New Zealanders' Attitudes towards Biculturalism in Aotearoa New Zealand

By

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Abstract

New Zealand's aspiration to be a bicultural nation, has yet to be realised. Māori continue to experience discrimination across all life domains. Research published in 2004, reported New Zealanders as being more supportive of symbolic than resource-based biculturalism. However, socio-political changes, the absence of research examining New Zealanders' Treaty knowledge, and implicit racial biases towards Māori, suggest an update of this work is needed. Across two studies, this research aimed to investigate New Zealanders' attitudes towards biculturalism in Aotearoa New Zealand. In Study 1, New Zealand born undergraduates ($N = 56$), completed the Implicit Association Test, a Pākehā Attitudes Towards Biculturalism Scale, a Treaty of Waitangi knowledge scale and estimated their declared Treaty of Waitangi knowledge. Study 2 was designed to replicate Study 1, and address limitations with a larger, more representative sample ($N= 100$). The Dunning-Kruger effect was also a specific focus. Across both studies, New Zealanders were more supportive of symbolic rather than resource-based biculturalism and showed an implicit racial bias towards Māori. In Study 2, we revealed new empirical evidence for the Dunning-Kruger effect: when estimating their knowledge relative to peers: lower performers over-estimated their knowledge whereas higher performers under-estimated their knowledge. Our results highlight that New Zealanders' attitudes towards biculturalism have remained relatively unchanged since Sibley and Liu's (2004) work, and raise concern for the aspirations of New Zealand as a bicultural nation. Implications and future research directions are discussed.

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New Zealand is a formally bicultural nation. So, in theory, Māori (indigenous peoples) and Pākehā (New Zealanders of European descent) are equal partners (Kirkwood et al., 2005). Although these protections are enshrined under the 1840 Treaty of Waitangi, (Orange, 2004; Durie, 1998), Māori experience inequity across all socio-economic factors (Houkamau et al., 2017). To address historical injustices encountered by Māori, bicultural policies have been implemented, influencing the distribution of resources to Māori (Sibley & Liu, 2004; Sibley et al., 2005). New Zealanders support symbolic biculturalism e.g., the notion of cultural equality, more than they support bicultural resource allocation e.g. equal resource distribution (Sibley & Liu, 2004, 2007; Sibley et al., 2005; Kirkwood et al., 2005; Sibley et al., 2006; Jackson & Fischer, 2007). As a nation, we acknowledge the symbolic contribution of indigenous peoples, yet are reluctant to admit material reparation (Sibley et al., 2011).

This divergence in attitudes towards biculturalism, can provide insight into the nature of prejudice, and additionally, the way implicit and explicit biases are manifested. Explicit racial biases are deliberate thoughts and feelings about out-group members and can be expressed via self-report (Greenwald & Banaji, 1995; 1998). Implicit racial biases are beliefs or reactions to members of stereotyped groups (e.g. Greenwald et al., 1998), activated involuntarily and often outside of control (Blair, 2002; Rudman, 2004a). In New Zealand, the backdrop of British colonisation, negative media portrayal of Māori, conflicting worldviews, and socio-economic disparities between Māori and Pākehā perpetuate implicit racial biases towards Māori (Houkamau, 2016; Houkamau et al., 2017; Ward & Liu, 2011; Barton, 2018). Implicit and explicit biases are distinct, with small to moderate correlations observed between the two, and influenced by different factors (Greenwald et al., 1998). Therefore, it is

important to consider both forms of biases in the context of New Zealanders' attitudes towards biculturalism.

The present study contributes to gaining a better understanding of New Zealanders' attitudes towards Biculturalism and the Treaty of Waitangi in Aotearoa New Zealand. Complementing the work in this area (Sibley & Liu, 2004; Sibley et al., 2006; Sibley & Liu, 2005; Sibley & Liu, 2007; Kirkwood et al., 2005) new questions are raised regarding New Zealanders' declared versus explicit knowledge of the Treaty, and their implicit racial biases. Theoretically and practically, these are important issues to address. Theoretically, we will consider attitudes towards biculturalism in the context of the Integrated Threat theory (ITT; Stephan & Stephan, 2000). The ITT makes a distinction between realistic and symbolic threats. Resource allocation can be viewed as a realistic threat, whereas symbolic biculturalism can be viewed as a symbolic threat. Practically, the way biculturalism and the Treaty of Waitangi are presented and communicated, have important implications for intergroup relations between Māori and all New Zealanders (Jackson & Fischer, 2007). But, first, an understanding of the Treaty of Waitangi and historical events which have shaped New Zealand's racial climate, are useful.

Colonization and The Treaty of Waitangi

Approximately 800-1,000 years ago, Māori arrived in Aotearoa New Zealand from Polynesia (Orange, 2004). Māori developed a unique social structure of whānau (extended, intergenerational families), hāpu (sub-tribes), and iwi (tribes) (Walker, 1990; Ward & Liu, 2011). European settlers arrived from 1600. Initial interactions between Māori and settlers were harmonious. However, with increased British settlement assisted by the New Zealand Company, uneven firearm distribution, the threat of French colonisation, inter-tribal warfare and disease, a formal recognition of the relationship between Māori and the British Crown was needed (Orange, 2004; 2015; Ward & Liu, 2011).

