Pacific ethnicity), Pacific Connectedness and Belonging (a sense of belonging with

the Pacific group) and Cultural Efficacy (the extent to which one feels they are able to participate in a Pacific cultural context). The PIWBS offers a unique perspective into Pacific peoples' understandings and meanings attached to ethnic and cultural identity within NZ that can be explored on a large scale.

Discrimination and the Pacific context in New Zealand

Beyond understanding the effects of discrimination of ethnic groups as a general process, it is also important to understand the effects of discrimination on the particular ethnic groups within the societies they inhabit. The focus of the studies presented here is on Pacific peoples within NZ. Pacific peoples make up roughly 7% of the NZ population, with approximately 60% of the population born in NZ. We use the term 'Pacific peoples' as an umbrella term to refer to a number of Pacific Nations with populations represented in NZ, each with their own unique cultures, languages, histories and experiences with NZ society. As a general group, Pacific peoples are young with a median age of 21.1 years relative to overall NZ population median age of 38.0 years. There is also an increasing proportion of Pacific peoples identifying with multiple ethnic groups. Although a minority group within NZ, Pacific peoples are over-represented in negative social indices including physical and mental health (Statistics New Zealand and Ministry of Pacific Island Affairs, 2011).

Models of health and wellbeing developed specifically for Pacific people highlight the necessity of a holistic worldview. Models such as the Puluotu-Endemann's Fonofale model (Crawley *et al*, 1995) use the metaphor of a fale (traditional house), where the components that make up the fale represent different facets of Pacific lives. For example, the foundation represents family, the roof represents culture and identity, the posts that hold up the roof represent spirituality,

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the physical body and mental health. For a fale to be stable, all components must be strong. As such, for a Pacific individual to be well, all aspects of their life must be in harmony.

To focus on one Pacific group in NZ, Anae (1998) describes a process of ethnic identity development as a journey within socio-cultural contexts. Anae describes the journey beginning with challenges being made to one's Samoan identity by other Samoans and non-Samoans. Changes to social networks, interactions in multicultural contexts and varying proficiency in cultural practices highlighted a period of "identity confusion". This could be acted out in what she describes as a "time out" period in which various alternative lifestyles were explored. Anae then describes individuals reconciling internal and external conflicts of what it means to be Samoan within the NZ context as individuals reaching a "Secured identity".

As an ethnic minority in NZ, Pacific peoples often contend with overt and subtle displays of racism and discrimination. Historically, Pacific migration to NZ increased post WWII to fill a labour shortage. During the '70's, there was a crack-down on immigration where many Pacific peoples and homes were targeted by police in what became known as the 'Dawn Raid' era. Pacific peoples were the focus of an overstaying crackdown policy, despite immigrants from the United Kingdom making up the majority of those that had overstayed their Visa conditions. Stereotypes about Pacific peoples as uneducated and incompetent were rife and reports of Pacific peoples that had been born in NZ during that time being subject to discriminatory policing practices were common.

More contemporary experiences of discrimination and prejudice still exist but are generally more subtle. Media portrayals of Pacific peoples painted a picture of an

unmotivated, unhealthy, criminal population that was dependent on Europeans for support (Loto *et al.*, 2006). Research on the content of stereotypes suggest Pacific peoples are generally viewed with high warmth, but low competence relative to other ethnic groups in NZ (Sibley *et al.*, 2009). This pattern of results suggests that Pacific peoples would elicit a pity response from others where they can experience active facilitation (such as affirmative action policies) but also passive harm (such as demeaning and patronizing attitudes). Research with successful Māori and Pacific university students found that they often contend with daily microaggressions and discrimination, in spite of their own academic success (Mayeda, Keil, Dutton & ‘Ofamo’oni, 2014; Henry, Manuela, Moeono-Kolio, & Williams, 2014).

In terms of health, Pacific people are over-represented in negative indices such as obesity, diabetes, cardio-vascular disease and mental health (Statistics New Zealand and Ministry of Pacific Island Affairs, 2011). Pacific peoples’ experiences with discrimination and racism has also been linked to poor health outcomes amongst. Findings from the NZ mental health survey showed that Pacific peoples that had experienced racial discrimination within the last 12 months were 2.26 times more likely to report poor/fair self-rated health, 1.96 times more likely to report poor mental health and 1.54 times more likely to report cardiovascular disease (Harris *et al.*, 2006). Pacific peoples were also 3.51 times more likely to report unfair health treatment compared to Europeans (Harris *et al.*, 2012). However, there is preliminary evidence that facets of Pacific ethnic identity and wellbeing may be associated with positive health outcomes. For example, greater satisfaction with NZ society and a sense of belonging to the Pacific group has been linked to a lower likelihood of having been diagnosed with diabetes (Manuela & Sibley, 2015a).

The Present Study

To further our understanding of the effect of perceived discrimination on wellbeing outcomes, we test the interaction between ethnic identity and perceived discrimination for Pacific peoples in NZ. Our first study uses the Pacific Identity and Wellbeing Scale (PIWBS) to assess the moderating role of culturally specific domains of identity on discrimination and culturally relevant wellbeing outcomes. We will show how the Group Membership Evaluation (GME) factor of the PIWBS moderates the effect of perceived discrimination on two wellbeing outcomes: Perceived Familial Wellbeing (PFW) and self-rated health satisfaction. GME assesses the extent to which Pacific individuals view their ethnicity as a centrally defining facet of the self, together with positive affect. It was modelled on an integration between Leach *et al.*'s (2008) identity centrality and Phinney's (1992) Multigroup Ethnic Identity Measure. We use this specific factor of the PIWBS due to its similarity to other measures of identity centrality. However, out of interest, we will also test an additional model of the interaction whilst controlling for other facets of Pacific identity assessed by the PIWBS.

Perceived Familial Wellbeing (PFW) is another factor of the PIWBS that assesses satisfaction with different aspects of one's family. Family is an integral part of Pacific cultures, often forming the basis of many Pacific social structures. Family has been highlighted as an important domain and source of wellbeing. We use the PFW factor as an outcome variable to see how perceived discrimination may affect a culturally important domain of wellbeing. We also test the effects of perceived discrimination on health satisfaction. Although assessing physical health outcomes would be ideal, our observational study design did not allow this. Instead, we adopt a broader approach to and use self-rated health satisfaction, measures of which are

related to physical health outcomes (Idler & Benyamini, 1997). Whilst our focus is on perceived personal discrimination, we also control for perceived discrimination towards one's group. This will allow us to control, in part, for the Personal/Group discrimination discrepancy, and allows us to highlight the unique effect of personal discrimination on wellbeing outcomes.

Our second study tests the identity x perceived discrimination interaction however using more general measures of ethnic identity centrality (Leach *et al.*, 2008), life satisfaction (Diener *et al.*, 1985) and self-rated satisfaction with health. The GME factor of the PIWBS is partially based on Leach *et al.*'s ethnic identity centrality subscale and will allow us to draw comparisons between both studies.

As far as we are aware, this is the first study to explore the moderating effects of discrimination for Pacific peoples in NZ. This is also the first study to utilize the PIWBS, a measure of identity developed specifically for Pacific peoples, in understanding the role of ethnic identity in relation to perceived discrimination.

Study 1

Method

Participants and Procedure

Participants were 752 (166 male, 586 female) members of the NZ public that identified as being of Pacific ancestry (mean age = 29.65, SD = 10.50). 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, organizations and community networks. A snowball sampling method was also used, where participants were asked to invite others in their networks to participate in the

study, thus the data cannot be considered as representative of the Pacific population in NZ. Participants were entered into a draw to win \$300 worth of grocery vouchers.

Materials

Ethnic identity

Ethnic identity was assessed using the identity related factors of the PIWBS (Manuela & Sibley, 2015a). Participants were asked to rate how they agreed with statements on a 1 (strongly disagree) to 7 (strongly agree) Likert scale. Our identity factor of interest is the Group Membership Evaluation factor (5 items, $\alpha = .88$). Example items participants responded to include: “Being a Pacific Islander gives me a good feeling” “Being an Islander is an important part of how I see myself” “I am proud to be a Pacific Islander”. Additional identity factors include Pacific Connectedness and Belonging (6 items, $\alpha = .79$), Religious Centrality and Embeddedness (6 items, $\alpha = .84$), and Cultural Efficacy (4 items, $\alpha = .74$) (see Manuela & Sibley, 2015a for a full list of items). Scores for each factor were created using the average scores of the items.

Discrimination

Perceived Discrimination was assessed using 1 item where participants were asked to rate the item “I feel that I am often discriminated against on the basis of my ethnicity” on a 1 (Strongly Disagree) to 7 (Strongly Agree) Likert scale.

Perceived Ethnic Discrimination was assessed using 1 item where participants were asked to rate how their thoughts on the question “Do you think people from your ethnic group are discriminated against in NZ?” on a 1 (Definitely Not) to 7 (Definitely Yes) scale.

Wellbeing Outcomes

Perceived Familial Wellbeing was assessed using the respective factor from the PIWBS (Manuela & Sibley, 2015a). Participants were asked to rate how satisfied they were (1 completely dissatisfied, 7 completely satisfied) on seven domains of family relationships. Examples include satisfaction with “Communication with your family”, “Your family’s happiness” and “Your position within your family” ($\alpha = .86$). PFW was calculated by averaging the responses to each item.

Satisfaction with Health was assessed using an item taken from the Personal Wellbeing Index (Cummins *et al.*, 2003). Participants were asked “How satisfied are you with ‘Your health’” and were instructed to respond on a 0 (completely dissatisfied) to 10 (completely satisfied) scale.

Demographics

Participants were asked to indicate their gender (coded as 0 = male, 1 = female), age in years and their country of birth (coded as 0 = born overseas, 1 = born in NZ).

Bayesian estimation

We conduct a moderated, multivariate regression using Bayesian estimation. Bayesian probability estimates and their associated credible intervals provide a more intuitive indication of the distribution of each parameter and reflect what people generally think of when interpreting p-values (for more extensive reviews of Bayesian estimation techniques, see Gelman, Carlin, Stern & Rubin, 2003; and Kruschke, Aguinis, & Joo, 2012).

Relative to frequentist models that use standard null-hypothesis tests, Bayesian probability estimates provide an indication of the extent to which patterns

are significant and not due to chance. In essence, a Bayesian approach lets us use probability in a way to account for the uncertainty we have about an unknown parameter, whilst in a frequentist approach this is not possible. The resulting 95% credible interval in Bayesian analyses suggests that the parameter of interest has a 95% chance of being contained within that interval. In contrast, a frequentist 95% confidence interval suggests that in the long run, 95% of the intervals will contain the parameter.