Prior to the Treaty, Official British Resident, James Busby believed a Declaration of Independence would provide a solution to on-going conflict and chaos. In 1835, 34 rangatira (chiefs) from Northland, signed the Declaration of Independence. This established New Zealand as an independent nation and aimed to protect Māori rights. However, the declaration carried little weight. In turn, a Treaty would enable the Crown to formally acquire sovereignty and force the New Zealand Company to conform to British law and order (Thomas & Veno, 1996).

In 1840, more than 544 Māori rangatira (but not all), and British Crown representatives, signed the Treaty of Waitangi at Waitangi. Te Wherowhero of Waikato, Tāraia Ngākuti, and Hōne Heke, were among those chiefs who refused to sign (Orange, 2015). The Treaty contained three articles and was translated into English and Māori. Article one ceded sovereignty of land from Māori chiefs to the British Crown. Article two, guaranteed Māori full and undisturbed possessions of their land and treasured possessions. The Crown was also able to purchase land. Article three promised Māori royal protection and full citizenship (tikanga) (Orange, 2004; 2015; Ward & Liu, 2012).

However, translation issues arose (Orange, 2004; 2015). In the first article, 'kawanatanga' was selected for the word 'sovereignty'. Kawanatanga means 'governance' or 'governorship'. It does not convey the complexities of sovereign power and authority. For article two, 'rangatiratanga' was used for the translation of 'possession', which suggested chiefs would retain more authority and power than was likely in a British colony or intended in New Zealand. The exclusive right of the Crown in land transactions was also not articulated to Māori. Article three was accurately translated. Ultimately, each party was left with ambiguous expectations about the power they would exercise

The decades following the treaty, were marked by demographic, social, and political devastation for Māori (Orange, 2015). Wars and disease from European migration depleted a

Māori population from 80,000 in 1840 to 46,000 by 1901 (Orange, 2012). As Māori experienced abject deprivation of lands, livelihood, culture and language, New Zealand was transformed into a Pākehā-dominated society (Ward & Liu, 2011). For example, 99.9% of Ngāi Tahu tribal territory was in Crown possession by 1863 (Reid et al., 2017). In 1877 Chief Judge Prendergast declared in the *Wi Parata v The Bishop of Wellington* [1877] Supreme Court case, that the Treaty was a "simple nullity", and Māori were "savages" and "primitive barbarians". His view that Māori had no sovereignty to cede set a precedent, whereby large amounts of Māori land were alienated. Placed in a historical context, Predergast's views represented the widespread perception of Māori (Hill, 2010; Morris, 2004).

Until the 1960s, the practices of successive Pākehā governments were marked by paternalism and prejudice (Thomas & Veno, 1996). With regard to the integration of Māori, assimilation was the dominant policy. Monolingual and mono-cultural practices were a manifestation of this (Hill, 2010). For example, the 1867 Native Schooling system, required teaching in English, depriving Māori of development and employment (Simon & Smith, 2001). Likewise, the virtues of assimilation were illustrated in Hunn's 1961 report on the Department of Māori Affairs (Hayward, 2012; Booth & Hunn, 1962). Consequently, Māori were encouraged to move from rural areas into towns and cities (Hill, 2010). Assimilation appeared to be the only viable path towards survival.

Activism from young Māori, rural leadership, and anti-racist Pākehā gathered traction in the 1960s and 1970s. This brought about the Māori Cultural Renaissance (Walker, 1990; Kelsey, 2015). The 1975 Māori hīkoi (march) against Māori land loss (Orange, 2015), and the Treaty of Waitangi Act 1975 (later amended in 1985) which established the Waitangi Tribunal to redress historical Crown breaches (Bromell, 2009; Levine, 2006; Rata, 2004), were pivotal to this movement. The formation of Ngā Tamatoa (the young warriors) to promote Te Reo Māori and racial politics (Ministry for Culture and Heritage, 2020), as well

as the 1977 Bastion Point occupation (King 2003; Sibley et al., 2011), also highlighted Māori land, economic, cultural and language loss (Ministry for Culture and Heritage, 2015). Strategically, activists used contemporary issues e.g., the Vietnam War, as a leverage to reinvigorate the Treaty principles. Cumulatively, these vocal claims to justice and self-determination, would give rise to biculturalism (Bennett & Liu, 2018).

An upshot of activism was the transformation of the way New Zealanders viewed biculturalism. To illustrate this, Sibley and Liu (2004) investigated New Zealanders' attitudes towards biculturalism. Their findings indicated that New Zealanders supported symbolic, but not bicultural resource allocation. Support for symbolic biculturalism was also correlated with how much respondents reported they knew about the Treaty of Waitangi (declared Treaty knowledge). New Zealanders' ratings of the importance and relevance of the Treaty of Waitangi are also strongly related to symbolic biculturalism support (Liu et al., 2014; Study 3).

However, considering the above-mentioned societal changes, combined with initiatives that have raised the consciousness of the Treaty e.g., anti-racism campaigns (Brown, 2020), and Treaty of Waitangi education (Collins, 2021), we are optimistic New Zealanders' perspectives towards biculturalism have changed. In this manner, the way people understand the Treaty of Waitangi is crucial for addressing contemporary inequalities (Sibley & Liu, 2004; Bell, 2006). Therefore, in the current study we intend to provide a renewed understanding of New Zealanders' attitudes towards symbolic and resource-based biculturalism, and how these relate to their declared and explicit Treaty of Waitangi knowledge.

Continuing Discrimination, Inequalities, and Impacts of Colonisation

New Zealand's bicultural approach has delivered some successes; however, equal rights have not guaranteed equal outcomes. The negative impacts of colonization are still

evident. Māori remain disadvantaged across education, unemployment, income, health and criminal justice domains (Ministry of Health, 2019; Department of Corrections, 2020; Cormack et al., 2020). These litanies of negatives are comprehensive for indigenous peoples from the Anglosphere, (New Zealand, Australia, the United States and Canada), to the Iberian (Brazil, Argentina, Chile) (Cornell & Hartmann, 2006; Kukutai, 2010; Stidsen, 2006; Stephens et al., 2006; Reid et al., 2019). In this regard, New Zealand mirrors other post-colonial nations where indigenous peoples remain systemically disadvantaged.

Literature suggests discrimination and racism towards Māori are a normalised part of New Zealand society. Māori report these experiences across health (Came, 2014; Berghan al., 2017; Harris et al., 2006; Harris et al., 2012; Barnes et al., 2013; Ministry of Health, 2019), criminal (Department of Corrections, 2007; Stanley & Mihaere, 2019; Māori Television, 2015), justice (Brittain & Tuffin, 2017; McIntosh & Workman; 2017), media (Barnes et al., 2012; Maydell et al., 2021), education (Bishop et al., 2009) and public domains. Research indicates 1 in 4 Māori experience discrimination (Ministry of Social Development, 2016). Houkamau and colleagues' (2017) large scale study of 1790 Māori, estimated that as many as 43% of Māori experience discrimination. Discrimination is linked to a host of negative physical and mental health outcomes (Paradies et al., 2015; Houkamau, 2016).

As well as detrimental physical and mental health outcomes, discrimination assaults Māori mana (dignity), wairua (spirit), mauri (life-force) and whakapapa (genealogy) (Goza, 2019). Farrelly and researchers (2006) argue that the repercussions of colonisation can manifest itself in profound sadness/pain (mamae). Lawson-Te Aho and Liu (2010) argue mamae is evident in high Māori suicidal rates.

Discrimination towards Māori is complex, as the contemporary Māori identity is diverse. It is dependent on whether Māori are of mixed (i.e. of Māori and European/Pākehā descent) or solely Māori heritage (have two Māori parents) (Houkamau et al., 2017). For

instance, 50% of Māori also identify as New Zealand European (Kukutai, 2010). Māori encompass 16.7% of the total population (Statistics New Zealand, 2020). Interestingly, the perception of being New Zealand European, has been linked to less discrimination, and positive physical and mental outcomes (Harris et al., 2012). Yet, individuals of Māori descent who do not culturally affiliate with being Māori, were at greater social and economic disadvantage, than those who solely affiliated as Māori (Muriwai et al., 2015). On this note, it is important to understand New Zealanders' attitudes towards biculturalism to better understand how discrimination arises.

Biculturalism

The Māori Cultural Renaissance led to a renewed emphasis on biculturalism, based on the partnership established by the Treaty of Waitangi (Hayward, 2012). In New Zealand, biculturalism is defined as the co-existence of two cultures, where each respect one another's values, beliefs, rights and resources (Hayward, 2012; Durie, 2005). Māori are recognised as 'tangata whenua', people of the land. Highly esteemed Māori scholar, Mason Durie (1998) argued, biculturalism asserted greater participation and decision-making across the legal, political and social landscape for Māori (Thomas & Veno, 1996). In turn, the treaty was regarded as an evolving 'social contract' (Byrnes, 2006), where it need not remain as a past relic of 1840, but as a guidance for a positive bicultural future.

The New Zealand government has made efforts to mandate biculturalism across policy and legislation. Thirty Parliamentary Acts require government officials to consider the treaty or its principles when exercising state powers (New Zealand Constitutional Advisory Panel, 2013). The Māori Language Act 1987 declared Te Reo Māori as an official language, land settlements i.e., Ngai Tāhu Deed of Settlement and the New Zealand Foreshore and Seabed Act 2004 (later repealed in 2010), (Ministry for Culture and Heritage, 2015) are some of the public sector's bicultural reforms. Perhaps the most significant example of the

bicultural vision was the report of the Royal Commission on Social Policy in 1987, emphasizing that Māori and Treaty of Waitangi are at the core of New Zealand society (Hayward, 2012). Other institutions, e.g., the Anglian Church have also followed suit. Following the 1986 Te kaupapa tikanga rua: bi-cultural development report, the Anglican Church changed its constitution to entrench partnership and biculturalism (Hayward, 2012). On the whole, these legal, political and social developments have helped to strengthen the constitutional status of the Treaty of Waitangi.