The advantage of Bayesian methods is that we can specify prior information about the distribution or point estimate of a parameter. Alternatively, a diffuse prior can be used so that there are no specifications made about the distributions or point estimates. This is known as a flat prior distribution and is what we use in our estimations here. Given the prior distribution, and the observed distribution obtained from data collection, we can calculate a posterior distribution – the probability distribution of our uncertainty of the parameter, given what we now know about it. In more simple terms, the prior distribution tells us the likelihood of a parameter without data, whilst the posterior distribution lets us revise what we know about the parameter given our observed data. Using the posterior distribution, we can then calculate a 95% credible interval which, as stated above, has a 95% chance of containing the true value of the parameter based on the observed data. The resulting p-value represents the proportion of the posterior distribution of a given parameter that is above or below zero.

Results

Descriptive statistics and correlations are presented in Table 15. A moderated, multivariate regression using Bayesian estimation was conducted to test the

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interaction between Group Membership Evaluation (GME) and perceived personal discrimination (PD) on Perceived Familial Wellbeing (PFW) and satisfaction with health simultaneously. GME and PD were mean-centered and the product of the two centered variables were entered into the model to test for an interaction (PD x GME). Model 1 for each outcome includes Group Discrimination as a covariate to account for the Personal/Group discrimination discrepancy. Gender, Age and Country of birth (NZ or overseas) were also entered as covariates. Model 2 extends on Model 1 and tests the PD x GME interaction whilst also adjusting for other facets of Pacific identity: Cultural Efficacy (CE), Pacific Connectedness and Belonging (PCB) and Religious Centrality and Embeddedness (RCE).

Table 15 *Descriptive statistics, bivariate correlations and Cronbach's alphas for Pacific identity, wellbeing and discrimination variables*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Gender (0M, 1F)	-										
2. Age	.04	-									
3. NZ Born (0N, 1Y)	.07	-.08*	-								
4. PFW	-.11*	.06	-.04	-							
5. Health Satisfaction	-.01	.05	.03	.42*	-						
6. GME	-.02	-.01	.01	.28*	.09*	-					
7. PCB	-.03	.05	.02	.23*	.03	.58*	-				
8. RCE	-.06	-.07	.04	.17*	.04	.29*	.31*	-			
9. CEF	-.02	.10*	.02	.30*	.18*	.42*	.48*	.27*	-		
10. Personal Discrimination	-.08*	.00	-.2	-.17*	-.18*	-.01	.04	-.02	-.08*	-	
11. Group Discrimination	.01	.08*	.01	-.16*	-.22	-.02	.05	-.05	-.09*	.43*	-
<i>M</i>	-	29.55	-	5.91	5.07	6.40	5.76	5.37	5.40	3.73	4.43
<i>SD</i>	-	10.46	-	.94	1.59	.90	1.03	1.43	1.24	1.91	1.92
Cronbach's Alpha				.86		.88	.79	.84	.74		

N = 472

Table 16 *Estimates for multivariate moderated regression model using Bayesian estimation assessing Perceived Familial Wellbeing and Health Satisfaction*

	Perceived Familial Wellbeing					Health Satisfaction				
	Estimate	Post. <i>SD</i>	<i>p</i>	95% Credible Interval		Estimate	Post. <i>SD</i>	<i>p</i>	95% Credible Interval	
				Lower 2.5%	Upper 2.5%				Lower 2.5%	Upper 2.5%
Model 1										
Gender (M = 0, F = 1)	-.216	.078	.003	-.370	-.062	-.034	.137	.403	-.30.	.236
Age	.005	.003	.068	-.002	.011	.007	.006	.095	-.004	.018
NZ Born (No = 0, Yes = 1)	-.140	.074	.029	-.284	.005	-.229	.128	.037	-.482	.022
Group Discrimination	-.052	.019	.003	-.089	-.015	-.151	.033	.000	-.222	-.087
Personal Discrimination (PD)	-.054	.019	.002	-.091	-.017	-.076	.033	.012	-.140	-.010
Group Membership Evaluation (GME)	.286	.036	.000	.215	.357	.135	.063	.016	.012	.258
PD x GME	.045	.019	.009	.008	.081	.066	.033	.022	.002	.130
Model 2										
Gender	-.201	.077	.005	-.352	-.049	-.035	.136	.399	-.299	.233
Age	.004	.003	.137	-.003	.010	.005	.006	.166	-.006	.017
NZ Born	-.106	.073	.074	-.248	.038	-.196	.128	.064	-.446	.056
Cultural Efficacy	.126	.031	.000	.066	.187	.198	.054	.000	.092	.304
Pacific Connectedness & Belonging	.053	.041	.098	-.027	.133	-.090	.072	.106	-.231	.052
Religious Centrality & Embeddedness	.027	.024	.132	-.020	.074	-.013	.043	.384	-.096	.071
Group Membership Evaluation (GME)	.167	.045	.000	.079	.255	.088	.079	.132	-.066	.242
Group Discrimination	-.046	.019	.007	-.082	-.009	-.140	.033	.000	-.204	-.075
Personal Discrimination (PD)	-.052	.019	.003	-.089	-.016	-.069	.033	.018	-.133	-.004
PD x GE	.043	.019	.011	.006	.079	.062	.033	.029	-.002	.126

N = 752. Perceived Familial Wellbeing is measured on a 1-7 scale and Health Satisfaction 0-10. Post.*SD* = posterior standard deviation. *p* = proportion of the posterior distribution below 0 for a positive effect, and the proportion of the posterior distribution above 0 for a negative effect.

Perceived Familial Wellbeing

As shown in Table 16, the effect of gender was significant with males scoring lower than females ($b = -.216$, $Post.SD = .078$, 95% CI $[-.370, -.062]$, $p = .003$). Both perceived group ($b = -.052$, $Post.SD = .019$, 95% CI $[-.089, -.015]$, $p = .003$) and personal discrimination ($b = -.054$, $Post.SD = .036$, CI $[-.215, .357]$, $p = .002$) were negatively associated with familial wellbeing. The PD x GME interaction was also significant ($b = .045$, $Post.SD = .019$, 95% CI $[-.008, .081]$), $p = .009$). Simple slopes were calculated and as shown in Figure. 10, the negative effect of perceived personal discrimination on familial wellbeing was significant for those with lower GME ($bslope = -.094$, $Post.SD = .026$, 95% CI $[-.156, -.043]$, $p < .001$) and not significant for those with higher GME ($bslope = -.014$, $Post.SD = .024$, 95% CI $[-.62, .034]$, $p > .05$).

As seen in Model 2 in Table 16, when controlling for other facets of Pacific ethnic identity, CEF was positively associated with familial wellbeing ($b = .126$, $Post.SD = .031$, 95% CI $[-.066, .187]$, $p < .001$). The GME x PD interaction also remained significant ($b = .043$, $Post.SD = .019$, 95% CI $[-.006, .079]$, $p = .011$) where the negative effect of perceived personal discrimination on familial wellbeing was significant for those with lower GME ($bslope = -.091$, $Post.SD = .026$, 95% CI $[-.142, -.040]$, $p < .001$), and not significant for those with higher GME ($bslope = -.014$, $Post.SD = .024$, 95% CI $[-.062, .033]$, $p > .05$).

Satisfaction with Health

As shown in Table 16, there was a significant, negative main effect of both perceived group ($b = -.151$, $Post.SD = .033$, 95% CI $[-.222, -.087]$, $p < .001$) and

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personal discrimination ($b = -.094$, $\text{Post.SD} = .026$, 95% CI [$-.156$, $-.043$], $p < .001$). A significant, positive main effect of GME was also found ($b = .135$, $\text{Post.SD} = .063$, 95% CI [$.012$, $.258$], $p = .016$). The PD x GME interaction was significant ($b = .066$, $\text{Post.SD} = .033$, 95% CI [$.002$, $.130$], $p < .022$). As shown in Figure 10, the negative effect of perceived personal discrimination on satisfaction with health was significant for those with lower GME ($b_{\text{slope}} = -.135$, $\text{Post.SD} = .046$, 95% CI [$-.224$, $-.045$], $p = .002$), and not significant for those with higher GME ($b_{\text{slope}} = -.016$, $\text{Post.SD} = .043$, 95% CI [$-.100$, $.068$], $p > .05$)

When controlling for other facets of Pacific ethnic identity, the PD x GME interaction was not significant. However negative main effects were observed for perceived group ($b = -.140$, $\text{Post.SD} = .033$, 95% CI [$-.204$, $-.075$], $p < .001$) and personal discrimination ($b = -.069$, $\text{Post.SD} = .033$, 95% CI [$-.133$, $-.004$], $p = .018$), and a significant, positive main effect was found for CE ($b = -.198$, $\text{Post.SD} = .054$, 95% CI [$.092$, $.304$], $p < .001$).

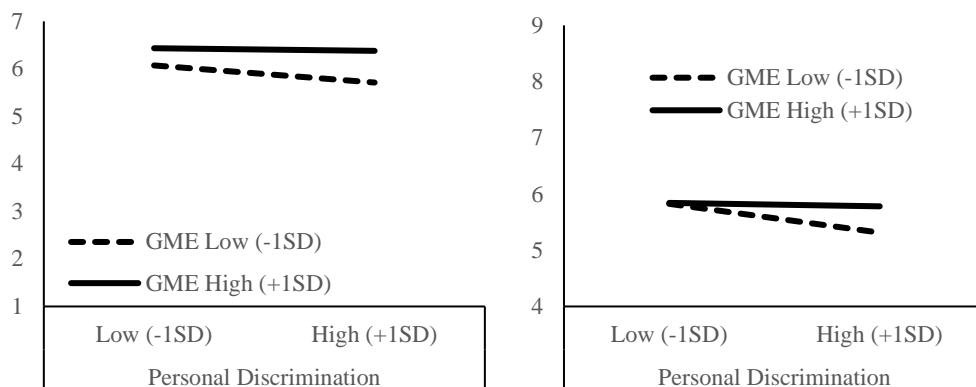


Figure 10. The moderating effect of Group Membership Evaluation on the links between perceived personal discrimination and Perceived Familial Wellbeing (left panel, 1-7 scale) and satisfaction with health (right panel, 0-10 scale). Note: the axis on the right begins at 4.

Summary of Study 1 results

Results of Model 1 show significant negative main effects where both personal and group discrimination are negatively associated with both familial wellbeing and satisfaction with health. Furthermore, a positive main effect was found where GME was positively associated with both outcomes. The interaction between GME and perceived personal discrimination showed that those with lower GME scores reported decreased familial wellbeing and health satisfaction when reporting greater personal discrimination. However, those with higher GME scores appeared to be buffered from these negative effects. The interaction and main effects held for

familial wellbeing when controlling for other facets of Pacific identity (PCB, RCE and CEF) but not for satisfaction with health.

Study Two

Study Two tests the identity and perceived discrimination interaction using a separate dataset and general measures. Specifically, we test the interaction between ethnic identity and perceived discrimination on both satisfaction with life and satisfaction with health.

Method

Participants and Sampling Procedure

Study Two uses data from Time 4 (2012) of the New Zealand Attitudes and Values Study (NZAVS) and contains a total sample of $N = 12,182$ participants. The analysis presented here focuses on a subset of those that identified their ethnic affiliation with a Pacific Nation ($N = 472$). The Pacific participants of the overall sample consist of 156 men and 316 women, with an overall average age of 39.24 ($SD = 13.58$) years.