From the outset, the aim of the Treaty was to create a bicultural society (Simon-Kumar, 2019). However, these bicultural ideals have not necessarily translated into bicultural practice. Within the education sector, education is delivered from a mono-cultural, monolingual perspective (Gordon-Burns & Campbell, 2014; Lourie, 2015). Even the Treaty settlement process, where land is returned to Māori, has reduced land to being of instrumental value (Reid et al., 2016). For Māori land is symbolic of identity, emotional and spiritual strength. In the public sector, despite the development of 'treaty principles', which re-interpret Te Tiriti in favour of Pākehā (Hayward, 2012), the everyday workings of government remain unchanged (O'Sullivan, 2007; Jackson, 1992). Similarly, the Labour government's 1999 'Closing the Gaps' policy aimed at addressing socio-economic inequities of Māori, benchmarked a Pākehā way of living as the norm (Mahuika, 2011). While these initiatives were aimed at bettering the conditions for Māori, they further marginalized Māori, and resulted in public controversy among New Zealanders.

The implementation of biculturalism is the subject of considerable debate among New Zealanders (Barclay & Liu, 2003; Wetherell & Potter, 1992; Sibley & Liu, 2004; Nash, 1990). This opposition stems from a position validated by the notion of equality for all (Sharp, 1990), or even a preference for multiculturalism over biculturalism (Hayward, 2012). Based on these factors, researchers Sibley and Liu (2004) argued that New Zealanders'

attitudes towards biculturalism have two distinct components: attitudes towards resource-allocation and attitudes towards symbolic biculturalism.

To test the idea that New Zealanders show two types of attitudes towards biculturalism, Sibley and Liu (2004) first collected a range of attitude statements about biculturalism from Pākehā. These statements were used to develop a Pākehā Attitudes towards Biculturalism scale. First, Sibley and Liu conducted a principal exploratory analysis with varimax rotation on 29 items. Eigenvalues steeply declined after the second factor, supporting a two-factor solution. Items that cross loaded onto both factors were removed, leaving a reduced item pool of 10 items. A two-factor solution was confirmed and accounted for 62.63% of the total variance. Factor one contained items assessing attitudes towards resource allocation e.g. "It is racist to give one ethnic group special privileges, even if they are a minority". Factor two measured attitudes towards symbolic biculturalism "New Zealand should embrace its cultural diversity". Responses ranged from 1 "strongly disagree" to 6 "strongly agree". The mean endorsement of the symbolic subscale was 3.89, whereas the mean endorsement was only 1.27 for resource allocation. We used Sibley and Liu's (2004) scale in the current study. These two attitudes will be discussed in greater detail.

The symbolic aspects of Māori culture allow New Zealand Europeans to promote a distinctive identity globally (Liu, 2006; Tajfel & Turner, 2004). Without Māori, New Zealand's culture would be a colonial derivative of Great Britain (Sibley & Liu, 2006). At an individual and institutional level, symbolic biculturalism is supported (Sibley & Liu, 2004; 2007; Sibley et al., 2008; Sibley & Duckitt, 2010; Harding et al., 2011). These symbols heighten egalitarian concepts among Pākehā and are strongly integrated within New Zealand's national identity; the national anthem in English and Māori, education curricula and Waitangi Day as a national holiday (Liu et al., 2014). Interestingly, symbolic inclusion of minorities, has not been reported in pluralistic countries e.g., the United States (Devos &

Banaji, 2005) or Australia (Sibley & Barlow, 2009). However, the finding that New Zealanders are receptive to tokenistic aspects of indigenous culture may in fact, diffuse dissonance, or allow majority group members to legitimate expressions of opposition towards resource allocation (Sibley & Duckitt, 2010).

New Zealanders support overt representations of national identity, but bicultural resource allocation is not embraced on the same scale (Sibley & Liu, 2004, Kirkwood et al., 2005). Policies and material reparation to resolve historical and current injustices against Māori have been implemented by the government i.e., portion of fisheries profits have been reserved for Māori tribes (Sibley & Liu, 2004). Restoration efforts have resulted in tension, mainly from New Zealand Europeans (Cumming, 2004; Knightley, 2016; Kirkwood et al., 2005; Sibley & Liu, 2004). Emphasis on individual merit, rather than collective grievances can increase support, however, this is optimistic as Māori currently compete with majority members for equal access to resources and opportunities (Jackson & Fischer, 2007). Furthermore, as colonisation economically dispossessed Māori (Walker, 1990), symbolic inclusion can be viewed as resource-based marginalization.

Claims that colonization is a thing of the past, and resource allocation violate equality, reinforce opposition to biculturalism (Nairn & McCreanor, 1990; Sibley & Liu, 2004; Sibley et al., 2008; Sibley & Duckitt, 2010; Kirkwood et al., 2005; Wetherall & Potter, 1992; Sibley & Ward, 2013). Prejudice related antecedents: Social Dominance Orientation (endorse societal hierarchy), Right-Wing Authoritarianism (adherence to authority and norms), and historical negation (a view that historical injustices are irrelevant in today's context) also predict opposition to resource-based biculturalism (Sibley & Liu, 2004; Duckitt & Sibley, 2007; Sibley et al., 2008; Newton et al., 2018). The items in the resource-based biculturalism subscale of Sibley and Liu's (2004) Pākehā Attitudes Towards Biculturalism scale showcase these viewpoints e.g. "No one ethnic group should be given special privileges" or "we should

all be treated the same". It would appear that we are happy to embrace another culture when it doesn't threaten our privileged status or require any investment on our part (Sibley & Ward, 2013).

In sum, Māori have achieved legal recognition of their right to equality alongside New Zealand Europeans, under the Treaty and legislation (Human Rights Act 1993; Race Relations Act 1971). At surface level, interactions between Māori and Pākehā are civil and harmonious. Yet, the aforementioned literature, combined with New Zealanders' reluctance to endorse bicultural resource allocation, would suggest otherwise. This paradox of persistent racial inequalities, yet improving racial attitudes (Houkamau, 2016) raises the question of whether subtle forms of racism contribute to Māori disadvantage.

Implicit Racial Bias

Theorists suggest subtle racial biases towards minority groups have supplanted explicit biases (Devine, 1989; Dovidio & Gaertner, 1986). As defined earlier, implicit racial biases are beliefs or reactions to members of stereotyped groups that are activated involuntarily (Greenwald et al., 1998). New Zealand's colonization and intergroup conflict (Carroll et al., 2011; Marriot & Sim, 2015) have perpetuated racial biases towards Māori. For example, Māori report, racial microaggressions e.g., mispronouncing names (Kohli & Solorzano, 2012), racist jokes (Broughton, 2019), non-verbal exclusion behaviour e.g. social exclusion (Gordon et al., 2017), and claims of oversensitivity (Barnes et al., 2012; Wetherall & Potter, 1992). Qualitative studies also corroborate these findings (Hippolite & Bruce, 2010; Huria et al., 2014; Barnes et al., 2013). Added together, there is reasonable evidence to suggest that New Zealanders display implicit racial biases towards Māori.

Implicit Association Test (IAT)

Implicit biases cannot be observed directly. This has led to the development of measures which can index their strength and nature (Amodio et al., 2003; Greenwald &

Nosek, 2001; Greenwald et al., 2009). To name a few; serial semantic priming paradigms (e.g., Blair & Banaji, 1996), subliminal serial priming paradigms (e.g., Fazio et al., 1995), startle responses (Amodio et al., 2003), stroop Tasks (Bargh & Pratto 1986; Richeson & Trawalter, 2005), and implicit association tests (IAT; Greenwald et al., 1998). In the present work, we will use the Race IAT, as it is considered to be a better predictor of prejudice behaviour than explicit measures (Greenwald et al., 2009; Greenwald et al., 2003; Devine, 2001; Nosek et al., 2007).

The IAT is commonly used to measure implicit racial biases. The Race IAT measures the relative association between target concepts (Black vs White faces) and evaluations (pleasant vs unpleasant words) (Greenwald et al., 1995; 1998). Across 7 blocks of trials, participants categorise stimuli using two response keys. In Blocks 1 and 2 participants familiarise themselves with the stimuli, and sorting procedure. Blocks 3 and 4 are the first combined tasks, which consist of compatible e.g., black faces/unpleasant words and white faces/pleasant words and incompatible tasks e.g., black faces/pleasant words and white faces/unpleasant words. Block 5 is a practice block, and Blocks 6 and 7 are the combined tasks. All blocks are randomised and counterbalanced between participants (Greenwald et al., 1998; Nosek et al., 2005).

The logic of the IAT is that faster reaction times are shown for related ideas e.g., faster categorisation of white faces and pleasant words, than the reverse. An IAT score (D statistic) is calculated by dividing the difference in average speed of B4 & B7 (critical blocks), by the combined standard deviation (Greenwald et al., 2003). Positive values correspond to e.g., pro-white bias/anti-black bias. IAT research has consistently reported implicit bias towards the in-group (Nosek et al., 2002, Nosek et al., 2007a), and lower status groups e.g. poor people can demonstrate dominant group preference (Rudman et al., 2002).

Indeed, one reasoning behind the popularity of the IAT, is that it offers a putative explanation for social inequalities (Greenwald, et al., 2009).

Implicit Biases Predict Behaviour

Implicit racial biases can impact behaviour. IAT scores predict subtle and uncontrollable behaviours in interracial interactions (e.g., facial expressions and body posture; McConnell & Leibold, 2001; Richeson & Shelton, 2003; Vanman et al., 2004). Behaviourally, higher IAT racial biases predict medical treatment, money distribution and voting (Green et al., 2007; Stepanikova et al., 2011; Greenwald et al., 2009). Meta-analyses further support the IAT's predictive utility for discriminatory behaviours (Oswald et al., 2013; Kurdi et al., 2019). However, even small IAT effect sizes can predict substantial discrimination. Minor acts of discrimination can impact people simultaneously or repeatedly over time (Greenwald et al., 2015). Together, the IAT can be a useful predictor of who will engage in both subtle and non-subtle acts of discrimination against minorities.

Implicit vs Explicit bias: Related but distinct

Implicit and explicit bias manifest differently, and it appears the two are not strongly related. Weak (Fazio et al., 1995; Greenwald et al., 1998; Rudman & Kilianski, 2000, Dovidio et al., 2002; Nosek et al., 2007), and occasionally significant relationships (Lepore & Brown, 1997; Fazio & Olson, 2003) have been reported. Physiologically, explicit biases are strongly correlated with prefrontal cortex activation (Cunningham et al., 2004; Amodio et al., 2004), while amygdala activity corresponds to implicit biases (Hart et al., 2000; Phelps et al., 2000; Wheeler & Fiske, 2005; Krill & Platek 2009). The amygdala is involved in emotional responses to threat e.g., fear (LeDoux, 1996; Chekroud et al., 2014), although positive stimuli (Cunningham et al., 2008), and trustworthy faces (Todorov et al., 2009), trigger amygdala activity. Evidently, the IAT taps into attitudes that operate independently of explicit attitudes (Carruthers, 2018).