Participants were posted a copy of the NZAVS questionnaire, with a follow up two months later. Those that provided email addresses were also emailed and invited to complete an online version if preferred. Non-respondents were emailed a follow-up reminder approximately two months later. Three attempts were then made using provided phone numbers to contact non-respondents and encourage participation. These attempts were made on separate days, approximately one week apart, leaving a

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phone message where possible after the third attempt. Participants were also mailed a pamphlet outlining findings from the NZAVS mid-way through the year. In addition, participants were sent a Season's Greetings from the NZAVS research team and informed they had been entered into a bonus season grocery voucher prize draw for a total pool of NZ\$1,000.

To boost the Time 4 sample size and increase diversity for subsequent waves, independent booster samples using different sample frames were also conducted. Booster sampling was conducted without replacement (i.e. all people included in previous sample frames were identified and removed from the electoral roll before generation of the new sample frames.). The first sample frame consisted of a randomly selected sample of 20,000 people from the 2012 New Zealand Electoral Roll (the electoral roll list all eligible voters, barring those removed on a case-by-case basis due to privacy concerns) and had a response rate of 12.33%. The second sample frame consisted of a regional booster of 10,000 people randomly selected from people listed in the 2012 Electoral Roll who lived in the Auckland region (response rate 9.04%), due to it being the most ethnically diverse region in the country with an increasing number of Asian and Pacific peoples in particular. A third sample frame consisted of 3,000 people randomly selected from the 2012 Electoral Roll who lived in the Christchurch region (response rate, 11.24%). The fourth sample frame consisted of 9,000 respondents selected from meshblock area units across the country that were moderate to high in deprivation (as indicated by rating of 6 – 10 on the NZ Deprivation Index) and had a response rate of 8.65%. The fifth sample frame consisted of 9,000 people randomly selected from those who indicated on the 2012 Electoral Roll that they were of Māori ethnicity (ethnic affiliation as Māori is listed

on the roll, but other ethnic affiliations are not) and had a response rate of 7.78%. For further details, refer to the NZAVS technical documents (Sibley 2014a).

For details on response rates and panel attrition over the first 4 years of the NZAVS, see Satherly *et al.* (2015), and for census-matching data and details on response rates across demographics, see Sibley (2014).

Materials

Ethnic identity

Ethnic identity was assessed using three items from a subscale of ethnic identity centrality (Leach *et al.*, 2008). The items were asked to rate the items “I often think about the fact that I am a member of my ethnic group.” “The fact that I am a member of my ethnic group is an important part of my identity” and “Being a member of my ethnic group is an important part of how I see myself” ($\alpha = .73$). Participants rated items from 1 (strongly disagree) to 7 (strongly agree). An ethnic identity score was calculated using the mean of all three items.

Discrimination

Perceived Discrimination was assessed using 1 item where participants were asked to rate the item “I feel that I am often discriminated against on the basis of my ethnicity” on a 1 (Strongly Disagree) to 7 (Strongly Agree) Likert scale.

Perceived Ethnic Discrimination was assessed using 1 item where participants were asked to rate how their thoughts on the question “Do you think people from your ethnic group are discriminated against in NZ?” on a 1 (Definitely Not) to 7 (Definitely Yes) scale.

Wellbeing Outcomes

Satisfaction with life was assessed using two items “I am satisfied with my life” and “In most ways my life is close to ideal” from the Satisfaction With Life Scale (Diener *et al.*, 1985). Participants were asked to rate the items from 1 (strongly disagree) to 7 (strongly agree). A satisfaction with life score was calculated using the average of both items ($\alpha = .79$).

Satisfaction with Health was assessed using an item taken from the Personal Wellbeing Index (Cummins *et al.*, 2003). Participants were asked “How satisfied are you with ‘Your health’” and were instructed to respond on a 0 (completely dissatisfied) to 10 (completely satisfied) scale.

Demographics

Participants were asked to indicate their gender (coded as 0 = male, 1 = female), age in years and the country in which they were born (coded as 0 = born overseas, 1 = born in NZ).

Results

Descriptive statistics and correlations are presented in Table 17. A moderated, multivariate regression using Bayesian estimation was conducted to test the interaction between ethnic identity (ID) and perceived personal discrimination (PD) on satisfaction life and satisfaction with health simultaneously. ID and PD were mean-centered and the product of the two centered variables entered into the model to test for an interaction (PD x ID). The analysis also controls for perceived discrimination towards the group. Gender, age and country of birth were included as covariates.

Table 17 *Descriptive statistics, bivariate correlations and Cronbach's Alphas for ethnic identity centrality, wellbeing and discrimination variables*

	1.	2.	3.	4.	5.	6.	7.	8.
1. Gender (0M, 1F)	-							
2. Age	.22*	-						
3. NZ Born (0N, 1Y)	-.08	-.29*	-					
4. Life Satisfaction	.02	.14*	-.08	-				
5. Health Satisfaction	.04	.05	-.15*	.44*	-			
6. Ethnic Identity	.02	.00	.06	.14*	.05	-		
7. Personal Discrimination	.11*	-.01	-.04	-.14*	-.14*	.14*	-	
8. Group Discrimination	-.02	-.13*	.15*	-.13*	-.13*	.22*	.23*	-
<i>M</i>		39.24		4.88	6.22	5.40	3.16	4.48
<i>SD</i>		13.58		1.29	2.37	1.40	1.77	1.79
Cronbach's Alpha					.73	.79		

Life Satisfaction

Correlations and descriptive statistics are presented in Table 17. As shown in Table 18, there was a significant positive main effect of age ($b = .011$, $Post.SD = .005$, 95% CI [.002, .020], $p = .009$) and ethnic identity (ID: $b = .179$, $Post.SD = .179$, 95% CI [.094, .265], $p < .001$). There were also significant negative main effects of both perceived group ($b = -.078$, $Post.SD = .035$, 95% CI [-.146, -.010], $p = .012$) and personal discrimination ($b = -.099$, $Post.SD = .034$, 95% CI [-.166, -.033], $p = .002$). Critically, the PD x ID interaction was significant ($b = .050$, $Post.SD = .023$, 95% CI [.005, .095], $p = .023$).

As shown in Figure. 11, the negative effect of perceived personal discrimination on satisfaction with life was significant for those with lower ethnic identity ($bslope = -.170$, $Post.SD = .047$, 95% CI [-.261, -.078], $p < .001$) and not

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significant for those with higher ethnic identity ($bslope = -.029$, $Post.SD = .047$, 95% CI $[-.121, .062]$, $p > .05$).

Table 18 *Estimates for multivariate moderated regression model using Bayesian estimation assessing Life Satisfaction and Health Satisfaction*

	Life Satisfaction					Health Satisfaction				
	Estimate	Posterior <i>SD</i>	<i>p</i> value	95% Credible Intervals		Estimate	Posterior <i>SD</i>	<i>p</i> value	95% Credible Intervals	
				Lower 2.5%	Upper 2.5%				Lower 2.5%	Upper 2.5%
Gender (M = 0, F = 1)	.010	.127	.467	-.237	.259	.259	.233	.131	-.196	.720
Age	.011*	.005	.009	.002	.020	-.003	.008	.357	-.020	.013
NZ Born (N = 0, Y = 1)	-.085	.127	.251	-.335	.165	-.723*	.236	.001	-1.186	-.261
Group Discrimination Personal	-.078*	.035	.012	-.146	-.010	-.109	.064	.044	-.234	.017
Discrimination (PD)	-.099*	.034	.002	-.166	-.033	-.190*	.063	.001	-.313	-.067
Ethnic Identity (ID)	.179*	.044	.000	.094	.265	.156	.080	.025	-.001	.313
PD x ID	.050*	.023	.014	.005	.095	.089*	.042	.018	.006	.172

N = 472. Life Satisfaction is measured on a 1-7 scale and Health Satisfaction 0-10. Post.*SD* = posterior standard deviation. *p* = proportion of the posterior distribution below 0 for a positive effect, and the proportion of the posterior distribution above 0 for a negative effect.

Health Satisfaction

As show in Table 18, there was a significant main effect of country of birth where those born in NZ reported lower satisfaction with health relative to those born overseas ($b = -.723$, $Post.SD = .236$, 95% CI [-1.186, -.261], $p = .001$). There was also a significant negative main effect of perceived personal discrimination ($b = -.190$, $Post.SD = .063$, 95% CI [-.313, -.067], $p = .001$). Critically, the PD x ID interaction was significant ($b = .089$, $Post.SD = .042$, 95% CI [.006, .172], $p = .018$).

As shown in Figure. 11, the negative effect of perceived discrimination on health satisfaction was significant for those with lower ethnic identity ($bslope = -.315$, $Post.SD = .086$, 95% CI [-.483, -.146], $p < .001$) and not significant for those with higher ethnic identity ($bslope = -.066$, $Post.SD = .086$, 95% CI [-.234, .103], $p > .05$).

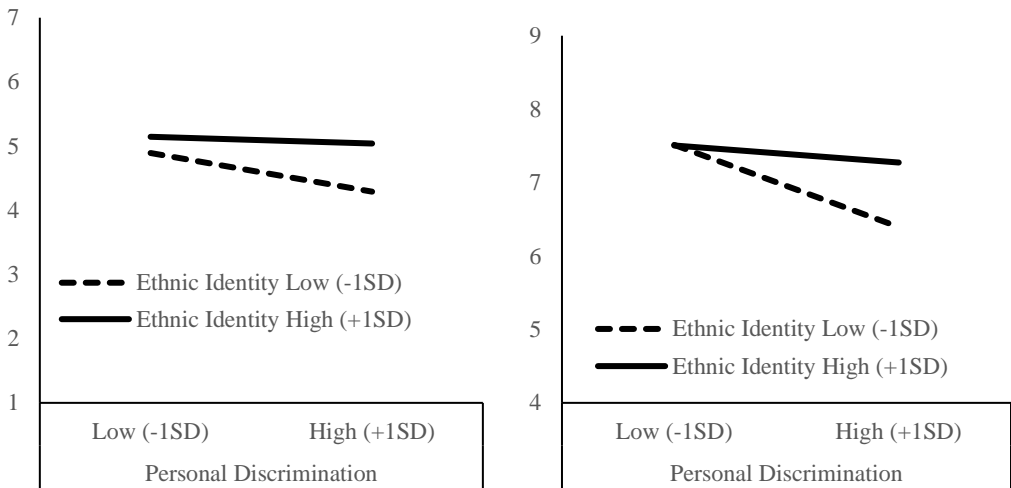


Figure 11 The moderating effect of ethnic identity on the links between perceived personal discrimination and satisfaction with life (left panel, 1-7 scale) and satisfaction with health (right panel, 0-10 scale). Note: the axis on the right begins at 4.