Alongside this independence, small to moderate correlations between implicit and explicit biases (.14 to .37) have been reported (see meta-analyses Cameron et al., 2012; Greenwald et al., 2009; Oswald, et al., 2013; Kurdi et al., 2019). Underlying moderators may contribute to this implicit-explicit correspondence. Researchers have proposed two classes of moderators: those that reflect interpersonal of evaluation (self-presentation and distinctiveness), and intrapersonal qualities of evaluation (strength and dimensionality) (Nosek, 2005; Nosek et al., 2007). Thus, in a social context, an individual might simultaneously employ intentional and unintentional processes to evaluate information in their environment (Banaji, 2001). Perhaps, implicit and explicit biases are not mutually exclusive, and reinforce each other.

Explanations for implicit biases are believed to be the cultural environment (Dovidio & Gaertner1986; Dovidio et al., 2001; Carruthers, 2018, for other explanations see Hewstone et al., 2002; Mandelbaum, 2016). Although exact mechanisms underlying implicit biases are unknown, given the widespread presence of these biases among even the egalitarian, and across multiple domains, culture clearly plays a crucial role (Nosek et al., 2007). On this note, therefore, it is important to explore the contexts in which these biases are activated.

Integrated Threat Theory

Social groups shape our identities and our lives. They provide us with a sense of belonging and acceptance. Because of the needs they fulfil, groups are dear to us. In times of threat, we tend to favour our own group and exhibit hostility towards others (Tajfel & Turner, 2004; Abrams & Hogg, 1988). As a result, in-group members exclude out-group members when they feel their privileged status is under threat.

In line with this reasoning, the Integrated Threat Theory (ITT; Stephan & Stephan, 2000; Stephan et al., 2009) argues that two types of threat predict intergroup behaviour: realistic and symbolic. Realistic threats result from the perception that the out-group poses a

risk to the in-group's political, security, economic or physical well-being. Symbolic threats refer to values and beliefs of the in-group that may be in danger (Corenblum & Stephan, 2001). Saliency of the out-group can dictate which threat is triggered (Stephan et al., 2009). For example, economically powerful out-groups might elicit realistic threats (Stephan et al., 2005), whereas socially marginalised out-groups e.g. homosexuals (Haddock et al., 1993), symbolic threats. Ultimately, whether threats are perceived or tangible, they both have real consequences (Riek et al., 2006).

Threats predict negative attitudes towards ethnic minorities at an explicit level (e.g. Stephan & Stephan, 2000; Renfro et al., 2006; Gonzalez et al., 2010; see meta-analyses Riek et al., 2006). This finding also extends to implicit racial biases (Craig & Richeson, 2014; Danbold & Huo, 2015; Skinner & Cheadle, 2016; Rae et al., 2015). For example, when Obama's presidency was framed as a racial milestone (creating a symbolic threat), White Americans demonstrated higher IAT scores (Skinner & Cheadle, 2016). Similarly, among communities where Black populations were higher, White Americans demonstrated higher IAT scores (Rae et al., 2015). Consistent with the ITT, perceived threats can fuel intergroup hostility and prejudice (Craig & Richeson, 2014). Increasing diversity does not always necessarily equal greater ethnic tolerance (Leong & Ward, 2011).

New Zealand

The ITT can help us understand New Zealanders' attitudes towards biculturalism. Bicultural resource allocation can be viewed as a realistic threat, whereas symbolic biculturalism can be viewed as a symbolic threat. As discussed earlier, Sibley and Liu (2004) found that New Zealanders' support symbolic but not resource-based biculturalism (Sibley & Liu, 2007; Sibley et al., 2008; Sibley & Duckitt, 2010). Māori symbols and values help validate the national identity, whereas resource allocation, engenders antagonism (Sibley & Liu, 2004; Kirkwood et al., 2005; Sibley & Duckitt, 2010). Furthermore, attitudes towards

symbolic biculturalism but not resource-allocation, were correlated with New Zealanders'
declared Treaty of Waitangi knowledge. Essentially, the Treaty of Waitangi can be viewed as
a symbolic resource, which New Zealanders can use to leverage arguments against bicultural
resource allocation (Kirkwood et al., 2005; Sibley & Liu, 2004, 2007, Liu, 2005, Liu &
Sibley, 2006; Sibley et al., 2011). To reveal whether the Treaty is used as a symbolic
resource, it must be examined in relation to New Zealanders' explicit Treaty of Waitangi
knowledge.

New Zealanders' declared Treaty knowledge can be better understood in the context
of their objective knowledge. Self-assessments of knowledge are often low to moderately
correlated with an individual's objective knowledge (Hulur et al., 2011). Still, despite the
reach and influence of the Treaty of Waitangi across all aspects of society, research exploring
New Zealanders' Treaty knowledge is limited. Of the work that has been conducted, only a
small proportion of New Zealanders could identify what the Waitangi Tribunal is, and only
30% could identify the date and location of the Treaty's signing (State Services Commission,
2004; Bell, 2006). Examining New Zealanders' Treaty of Waitangi knowledge, is actually
quite important. An appreciation and understanding of New Zealand's colonial history,
shapes the way people view bicultural policies (Sibley & Liu, 2013). Reflecting this, New
Zealanders might actually over-estimate their Treaty of Waitangi knowledge (Dunning,
2011).

Individuals often hold misconceived views of their abilities or competence e.g. when
taking a test. One analysis of this overconfidence is the Dunning-Kruger (1999) effect.
Accordingly, incompetent individuals suffer a dual burden: the skills required to be
competent in an activity, are often the same skills needed to recognise competence (or
incompetence) in that same task. Essentially, lower performers are worse at judging their
ability than higher performers. Research reports the bottom 25% of performers, overestimate

their own performance in both absolute terms, and relative to their peers (Dunning et al., 2003; Kruger & Dunning, 1999; Schlosser et al., 2013; Dunning, 2011; Miller & Geraci, 2011). Such a pattern extends to real world settings, for example, students' exam performance (Dunning et al., 2003) and self-perceived egalitarianism (West & Eaton, 2019). In this regard, we aim to explore whether or not this phenomenon applies to New Zealanders' declared versus actual Treaty of Waitangi knowledge.

Another interesting phenomenon, which has been studied separately to biculturalism, is implicit racial biases. Implicit and explicit biases are related, yet influence behaviour via different mechanisms (Carruthers, 2018). Prejudice-related antecedents e.g. social dominance, right-wing authoritarianism and historical negation (Sibley & Liu, 2004, 2007; Sibley & Wilson, 2007; Kirkwood et al., 2005; Liu, 2005; Liu & Sibley, 2006; Newton et al., 2018) predict New Zealanders' opposition to resource-based biculturalism. While these findings reveal that prejudice plays a role in political attitudes, we suspect implicit racial biases might also be involved. Based on the logic that implicit biases are a product of one's cultural environment (Rudman, 2004) and negative representations of Māori are salient, we propose that these biases might also relate to resource-based opposition (Meissner et al., 2019).

In a similar way, there is reason to believe implicit racial biases are also associated with New Zealanders' Treaty knowledge. Related research by Nelson and colleagues (2013), for example, reported that Whites with lower historical racism knowledge, also lacked the ability to recognise or acknowledge contemporary forms of racism. That said, applying implicit racial biases to the context of biculturalism and Treaty knowledge may help illuminate psychological mechanisms, that sustain inequality, and justify the unequal distribution of resources.

Summary of relationships among study variables

To recap, existing literature has established relationships between symbolic biculturalism, resource allocation and declared Treaty of Waitangi knowledge (Sibley & Liu, 2004; 2007; Kirkwood et al., 2005; Sibley et al., 2008; Sibley & Duckitt, 2010). Relationships between New Zealanders' Treaty of Waitangi knowledge and implicit racial biases have not been studied. While we have reason to suspect that these variables will be correlated, this has not been empirically tested. In this study, by exploring these additional variables, we can gain more comprehensive insights into New Zealanders' attitudes towards biculturalism.

Study 1

In sum, drastic political and social changes have occurred in New Zealand, since Sibley and Liu's (2004) work. Comparing the progress of today (e.g. Treaty and New Zealand history education compulsory by 2022) (Collins, 2021), with the past (e.g., Waitangi Tribunal establishment), undeniably attitudes towards biculturalism have changed. However, when comparing interracial relations today, to a more ideal standard of racial equality, beliefs about racial progress are tempered. Māori are still subject to implicit racial biases, and the gaps in our knowledge regarding New Zealanders' Treaty of Waitangi knowledge, suggest an understanding of New Zealanders' attitudes towards biculturalism is incomplete. Ultimately, by updating Sibley and Liu's (2004) study, it is hoped that greater discussion surrounding biculturalism will be generated, thereby effecting social change.

The current research investigates New Zealanders' attitudes towards biculturalism in Aotearoa New Zealand. First, we aimed to test the hypothesis that New Zealanders' showcase two distinct forms of biculturalism, akin to Sibley and Liu's (2004) findings. Second, we will extend their work, and examine New Zealanders' declared versus explicit Treaty of Waitangi knowledge, as well as their implicit racial bias. Similar to Sibley and Liu (2004; 2007), we

will recruit undergraduate students. These participants will be New Zealand born. Through the theoretical lens of the Integrated Threat Theory (Stephan & Stephan, 2000), attitudes towards biculturalism will be measured at an implicit and explicit level. Implicit racial biases will be assessed using the Race IAT, as it is argued to be a better predictor of prejudice than explicit measures (Greenwald, et al., 2009; Greenwald et al., 2003; Devine, 2001; Nosek et al., 2007). The Pākeha Attitudes Towards Biculturalism Scale (Sibley & Liu, 2004), declared and explicit Treaty of Waitangi knowledge questionnaire (State Services Commission, 2004) will also be administered.