Summary of Study Two results

The results show significant negative main effect of perceived personal discrimination on both life and health satisfaction. A significant negative main effect of group discrimination on life satisfaction was also observed for life satisfaction. Ethnic identity shows a positive main effect for life satisfaction only. The PD x ID interaction showed the same pattern of results for both life and health satisfaction where those with lower ethnic identity showed a decrease in both satisfaction outcomes when reporting higher discrimination, whilst this effect was buffered for those that reported higher ethnic identity.

Discussion

Our aim was to test how Pacific peoples' ethnic identity moderates the relationship between perceived ethnic discrimination and wellbeing outcomes. We did this using both indigenous and Western measures of ethnic identity. The two studies presented here highlight Pacific peoples' ethnic identity as a protective factor.

Our first study used the PIWBS to explore how Group Membership Evaluation (GME) – the extent to which Pacific peoples view their ethnic group as a centrally defining aspect of the self, together with positive affect derived from group membership – interacted with perceived personal discrimination to predict Perceived Familial Wellbeing (an important domain of wellbeing in Pacific cultures) and satisfaction with health. The results show that GME buffered the effect of perceived discrimination on both familial wellbeing and health satisfaction. More specifically, we found for those that reported higher GME, there was no significant association between perceived discrimination and both familial wellbeing and health satisfaction. However, for those that reported lower GME, perceived discrimination was

associated with both decreased family and health satisfaction. When controlling for other facets of Pacific identity, we found the same buffering effect for familial wellbeing, but not for health satisfaction. These findings suggest that Pacific peoples' perception of their ethnic group as a centrally defining aspect of their self and positive affect can protect them from the negative effects of perceived discrimination in terms of both satisfaction with their familial relationships and family life, and their satisfaction with health.

Our second study sought to test the buffering effect of identity found in Study One, using a general measure of ethnic identity, a broader assessment of life satisfaction and also health satisfaction. The results showed the same pattern of results; for those with higher ethnic identity, perceived discrimination was not associated with either life or health satisfaction. However, for those with lower ethnic identity, perceived discrimination was associated with decreased life and health satisfaction. Together the results of study one and study two show evidence for the identity-buffering hypothesis. That is, ethnic identity buffers the effects of perceived discrimination for Pacific peoples in NZ.

Ethnic identity as a Protective buffer for Pacific peoples

Our results highlight the protective properties of ethnic identity for wellbeing. Ethnic identity provides a psychological resource that counteracts the negative effects of discrimination, thus protecting Pacific peoples' satisfaction with family, health and life more generally. In other words, viewing one's ethnic group as a central aspect of the self and positive evaluations of group membership provides Pacific peoples with resilience against the detrimental effects of ethnic discrimination.

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There are various possible explanations for how Pacific peoples' ethnic identity provides a protective buffer against discrimination. First, ethnic identity may provide individuals with a variety of coping mechanisms to assist dealing with ethnic discriminatory stress. From our results, higher GME suggests individuals view ethnicity as a normative way to define the self and derive positive affect from their ethnicity. As such, this may make individuals more adept at attributing negative experiences to the prejudices held by others (Crocker & Major, 1989).

Another possible explanation for the pattern of findings is the stage of ethnic identity for participants. Although we have not assessed different stages of ethnic identity in the studies presented here, both samples are adults. It is possible that as our samples are from adult populations, they have an achieved ethnic identity – when one has a secure understanding and acceptance on their ethnicity (Phinney, 1989). Although we have not explicitly assessed this, previous research has found that positive attitudes and ethnic pride (as assessed by GME) may be part of an achieved ethnic identity (Roberts *et al.*, 1999). Similarly, Anae (1999) who explored an ethnic identity journey for Samoans in NZ suggests that a 'secured identity' is one that is marked by a persistent Samoan self-concept that reconciles internally and externally sourced conflicts of what it means to be Samoan in NZ. It is possible, using Samoans as an example, that this conflict resolution involves effectively coping with discrimination from non-Samoan others to protect the Samoan self-concept.

Again looking at different stages of ethnic identity, it is possible that those with relatively lower GME may be in a moratorium (exploration and confusion about ethnicity) or foreclosed (little exploration but clarity about ethnicity) stage of ethnic identity development (Phinney, 1989), or 'identity confusion' from Anae's (1998) perspective of Samoan identity journeys. Previous research has found that ethnic

identity exploration can exacerbate the effects of discrimination (Torres & Ong, 2010). Alternatively, by not holding ethnic identity as a centrally defining aspect of the self, or deriving less positive (or more negative) affect from one's ethnic group, individuals are not afforded the same resiliency or psychological resources against discriminatory experiences.

We also found direct main effects in both studies. In study one, we found a gender difference in familial wellbeing suggesting that females are more satisfied within their families than males. However, due to the gender imbalance in the sample this result should be viewed with caution. Interestingly, we found a significant main effect of nativity status for health satisfaction in study two. Our results show that on average, Pacific peoples born in NZ report lower satisfaction with health relative to those born overseas. This could potentially be an indication of the immigrant's paradox, a tendency for subsequent generations of migrants to experience worse outcomes (Sam, Vedder, Ward & Horenczyk, 2006), however this requires further study.

The main effects of the identity and discrimination predictors in model one of Study One mirror the patterns of results found in previous research where ethnic identity is positively associated with wellbeing outcomes (Smith & Silva, 2011) and discrimination is negatively associated (Schmitt *et al.*, 2014). Importantly, our results show that both ethnic identity and discrimination explain unique variance in familial wellbeing and health satisfaction, above and beyond the variance explained by the interaction.

We found similar main effects in model two of Study one, however the interaction was no longer significant for satisfaction with health. This is most likely

because the addition of extra identity variables explained the variance shared by the interaction. It was also interesting to see the positive main effect of Cultural Efficacy for both Familial wellbeing and health satisfaction. This finding suggests that feeling that one has the cultural and cognitive resources to participate within a Pacific cultural context is associated with greater satisfaction within their family and with their health.

The unique effect of discrimination toward the self

An important aspect of these studies in understanding the relationship between discrimination, identity and wellbeing outcomes was that our focus is on perceived discrimination directed toward the self on the basis of one's ethnicity. As mentioned earlier, it is common for individuals to report more discrimination directed towards one's group than their self specifically. This is known as the Personal/Group Discrimination discrepancy (Taylor *et al.*, 1990). In an effort to account for this, we also included a covariate of perceived discrimination directed towards one's group in our analyses in both studies. As such, our analyses show the unique effect of perceived personal discrimination, above and beyond the effect of discrimination directed towards the group.

Is discrimination affecting the quality of Pacific familial relationships?

Aside from the finding of ethnic identity's protective properties, the negative association between perceived discrimination and familial wellbeing for those with lower ethnic identity (as assessed by both the PIWBS and general measures) warrants further attention. Pacific models of health, such as the Fonofale model (Crawley *et al.*, 1995) consistently highlight the integral role of families as part of the overall and holistic wellbeing of Pacific individuals. Furthermore, discrimination research generally focuses on individual's subjective wellbeing states, or internal sources of

wellbeing (e.g. self-esteem, life satisfaction, health satisfaction). Study One explored the effect of discrimination on satisfaction with external relationships – which from general Pacific worldviews is a source of internal wellbeing. If ethnic discrimination directed toward the self can negatively influence satisfaction with an individual's family, this implies that the effects of discrimination are not limited to an individual, but also to familial others. Although discrimination can be directed either toward the self or the group, the effects of discrimination toward the self could potentially affect the group (or a least one's satisfaction with their group/family).

This finding is not to suggest that discrimination perceived toward the self is causing Pacific individuals to dislike their families. Rather, it is possible that discrimination toward the self can affect the quality of relationships Pacific individuals have with each other. We have only explored the moderating effect of identity on discrimination and wellbeing. Further research could address the impact of personal discrimination on relationships with others.

Understanding Discrimination under a Pacific Health and Wellbeing Framework

A crucial finding of the studies presented here is the role of Pacific ethnic identity in health satisfaction. Pacific peoples are over-represented in negative health outcomes such as obesity and diabetes. Previous research has shown that Pacific peoples that report discrimination also report lower satisfaction with their health. Furthermore, there is evidence to suggest that facets of Pacific ethnic identity are associated with positive health outcomes, such as a lower likelihood of being diagnosed with diabetes (Manuela & Sibley, 2015a). By testing a discrimination and identity interaction using both ethnic specific and general measures of identity, we

provide evidence for the role of ethnic identity in protecting the overall physical and mental health of Pacific peoples.

From a psychological, stress and coping framework ethnic identity provides a psychological buffer that counteracts the negative effects of discrimination. It may be that a strong ethnic identity also entails effective coping mechanisms to deal with ethnic discrimination. As such, individuals may experience less physiological stress responses, or not engage in unhealthy behaviours as a coping resource.

From a general Pacific perspective, health and wellbeing is conceptualized holistically. Overall health is assumed when aspects of culture, identity, mental health, family, relationships, religion and spirituality are in harmonious relationships to each other. To illustrate this, we use the Fonofale model mentioned earlier.

Fonofale uses a metaphor of a fale to describe overall health and wellbeing. A fale is generally constructed with a solid foundation and roof held up by posts. Different parts of the fale represent different aspects of the Pacific self. The foundation represents family, the roof represents culture and identity, and the posts represent mental health, physical health, spirituality and other aspects of life. In the Fonofale model, the outside of the fale is encapsulated by a cocoon that represents the environment, time and context. Just as all parts of the fale must fit well and be maintained for the fale to be strong, all aspects of the Pacific individual must be well and maintained for overall health and wellbeing.

Discrimination can be viewed as a disruption to the overall health and wellbeing of a Pacific individual. Or, to use the fale as an example, the ability of the fale to withstand a storm relies on the strength of the different parts of its architecture. Just as a strong fale is able to withstand a storm, a Pacific individual that feels

confidence and satisfaction with all areas of their life can be afforded resiliency against psychological threats to their wellbeing. For example, the way the roof of a fale provides protection against the elements can be understood as a way that Pacific culture and identity can protect against discrimination. However, it is possible for weather to penetrate the roof and affect other parts of the fale if it has been compromised in some way, much in the same way that it is possible for discrimination to have negative effects on mental and physical health if Pacific peoples are also experiencing difficulty in other aspects of their life.

We want to stress that we do not imply that Pacific individuals that report lower GME or ethnic identity have some kind of identity or cultural deficit. Rather we argue that understanding how Pacific peoples feel about and engage with their ethnic identity and culture can inform us of how identity and culture can be used to promote and protect overall wellbeing.

Implications of Findings

Previous research has shown that Pacific peoples' experiences with discrimination is associated with poorer health satisfaction and mental health outcomes. However, the protective properties of Pacific ethnic identity, which were previously unexplored for this group, provides evidence for Pacific ethnic identity as a resource for overall Pacific health.

Our results highlight ethnic identity as a protective factor. It is possible then for ethnic or cultural identity to play a role in a multi-faceted approach to achieving ethnic parity in health and other outcomes. For example, one barrier for Pacific peoples accessing healthcare is perceptions of ethnic discrimination (Crengle, Robinson, Ameratunga, Clark & Raphael, 2012). Approaches to ameliorate these

experiences include making clinical settings more culturally sensitive to the needs of Pacific peoples (Ludeke, Puni, Cook, Pasense, Abel & Sopoaga, 2012). As such, there has been a strong surge from policy makers and practitioners to make services more culturally appropriate and inclusive. For example, guidelines on Pacific cultural competencies outlines how to effectively, respectfully and appropriately engage with Pacific clients within a clinical and mental health settings (Te Pou, 2010; Tiatia, 2008). These initiatives have grown out of a recognition of how making services more culturally relevant to communities are more beneficial, highlighting the importance of identity and culture in both service provision and academic research.

Strengths, Limitations and Future Research

The sampling procedure employed in Study One limits the generalizability of our results. Despite using different measures of identity across our studies, they do share some similarities in both their content and construct definitions. In addition, we used the same measures of discrimination and health satisfaction in both studies and yielded the same pattern of results. Although the sampling procedure in Study One has its limitations, our sampling procedure in Study Two provided us with a nationally representative sample for which we could make comparisons, and thus provides some support for the generalizability of the findings.

It is difficult to assess objective experiences of discrimination outside of an experimental setting. As such, we do not have any information on the frequency, intensity, length or ambiguity of discrimination perceived by the participants. Future research can incorporate these factors into discrimination research with Pacific peoples.

Our studies address the effects of discrimination on self-rated health satisfaction. However, we do not have any evidence to show that ethnic identity can protect *physical* health against discrimination. Our study however does support earlier findings that show discrimination is associated with poorer self-rated health (Harris *et al.*, 2006a; 2006b) which can be a good indicator of physical health (Idler & Benyamini, 1997). Furthermore, there is preliminary evidence to suggest that satisfaction with NZ society and sense of belonging with the general Pacific group is associated with a decreased likelihood of diabetes (Manuela & Sibley, 2015a). Future research could explore the physical effects of discrimination for Pacific peoples.

A key strength of this study is the use of the PIWBS in study one and a comparison with similar but more general measures in study two. It is important to understand the effects of discrimination for various ethnic groups. By focusing our analyses on Pacific peoples, we not only provide information for researchers about Pacific peoples and the moderating role of ethnic identity, but also highlight the utility of employing culturally-specific measures to understand the associations between ethnic identity and wellbeing outcomes. The GME factor of the PIWBS shows that Pacific peoples' positive evaluations of their membership within the Pacific group more generally buffers the effects of perceived discrimination on health satisfaction in a similar way to general measures of ethnic identity.

Summary and Conclusion

Our studies provide information on the moderating effects of ethnic identity on discrimination with wellbeing outcomes for Pacific peoples in NZ. The results provide evidence to support the hypothesis that ethnic identity buffers the effects of discrimination on family satisfaction, life satisfaction and health satisfaction. By

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using both culturally-specific and general measures of ethnic identity, the results offer insight into both the nuanced and general psychological differences in ethnic identification and its relationship to wellbeing outcomes. We argue that ethnic identity is a protective psychological resource for Pacific peoples and as such nurturing and incorporating Pacific cultural practices or values into health service delivery and wider NZ society would be beneficial for positive health and wellbeing outcomes for Pacific peoples.

IV. DISCUSSION

This thesis presents five pieces of work that show the validity and utility of the PIWBS as a research tool for Pacific peoples and researchers. Study One presented a hierarchical model of the five-factor model of the PIWBS, highlighting how the various factors of the PIWBS are related to each other. A key finding was that Religious Centrality and Embeddedness acted as a link between broader domains of identity and wellbeing. I argued that this hierarchical model could be used to guide research directions on how the PIWBS could be used, and showed this by applying it to research on Pacific suicide.

Study Two presented an update of the PIWBS in which an additional factor of Cultural Efficacy was introduced. This factor indexes the extent to which an individual feels they are able to participate within a Pacific cultural context. Further analyses were conducted that showed how this and other factors of the PIWBS could be used to predict various outcomes including language confidence, travel to the Pacific Islands, frequency of church attendance, satisfaction with health and the likelihood of having been diagnosed with diabetes.

Study Three outlined an analysis to provide evidence that the PIWBS is performing well across the four major Pacific groups represented in NZ. This finding suggests that the tool could be used as a basis for research with specific ethnic groups. Further analyses showed how the four major groups were scoring on the various factors of the tool. After adjusting for demographic covariates, the results showed that the four groups were scoring relatively evenly across the factors, except for Religious Centrality and Embeddedness. Although all groups scored high on this factor, Cook Islands and Niuean participants scored lower on average relative to Samoan and

Tongan participants. This pattern of results reflected rates of religious affiliation in the census, and thus provided further evidence the PIWBS is assessing what it was intended to measure.

Study Four outlined one application of the PIWBS as a research tool. In this chapter, I compared Perceived Familial Wellbeing for mono-Pacific, Pacific/Pacific and Pacific/non-Pacific groups. Results showed Pacific/non-Pacific scored lower relative to mono-Pacific. I then tested this effect in an independent sample and found that Pacific/non-Pacific reported lower self-esteem and that this difference was mediated by warmth towards the Pacific group.

Finally, Study Five provided another research application where I explored how Pacific identity buffered the effects of perceived discrimination on wellbeing outcomes. Using the PIWBS, I found that GME protected both familial wellbeing and health satisfaction from the negative effects of discrimination. This pattern of findings was also found in an independent sample, using general measures, and showed that ethnic identity centrality also protected life satisfaction and health satisfaction from the negative effects of discrimination.

Together, these studies represent what I consider to be the primary purpose of the PIWBS; a powerful, valid, and unique tool that can be used to aid our understanding of the psychology of Pacific peoples in NZ. It is a tool developed by and for our Pacific peoples, Pacific researchers and Pacific allies.

Contribution to Pacific research

The PIWBS is a major contribution to the literature and research on Pacific identities and wellbeing in terms of both findings and methodological approaches to

Pacific research. The primary contribution is the tool itself. As far as I am aware, this is the first developed specifically for Pacific peoples in psychology.

The PIWBS when viewed strictly as a measurement tool does not present anything new in terms of how the self is theoretically conceptualized within a general Pacific perspective. However, the hierarchical analysis presented in chapter two offers a unique take on how facets of the Pacific self at the individual level (opposed to the collective and relational self) are related to each other through the intertwining of religion and culture. Previous research has consistently shown the role of family, society, spirituality, culture, belonging, and connections. These factors have long been understood, although perhaps articulated in ways non-congruent with Western understandings, as crucial to the wellbeing of Pacific individuals, families, communities and societies.

It is timely to look back at the major contribution of Hau'ofa's (1994) thoughts of a new Oceania. His ideas of Pacific peoples being connected by the ocean, rather than separated by it, did not change the way that peoples of the Pacific viewed their world, but rather articulated it in a way that could be understood by a broader audience. In the same sense, the PIWBS offers a quantitative alternative that articulates the holistic Pacific self. It gives us new means to gaze upon the stars that we use to navigate our vaka [statistically model] and allow us to move freely and confidently within the ocean [relationships] to and from the islands to which we are all connected [of *our* identity and wellbeing].

I feel the analogy above is very fitting. The PIWBS allows us to statistically model the relationships between *our* identity and wellbeing. I put emphasis on '*our*' because the item contents and factors are based on the findings of other Pacific

researchers that have so eloquently fleshed out and brought new life to the complexity of identities, cultures and wellbeing of our Pacific communities. The PIWBS is deliberately based on lived experiences of Pacific peoples. It is a reflection of the values that shape the way we define ourselves and the qualitative meanings associated with that. This is the same approach employed by Sellers *et al.* (1998), Walters (1995) and Houkamau and Sibley (2009) in the development of their respective measures.

Without the work of our Pacific scholars that address what it means to be a Pacific person within the past, present and future of NZ society, the PIWBS would not, and could not exist. Our stories and traditions are oral, and this is reflected in the conceptual frameworks, research models and methodologies that have been utilized by Pacific researchers in bringing Pacific stories to life. In particular, Talanoa has been a primary method of collecting data and gathering the stories to inform academia of our Pacific lives. Talanoa allows open dialogue that recognizes the *va* (space) between researchers and participants as collaborators. Through Talanoa, our world has been given life beyond those that live in it and allows for deep contextual understanding of identity and wellbeing. The one critique that I do have of Talanoa, however, is one that I share with qualitative research in general. Because there is no set formula and analysis is highly interpretative, qualitative methodologies can be very labour intensive. Furthermore, whilst qualitative methods provide incredibly rich data with great depth, their scope is generally very narrow. In saying so, the limitations of qualitative research is perhaps where the best contribution that the PIWBS has for Pacific research lies.

Quantitative research is generally more efficient to conduct relative to qualitative research methodologies often employed in Pacific research. In essence, the

PIWBS quantifies many of the themes gathered from qualitative research, operationalizes Pacific models of health and provides researchers with a psychometric tool that is more relevant to the needs of Pacific communities. Whilst our Pacific methodologies allow for deep, contextual understandings of Pacific participants, the PIWBS allows us to extend those findings across a much larger sample. This is where the PIWBS provides the greatest strength to Pacific research. By drawing on the experiences, understandings and knowledge shared through Talanoa, we are able to model those experiences to see how they may or may not apply to a wider population.

A good example of how the PIWBS provides an alternative way to understand findings from Pacific methodologies and qualitative findings is the hierarchical model presented in chapter one. Pacific indigenization of Christianity has created intricate links between identity, religion and Pacific cultures. It has been understood as a way for cultural learning and maintenance (Tiatia, 1998), a place of belonging (Macpherson, 1996) and churches as the hubs of wider Pacific communities in NZ. The hierarchical model showed *how* the RCE factor, or the extent to which one felt that religion is part of the Pacific identity, was a bridging link between broader aspects of identity and wellbeing.

Other examples of how the PIWBS complements qualitative findings include the multi-ethnic study. Qualitative research generally showed that despite some feelings of exclusion or tension within families for multi-ethnic individuals, they were generally happy with who they were and their identity (Keddell, 2006). Theoretically, this should translate to similar wellbeing scores, with perhaps a small difference. This is what was found in chapter six. Although multi-ethnic individuals scored lower relative to their mono-ethnic peers, the overall score was still generally high.

Alternatively, findings made using the PIWBS could identify potential avenues for qualitative research. For example, there is one particular analysis that I have not presented in this thesis as I felt it was necessary to explore with more than quantitative analyses; it was beyond the scope of this thesis. The finding is a positive association between the RCE factor (the extent to which one feels that their religion is a central and embedded aspect of their Pacific culture and identity) and a measure of psychological distress, the Kessler (K6) scale (Kessler *et al.*, 2002). When controlling for multiple other identity, wellbeing and demographic factors, RCE was consistently associated with higher K6 scores¹. On the surface, it suggests that viewing one's religion as an integral part of one's cultural identity as a Pacific person is associated with greater anxiety and depressive symptoms. However, my cultural knowledge tells me there is a lot more to this story than this direct association. The talks I have had with other researchers about this finding usually ended with us agreeing that it is most likely other variables confounded with religious practices in Pacific churches that can explain this relationship. Unfortunately, I did not have the right data to test this theory and was not comfortable using the variables I did have as a proxy to do so. Furthermore, given the importance of religion and spirituality to Pacific communities throughout NZ, it would not have been appropriate to produce a study that did not give (what I consider) a thorough analysis of this particular finding. It would be more appropriate to conduct a mixed-methods study to understand the qualitative meanings that Pacific peoples have when engaging with religious practices within their churches, then test for potential underlying mechanisms that could explain the association that I found. When dealing with a topic that is sensitive to Pacific peoples,

¹ $\beta = .127$, $Post.SD = .044$, 95% CI [.040, .213], $p = .002$, controlling for gender, age, country of birth, household income, personal income, WBF, WBS, PCB, GME and CE.

it is imperative that the appropriate methodological approaches are employed. A quantitative analysis on its own would not have been appropriate.

Offered as a tool for Pacific researchers or those interested in working with Pacific peoples, the PIWBS is perhaps best viewed as a complementary tool to be used in conjunction with Pacific methodologies. A mixed-methods approach is by far the best way at obtaining both deep and broad understanding of whatever phenomena researchers are interested in understanding.

Contribution to Psychology

The research presented here provides a fresh contribution to wider psychological theories and research concerning subjective wellbeing, ethnic and cultural identity. In particular, this research provides valuable information on the psychology of Pacific peoples within NZ, introduces further indigenous Pacific perspectives into general psychological theory, and highlights cultural nuances that can be lost in more dominant theories informed via non-Pacific populations.

Psychological research with Pacific populations is growing in NZ. For example the Pacific Islands Families study has produced a large body of work including the effect of acculturation on infant health risks (Borrows, Williams, Schluter, Paterson & Helu, 2010), the effect of father involvement on child behaviours (Tautolo, Schluter & Paterson, 2015) and factors associated with depressive symptoms in children (Paterson, Iusitini & Taylor, 2014). Other research has explored the effect of ethnic identity on mental state talk employed by Pacific caregivers for young children (Taumoepeau, 2015). These studies highlight a growing body of quantitative research within psychology and related fields that address specific ethnic and cultural identity elements for Pacific peoples. Quantitative

research with Pacific peoples in general is lacking in comparison to the wealth of research using qualitative methodologies. However, the PIWBS provides another option that can further Pacific, quantitative, psychological research.

Western psychological theories are generally ethnocentric. Theories tend to be developed and tested in Western societies, by Western researchers and assumed to be assessing universal psychological constructs or processes. This can be understood via etic and emic approaches to research as theorized by Berry (1989). An etic approach utilizes an 'outsider' perspective where externally derived techniques outside of the culture being studied has the benefit of recognizing similarities and differences between the two cultures. In contrast, an emic approach utilizes 'insider' knowledge and has the benefit of understanding one's culture as a whole and understanding their everyday lives. This is not to mean that psychological theories do not apply to Pacific peoples. Many of them do. What it does mean is that psychological theories need to be understood within the context of the people that they are trying to understand. For example, in a project exploring Pacific mental health service delivery, participants viewed Western bio-medical understandings of mental health as stemming from illness, whilst Pacific models stemmed from wellness, and it was the wellness approach to understanding mental health that resonated well with Pacific consumers (Agnew *et al.*, 2004). Given that most psychological theories are developed outside of NZ and the Pacific, the question will always remain for how well they understand or can explain the psychology of Pacific peoples. What Agnew *et al.* (2004) highlight is the benefit that Pacific models have for Pacific peoples in the mental health sector.

Psychology is aware of the cultural biases within it as a discipline. For example studies looking at the cross-cultural validity of psychological measures are conducted to see if they are appropriate for different cultural and ethnic groups. Self-

esteem is a good example of this and shows how there are differences between more collectivist and individualistic cultures (Diener & Diener, 2009; Tafarodi & Swann, 1996). This highlights a need for measures, such as the PIWBS, that take into account the cultural worldviews of their population, rather than assessing how a tool developed within one cultural framework fits with another.

This research is also beneficial for psychology because of its explicit focus on Pacific peoples. Most psychological research that is inclusive of Pacific peoples, but conducted outside of NZ, has a different definition of Pacific. Research produced from the United States in particular often uses the terms API or Asian-Pacific Islander. The API category within America includes peoples from Japan, Korea, Philippines, Indonesia, Hawai'i and sometimes Samoa and Tonga. Whilst it is understandable that sample sizes collected may not be large enough to create a distinct Pacific category, the inclusion with Asian peoples is one that does not always fit within the Pacific or NZ contexts. In NZ and the Pacific, Asian and Pacific peoples are viewed as distinctive groups, and emphasis also put on the heterogeneity within each group. The major disadvantage of the API approach is that the information it provides researchers about Pacific peoples may not be an accurate reflection of this population, at least from the definition of Pacific peoples within the Pacific. By bringing Pacific peoples to the forefront, this research also attempts to better inform the wider field of psychology on who Pacific peoples are.

This research further reinforces the need for psychology to analyse findings with clarity about the cultural lens in which the researcher or the population of interest holds. By having tools developed with specific populations in mind, we can conduct research that is more culturally responsive to the needs of the communities of

which they need to serve. It is more beneficial in the long run to understand a community from their own perspective.

Potential Applications and Future Research Directions

As has been outlined from the beginning, the PIWBS is intended for use with those interested in Pacific research and I strongly encourage fellow Pacific researchers to utilize it in whatever means they feel necessary for their goals. As a psychometric tool, its theoretical underpinning has been heavily influenced by Pacific models of health, in particular the Fonofale model. As such, the PIWBS can be used as an additional methodological tool within a Pacific research framework. Examples of applications for the PIWBS have been given in studies two, four and five where it was used to predict behaviours (church attendance, travel), domain satisfaction (health, family) and physical health (diabetes). Understanding the psycho-social determinants of positive outcomes is an important application of the PIWBS for understanding, following and predicting outcomes for Pacific peoples as a whole.

Individual and clinical applications

Using the PIWBS within specific, individual contexts has been the topic of personal conversations I have had with clinical psychologists and other mental health professionals. One possibility is for the PIWBS to be used as a way for mental health professionals (Pacific and non-Pacific) to engage with Pacific clients. Pacific users of mental health services could complete the PIWBS and the information used as a guide of how Pacific clients feel about different facets of their ethnic identity and wellbeing. Likewise, the PIWBS could also be administered verbally. The factors and items could be used as a guide for conversations to establish rapport and also provide

information on how Pacific clients are engaging with their cultural background and identity.

Providing a service that is anchored by Pacific cultural values is beneficial. However, a treatment must be responsive to the cultural needs of an individual. For instance, adopting a Pacific model approach is often operating upon an adult, Island-born matrix that may not be suitable to the needs of younger, NZ-born Pacific individuals (Agnew *et al.*, 2004). The PIWBS on the other hand does not assume that all Pacific individuals share the same values to the same extent. Rather, when used with an individual, it can identify areas in which individuals score higher or lower and inform professionals of how much weight to give various Pacific values incorporated into a treatment. For example, the information gained from client responses could be used to inform a treatment based on Acceptance and Commitment Therapy (ACT: Hayes, Storsahl, & Wilson, 1999). ACT stresses the importance of an individual's values and assumes that wellbeing is negatively impacted when one does not live by them. Scores on the various PIWBS factors can give an indication of the different values they have regarding their ethnic and cultural identity (for instance religiosity or cultural efficacy) and thus provide information on how to develop a successful treatment plan.

Longitudinal research

The PIWBS provides a unique opportunity to conduct large-scale research addressing the identity and wellbeing of Pacific peoples. Before the PIWBS was developed, research in this area was limited and generally employed qualitative methodologies. In contrast, research concerning the health of Pacific peoples has shown incredible growth over the past two decades and has provided researchers with

a large pool of research, of which a consistent theme has been to recognize the role of ethnic and cultural identity within the health setting. The PIWBS provides a tool that may contribute greatly to this area. The area of focus in which to apply the PIWBS is really up to whatever direction a researcher would like to take.

Perhaps the most obvious road to take with the development of the PIWBS is a longitudinal study. One longitudinal study that explicitly focuses on Pacific peoples is the Pacific Islands Family study (PIF). PIF is a cohort study that has been following families that had a child in Middlemore hospital in the year 2000. The project has offered a unique glimpse into the lifespan development of Pacific children, their parents and family structures. As mentioned earlier, PIF shown interesting findings concerning parental behaviours, the effects of acculturation and the effects of behaviours on health outcomes. A longitudinal study is the best way to provide robust evidence for causality and to identify what factors are predicting positive outcomes for Pacific peoples.

Health outcomes over time

As highlighted in chapters 3 and 5, there is a link between facets of Pacific identity and physical health. Chapter 3 showed facets of identity were positively and negatively associated with satisfaction with health. Furthermore, societal wellbeing and Pacific Connectedness and Belonging were associated with a decreased likelihood of being diagnosed with diabetes. In addition, chapter five showed that GME was a protected health satisfaction against the negative effects of perceived discrimination. The role of ethnic and cultural identity in physical health is a growing area of health research (Haslam *et al.*, 2009). However, models analysing underlying mechanisms of how ethnic identity is related to physical health outcomes for Pacific peoples are needed. Evidence presented in this thesis supports that ethnic identity is

associated with health satisfaction, however it is not known if changes in ethnic identity over time are related to changes in health satisfaction or health outcomes. If this is the case, then it would provide perhaps some of the most robust evidence that ethnic identity is a protective factor for Pacific peoples' health.

Changes in identity and wellbeing

The relationship between Pacific ethnic identity and psychological wellbeing is also something that needs to be further explored. More specifically, a longitudinal study would allow us to model if ethnic identity is changing, and if the rate of change in facets of ethnic identity predicts the rate of change in psychological wellbeing.

Intra-Group Differences

Another area of research to be explored is with different groupings of Pacific peoples. Focusing on the Pacific group more broadly has disadvantages in that it can hide nuances within the data. In Study Three I highlighted important demographic details to take into consideration when conducting research with the PIWBS at a broader level. These can also serve as areas of research under a broad Pacific research spectrum.

Multi-ethnic identities

Study Four highlighted the incredible complexity involved in multi-ethnic research. As the proportion of Pacific peoples that identify with multiple ethnicities is grows, research in this area needs to grow with it. The blending of cultures is good for diversity, however it also changes the way people identify and engage with their culture and challenges our understanding of it as psychologists. This is problematic for research that often adopts a mono-ethnic approach to understanding ethnic identity. The PIWBS could offer some insight into aspects of Pacific identity in multi-

ethnic Pacific peoples. Given the growing proportion of multiethnic individuals, this should be a priority for researchers.

Nativity

Another Pacific demographic that requires attention is potential differences between Pacific peoples born in NZ and those born in the Pacific. Chapter 5 showed a difference in health satisfaction between those born in NZ and those born overseas. This could potentially reflect the immigrant paradox, where Pacific peoples that move to NZ exhibit better outcomes relative to their peers that were NZ-born. Another aspect that needs to be taken into consideration is potential changes in identity and wellbeing over time for those that have relocated to NZ.

Ethnic-specific research

As shown in Chapter three, the PIWBS could be used with specific ethnic groups. For example, one could study the relationships between Cultural Efficacy and Perceived Societal Wellbeing for Tongans in NZ. Furthermore, a broader study of Pacific peoples could see if there are differences between groups in the rate of change of ethnic identity and wellbeing. For instance, chapter three showed that there were differences in the RCE factor between Niuean, Cook Island and Samoan groups. Understanding these unique differences can allow us to develop more ethnic specific programmes that keep these subtle differences in mind.

International development

Finally, it would be interesting to see how the PIWBS works with Pacific populations outside of NZ. It was developed specifically within the NZ context, and as such one of the factors is specifically tailored towards satisfaction with NZ society. However, the other domains in the model should still be relevant in countries where

there are also significant Pacific communities such as Australia and America. Pacific peoples in Western countries are clearly ethnic minorities, so domains such as GME and PCB may hold more relevance. This is because ethnic identity becomes more salient in ethnically diverse environments (Phinney, 1990). In Pacific Nations where Pacific peoples are the clear majority, the broader domains of identity and wellbeing as assessed by the PIWBS would be relevant. However, there may be specific and unique aspects of collective identity in some Pacific Nations but not in others. For example, Cook Islands peoples tend to define their selves in relation to the specific island they are from, some of which have their own unique cultural nuances and language dialects. Tongan society is hierarchically stratified both socially with the presence of royalty and nobility, and within families with unique social structures that give power to certain positions within families. Niue on the other hand is a small, single island with a small population and as such, identity may be more influenced in terms of family connections and village affiliations. The PIWBS could perhaps serve as a springboard for more specific measures of identity tailored and translated to the unique cultures languages of each Pacific Nation.

Strengths and Limitations

The limitations of each study have been discussed within their respective chapters, however I will briefly revisit them here. The first major limitation is that the data for the PIWBS studies was collected using a snowball sampling method. Participants that completed the survey were asked to invite their peers to participate in the research also. While this had the benefit and convenience of gathering a large sample size, this also means that the generalizability of the results is questionable. Despite this, chapters four and five provide comparative studies showing the same

pattern of results using data from the NZAVS, a nationally representative probability sample. Replicating findings in separate datasets provides strengthens the findings made with the PIWBS and also provides evidence for convergent validity with similar identity measures.

The cross-sectional design of the studies and analyses in chapters two, four and five limit the arguments that can be made for causal inferences. As such, the findings only provide information about the associations between the variables at one point in time. The patterns of results mirror those of other studies and suggest that Pacific ethnic identity may have causal relationship with wellbeing outcomes, however longitudinal data is needed to test this relationship.

The data used for these studies were collected in 2012, and used Wave 4 of the NZAVS data, which was also collected around the same time. As such, the findings presented here should be interpreted with this timing in mind. Whilst I have presented various analyses showing the relationships and associations between variables, the way that the individuals may identify or feel about themselves may have changed over the last four years. This may be especially relevant for the younger participants in the sample that may be transitioning into different stages in their lives such as leaving the parental home, starting their own families and entering the work force. These significant events may influence their familial satisfaction and satisfaction with NZ society, or they may have developed a more secure sense of identity. However, if there are changes to identity and wellbeing that have occurred over time, these would most likely be very slow and gradual.

It is assumed that English language proficiency is at an adequate level to engage and respond to the items of the PIWBS in a meaningful way. This means that

there is potential for participants to not be able to engage in research using the scale if English is problematic. The PIWBS was intentionally developed in English because the meanings of items could potential be lost in translation, experts of each language are needed to ensure appropriate translations, and my own limitations in Pacific languages. Ideally, a tool for Pacific research should not have the capacity to exclude the people it was designed for. To address this issue, further research could look at appropriate translations for the PIWBS.

Despite these limitations, a key strength of the research presented here is that this is the largest study of its kind. As far as I am aware, never before has there been a social psychological study that focuses explicitly on Pacific peoples, utilizing tools developed specifically for Pacific peoples.

Implications of the PIWBS as a research tool

Earlier, I discussed the contribution of the PIWBS to Pacific research. However, there is a wider implication that a tool such as this has in terms of what Pacific research is.

Pacific cultures have deep roots in their oratory nature. As such, the Pacific way of sharing knowledge is spoken rather than written. This is reflected in the methodologies that many Pacific researchers choose to employ to investigate their research questions. Qualitative methodologies such as Talanoa, focus groups, semi-structured interviews allow researchers to bring Pacific values within their research. These values include respect, reciprocity, humility, service, love and spirituality.

From my own perspective, Pacific research is any that is informed by Pacific values of respect, service, and reciprocity. It must benefit Pacific communities, value Pacific worldviews and belief systems. In terms of those involved, Pacific research

must entail the active involvement of Pacific peoples as either participants, advisors, collaborators, researchers, or stakeholders. Pacific research is beyond including Pacific peoples as participants with no further involvement in the research and knowledge production process. The position I hold is similar to those outlined in Pacific education research guidelines (Anae, Coxon, Mara, Wendt-Samu & Finau, 2001), Pacific health research guidelines suggested by the Health Research Council (HRC, 2005) and Pacific research protocols outlined by Otago University (Bennett *et al.*, 2013).

The PIWBS adds new scope to the landscape of Pacific research. However, questions must be answered in how it fits within Pacific research. As a research tool, it does not seem to prescribe the values of respect, reciprocity, humility, service, love and spirituality in the way that can be achieved with a qualitative method of data collection. It is simply a tool that seeks to quantify these values in their relation to identification as a Pacific person. In a sense, this places it firmly in the realm of a Western methodological tool to be used with Pacific populations. However, values are put into its use by the researcher that is using it. It is not enough to simply administer the tool to a sample and analyse the data. There needs to be consultation with the Pacific community and key stakeholders; data needs to be collected with the intention of benefiting the communities that the researcher is working with; findings need to be interpreted with reference to cultural influences; findings need to be given back and shared with the communities; those that take part in the research need to be treated with respect and valued for their input.

However, a more fundamental question that needs to be asked of the PIWBS: how suitable is the PIWBS for Pacific peoples? I have argued that the PIWBS is appropriate in regards to the values that inform its theoretical basis, and its invariance

across Pacific groups. However, it is not tool that fits well within oral traditions. The PIWBS can be delivered verbally, however it is most likely to be delivered either electronically or on pen and paper for individuals to complete on their own.

One major concern I have about the PIWBS is that establishing it as a Pacific research tool for quantitative methodologies could take away from other Pacific methodologies. Talanoa is a valuable and powerful way to engage with Pacific participants, however it is marginalized in the broader scope of Western methodologies. My fear is that the PIWBS, which sits very well within a Western framework, could further relegate our Pacific methodologies to the sidelines within Western research institutions because it integrates our knowledge into a more mainstream or dominant quantitative approach to research. Our Pacific research pioneers have fought hard to have Pacific worldviews, values and beliefs brought to the forefront. Although I view the PIWBS as a way to bridge the gap between Pacific and Western or quantitative and qualitative methodologies, I do not want non-Pacific researchers to view the PIWBS as way of satisfying a tokenistic or minimalistic way of justifying their research as culturally safe or culturally appropriate when working with Pacific participants. The principle of Pacific research is that which embodies the values of respect, reciprocity, spirituality, humility, community and love. Perhaps it is my own cynical view of how Western research institutions view Pacific research methodologies that has led me to this position, but it is one that I hold strongly. I do not want to discourage non-Pacific researchers (or Pacific for that matter) from using the PIWBS, but I do encourage them to bear in mind the values and principles that are embedded into it, and inform how it should be used.

A move towards Pacific psychologies

The concerns I raise above stem from the struggles I faced navigating different schools of thought between Pacific and psychological research, and how I could go about resolving the tensions I felt between the two. It is important to be able to position this research within these fields of study and to also position myself as a researcher. To overcome this tension, it was necessary to not only navigate different worlds, but to also claim ownership of the space that they shared.

Pacific research guidelines mentioned above can be readily applied to psychological research with Pacific peoples. Furthermore, the Pacific models of health and wellbeing (Fonofale, Fonua, Te Vaka Atafaga), and various research frameworks (Kakala, Tivaevae, Falefaatui) offer culturally appropriate guides to conducting research within psychology. They are guided by cultural values that underpin the everyday lives of Pacific peoples. The research presented in this thesis has been guided by these models, in addition to my own cultural values, in the sense that they have offered an appropriate lens to interpret the findings. This lens goes beyond psychological theory, and integrates Pacific realities to provide a deeper understanding of the relationships between the psychological constructs that have been assessed here.

Our own research, thoughts and worldviews are uniquely Pacific. They offer us a shared view, shared histories, and shared understandings that can inform values, behaviours, attitudes and ideologies. These worldviews may not be typically understood as psychology as both a field of study and as the mental characteristics of a population. This is evident in the wide array of research that has been conducted outside of psychology. Education, public health, developmental studies, political

studies, sociology, anthropology and Pacific studies all offer a wealth of knowledge on the experiences, perceptions and outcomes of Pacific peoples in various contexts. The inter-related nature of these research areas parallels the commonalities between the various groups of the Pacific. The unique perspectives each discipline brings to research parallels the unique histories and values within each Pacific group. Together they highlight a common thread within Pacific oriented research in NZ; acknowledgement of similarities and heterogeneity of Pacific peoples and cultures.

This brings me to my thoughts on what that I think could propel Pacific psychological research – a shared understanding of ‘Pacific psychologies’. This is not an original concept, but rather me adapting what I have learnt from indigenous psychologies. It is important to note that these are my thoughts on what Pacific psychologies could potentially look like. To fully develop and establish Pacific psychologies would require wide and detailed consultation with relevant experts across all areas of psychology and psychology-related fields. This consultation would also need to be as representative of our Pacific communities as possible. It would also need to be flexible, constantly revisited and re-negotiated to ensure that it is meeting the changing needs of its diverse population. The idea has been proposed before and work towards it has been slowly progressing. A national symposium on Māori and Pacific psychologies made a call to claim space within psychology as a discipline, bringing Māori and Pacific worldviews central rather than relegated to the margins (Levy, Nikora, Waitoki, Rua, & Masters-Awatere, 2008). This has progressed well for Māori research, and is still growing for Pacific.

The term ‘Pacific psychologies’ is intentionally plural. It is to represent the diversity of the Pacific populations and the diversity needed in a psychological approach for Pacific populations. Pacific psychologies is a broad, overarching,

umbrella term that encompasses the different approaches that could exist underneath it, and that can readily explain the lives and experiences of Pacific peoples in a culturally sensitive and safe way. The life of Pacific peoples navigating different social and cultural contexts is a useful way to illustrate this. In one instance, Pacific peoples engage in their respective communities. This could be Tongan, Samoan, Niuean or any other Pacific group. Each group has their own worldviews, cultural practices, languages and values. In another instance is Pacific individuals engaging with other Pacific groups. This is where the similarities and differences between Pacific groups are realized and understood. For example, Tahitian and Cook Island individuals may share in their understanding of the differences between their cultures, and also share in their understanding of the similarities between them. They may also share in their thoughts that they are more similar to each other relative to other non-Pacific individuals. There are also the experiences of Pacific peoples engaging with broader NZ society. This is where cultural differences can become more apparent, and experiences engaging with NZ society can be met with some tensions. However this does not mean that Pacific peoples are unable to find success in this world. Finally, there are peoples that embody those experiences through their multiple ethnic heritages. Some identify with only one Pacific group, others with multiple Pacific groups, and others with both Pacific and non-Pacific groups. The experiences that Pacific peoples have with different social contexts represent different approaches to psychology, whilst the differences in ethnic affiliations of Pacific peoples represent how those different social contexts can overlap.

I imagine Pacific psychologies to encompass three broad approaches. In no particular order, one approach would involve applying psychological knowledge to understand the experiences, attitudes, lived experiences and issues facing Pacific

populations in NZ. This approach has been prevalent in the majority of Pacific psychological and psychology related research thus far. Although it may be limited in honouring distinct cultural nuances, general psychological theory, research and practices should be applied where they will be beneficial. This broader, more general approach to understanding Pacific peoples through psychology will allow us to track populations to ensure that progress is being made towards achieving parity in positive psychological outcomes. It will also allow us to see if general psychology is progressing in a way that can account for cross-cultural variation.

Another approach would entail the growth, development and application of Samoan, Cook Island, Tongan, Fijian, Niuean and many other ethnic specific approaches to psychology. To use the Cook Islands as an example, this would entail developing and growing a Cook Island specific psychology to understand and address uniquely Cook Island issues. Specific ethnic approaches to psychology are necessary to bring indigenous knowledges more central to general psychology. Dominant psychological theories and frameworks are developed in cultures and societies that are different from those of Pacific peoples, and may not be entirely suitable for furthering our understanding of psychological issues concerning Pacific populations. Bringing indigenous knowledge to the forefront of addressing issues that affect indigenous peoples not only empowers communities to develop and employ strategies that work for them, but also encourages psychology as a discipline to be more aware, responsive and sensitive to issues that affect minority groups, and how its own theories and practices could benefit or hinder Pacific progress.

The final approach would involve developing a psychology that can further knowledge of the shared understandings and intersections of multiple Pacific groups, what I call Multi-Pacific psychology. This would be based on core values common

across Pacific cultures and allow understanding of the inter- and intra-cultural variation within and between Pacific groups, and perhaps shed light on the differences between Pacific and non-Pacific groups, similar to a Cross-Cultural psychology approach. I shy away from the “Pan-Pacific Psychology” term as I feel that can encourage homogenisation, and instead use Multi-Pacific to encourage understanding of heterogeneity and the multiple realities of Pacific and multi-ethnic Pacific peoples, despite many shared values. Therefore, Multi-Pacific psychology is similar to general psychology’s approach in seeking universal understandings of Pacific populations, however careful consideration must always be in place to ensure the heterogeneity of Pacific cultures is always acknowledged. In the NZ context, a Multi-Pacific approach can be a strategic advantage, particularly with quantitative research. Representation of all Pacific populations is ideal, however this is not always possible. In this instance, a broader approach could help understand general underlying psychological mechanisms that can allow for more fine-grained analysis with specific groups that are less well represented in larger datasets. Core Pacific values would underpin a broader Multi-Pacific approach to psychological research.

The approaches to Pacific psychologies identified above are not mutually exclusive, but rather distinct areas of research that can overlap. It is important to highlight the different approaches at their extreme ends, but also to allow for flexibility in the spaces between. This allows for researchers to choose the best methodologies, theories and approaches necessary to meet the needs of the populations they are working with. The PIWBS is an excellent example of research that can emerge from areas where different knowledges can overlap; something that integrates the best of multiple knowledges to provide a new direction for Pacific psychological research, and to keep up with the ever-changing Pacific populations.

An illustration of how Pacific psychologies can look is presented in Figure. 12 below. Each circle represents a different school of psychological thought:

- **Western Psychology:** applying Western psychological theory and practice to Pacific peoples
- **Cross-Cultural and Multi-Pacific Psychologies:** Understanding cultural invariance between Pacific and non-Pacific groups, and also within Pacific groups.
- **Indigenous and Cultural Psychologies:** Utilising indigenous knowledge to understand and address issues of specific Pacific groups.

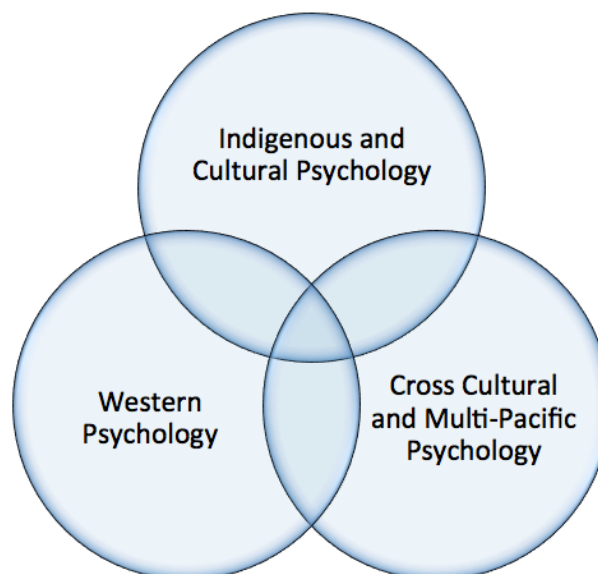


Figure 12. Intersections between different areas of Pacific psychologies

The circles should be viewed with permeable borders where the knowledge generated within each school can inform knowledge in the others. Likewise, research can integrate knowledge from a combination of different schools where appropriate and necessary.

The research presented in this thesis sits at the intersection of all three circles. The theoretical foundation underlying the PIWBS is based on an integration of Pacific perspectives of the how the self is defined (Indigenous Psychologies and Multi-Pacific psychologies) and Western understandings of psychological ethnic identity and wellbeing, together with measurement theory (Western psychology). Thus, the PIWBS is an integration of indigenous and Western knowledge and methodologies that can be used specifically for Pacific peoples in the NZ context, and can be used to conduct intra-cultural research between Pacific groups.

Another example of how Pacific psychologies can be used is a Western approach assessing the use of cognitive-behavioural therapy (CBT) in treating depression with Pacific clients. An indigenous approach may seek to understand Samoan perspectives and understandings of depression. A combination of both Western *and* indigenous psychologies could seek to adapt and use CBT principles in a way that is culturally relevant for Samoans. For example, it has been suggested that providing Pacific clients with achievable tasks to complete as part of their family could help build confidence and a sense of achievement (Te Pou, 2010). By integrating knowledge from different schools of thought, it is possible to create new directions that better reflect the contemporary realities of Pacific peoples in NZ.

My thoughts on Pacific psychologies are not to suggest that Pacific and ethnic specific approaches do not currently exist. This entire thesis has drawn on the wealth of Pacific and specific research out there already. Ethnic specific approaches to research have been conducted exploring teenage pregnancy for young Tongan mothers (Taufa, 2014) and Samoan bereavement experiences (Seiuli, 2015). Instead, this is another call for psychology to have Pacific perspectives and approaches formally recognized within our discipline. It is also an addition to the research

frameworks and methodologies that are developed in order to accommodate and understand Pacific individuals, families, communities and populations.

Using indigenous knowledge, frameworks and methodologies to understand the psychologies of indigenous populations is very strong in NZ. Smith's (1999) 'Decolonising Methodologies' offers a strong critique of Western knowledge systems and how they marginalise indigenous peoples and indigenous knowledge. Critically, Smith explains how it is necessary to re-claim space, allowing indigenous knowledge to grow. Using Kaupapa Māori research as an example, Smith shows how Te Ao Māori (the Māori world) values are central to this approach and how Māori values can both guide and make research culturally safe and beneficial to Māori.

The growing and continued success of Kaupapa Māori psychology and research frameworks highlights the success that can occur when Pacific worldviews are valued. Kaupapa Māori research offers strength to the growing world of Pacific psychologies, however there are some challenges that need to be addressed. Firstly, there is no single approach, framework, model or methodology that can fully capture the diverse understandings of Pacific peoples. As such, Pacific psychologies needs to be diverse to allow knowledge to flourish and be articulated in a way that is necessary for the communities from which it emerges. Secondly, there will always be tension between conducting research concerning Pacific peoples more broadly and research with specific Pacific groups. Whilst research at the wider Pacific group level has its benefits, there will always be a question of how this may apply in specific cultural contexts. Furthermore, the tension between broad and specific Pacific research is confounded by the growing proportion of Pacific peoples that identify with multiple ethnic groups. Pacific psychologies needs to be responsive to the growing complexities and diversity within its communities. The picture of Pacific

IV. DISCUSSION

psychologies presented above is one attempt at unifying different approaches to understand the diverse realities of Pacific peoples.

Final Comments

Now that we at the end of this thesis, I am able to Talanoa again and would like to end on a personal note. At the beginning of this thesis, I shared with you a bit about myself (once again, you as the reader are unable to share back with me through this one-way conversation). Now it is time to admit that my sharing about who I am was more than me sharing the cultural lens through which I approached this research. It was also an attempt to show how Pacific research is embodied by Pacific peoples. I am both Cook Island and European. I guess you can call that an integration of different cultural worlds, which is exactly what the PIWBS is.

As a multi-ethnic Pacific person, it can often be difficult navigating different cultural and social contexts. It is more salient in some situations than others and I am consistently reminded of my dual heritage when I see that I am fairer than some, yet browner than others. My own journey with my ethnic identity has allowed me to develop and understand how the PIWBS fits within both Pacific and psychological fields of study. Where once I thought it would be better to try and straddle both worlds at the same time, I found it was more beneficial to integrate the best of both.

I am a Pacific psychological researcher. Despite my scientific inclinations, I remain unapologetically subjective in my interpretations of statistical findings. I often face questions by fellow Pacific researchers on how the PIWBS can match up to the level of detailed understandings that can be gained through qualitative research. I can now say that when you understand the stories of our people, you understand the stories their statistics tell, and it is us that should be the ones to tell the statistical stories of our people.

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