Hypotheses

We examined the pairwise correlations across all variables, but only formulated hypotheses for variables that were particularly important, and that had been previously examined in literature. The following hypotheses will be measured. Hypothesis 1a, participants will display greater support for symbolic biculturalism rather than resource allocation and Hypothesis 1b: there will be positive correlation between support symbolic biculturalism and declared Treaty of Waitangi knowledge (Sibley & Liu, 2004, Sibley et al., 2005). Hypothesis 2a: there will be an IAT effect; participants will take longer to respond on incompatible blocks than compatible blocks (Greenwald et al., 1998). If this effect is shown, we anticipate that racial IAT scores will be Hypothesis 2b: positively correlated with support for resource allocation and Hypothesis 2c: declared Treaty of Waitangi knowledge. Hypothesis 2d: We also anticipate a correlation between IAT scores and Treaty knowledge, although currently there is not enough research to make a directional hypothesis. Lastly, Hypothesis 3a: we predict a Dunning-Kruger effect: lower performers will over-estimate their own Treaty knowledge, and higher performers will underestimate their Treaty knowledge, relative to their actual scores.

Method

Participants

Fifty-six New Zealand born psychology students attending Victoria University of Wellington took part in the present study (19 males, 37 females). Participants ranged from 18 to 44 years of age (M =21, SD =5.58). Participants born in New Zealand, were eligible to participate. 45 identified as New Zealand European, 5 Māori, 2 Other, 2 Pasifika, 1 Asian and 1 Other New Zealand European. Students were recruited via the School of Psychology participant pool. Additional pre-screening questions asked whether participants could press keys rapidly on a keyboard. All participants participated in partial fulfilment of a course requirement. The Victoria University of Wellington Human Ethics Committee #0000028029 approved this research.

Design

A within-participants correlational design was used. Implicit racial bias, biculturalism perceptions (resource allocation vs symbolic biculturalism) and Treaty of Waitangi knowledge (declared knowledge vs specific Treaty of Waitangi knowledge) were the predictor variables.

Measures

Implicit Association Test

Implicit Racial Bias was assessed using the IAT developed by Greenwald et al (1998). IATs were administered using PCs running Inquisit 6 (2020). The IAT measured the strength of associations between target (Māori or Pākehā faces) and attribute (pleasant or unpleasant) categories across seven blocks (see Table 1). The Race IAT used black and white head and shoulder photos of Māori (6) and Pākehā (6) faces to represent each ethnic category. Images were taken from Google Image searches for "Māori men", "Māori women", "Caucasian men" and "Caucasian women". Images were cropped from eyebrows to above the

mouth, resized to 345 (width) x 195 (height) and converted to greyscale. No beards, glasses or facial make-up were displayed. Stimulus lists were adopted from Greenwald et al (1998). Pleasant words e.g., beautiful, joyful and love were categorised as "positive" whereas unpleasant words e.g. evil, ugly and hate were classified as "negative" (see Appendix A for full list).

The IAT task required sorting stimulus examples from the four aforementioned concepts using two response options. Words and/or images appeared in the middle of the screen. Participants were told to maximise speed and accuracy but that making mistakes was okay. If the word or image belonged to the category on the left, participants were instructed to press the "E" key. When words/images were shown on the right, participants were instructed to press the "I" key. For incorrect responses, (e.g. categorising a Māori face as Pākehā) a red "X" was displayed; and participants were required to press the correct key to complete that trial. Response times were recorded from the onset of when a stimulus was displayed to when it was correctly classified using the appropriate response key. Each trial was separated by a 400ms inter-trial interval.

One category practice blocks (Trial blocks). Participants were first introduced to the task and practised responding with one category label on alternate sides. In one block, the labels "Māori" and "Pākehā" appeared in the middle of the screen. In another block, individuals repeated the same task for categories, and "Pleasant" and "Unpleasant" words were displayed in the middle of the screen. The direction of labels on the left versus the right, and the order of the two one-category practice blocks were counterbalanced across participants.

Table 1

Task Sequence of the Implicit Racial Association Test (IAT) for one counterbalancing order

Block	*N* trials	Task	Left Key Response	Right Key Response
1	20	Target discrimination one-category practice	Māori	Pākeha
2	20	Attribute discrimination one-category practice	Negative	Positive
3	20	Practice initial combined task	Māori, negative	Pākeha, positive
4	40	Initial combined task	Māori, negative	Pākeha, positive
5	40	Reversed target discrimination	Pākeha	Māori
6	20	Reversed combined task	Pākehā, negative	Māori, positive
7	40	Reversed combined task	Pākehā, negative	Māori, positive

Note a. A trial is defined from the onset of a single stimulus to the correct categorisation of that stimulus. Trials where an error is made require the participant to correct the error before proceeding. Blocks B3, B4, B6 and B7 alternate trials present a pleasant or unpleasant word with trials presenting a Pākehā or Māori face. The sorting rules in blocks B1, B3, B4 are counterbalanced with B5, B6, B7, between participants.

Compatible pairing trials. Participants were instructed to make one response if an image of a Pākehā person or a pleasant word was presented, and the other if an image of a

Māori person or an unpleasant word was presented. The first 20 trials were practice trials, and the remaining 40 were used in the data analysis. Practice blocks aimed to reduce order and practicing effects (Greenwald et al., 1998). Categories allocated to the left versus the right were counterbalanced across participants.

Incompatible trials. Participants were instructed to make a response if an image of a Pākehā person or an unpleasant word was presented, and the other if an image of a Māori person or a pleasant word was displayed (see Figure 1 for example). The first 20 trials were practice trials, and the remaining 40 used in the data analysis. Category allocation on the left and right side was counterbalanced across participants.

Figure 1

Incompatible Task Example- Participant View
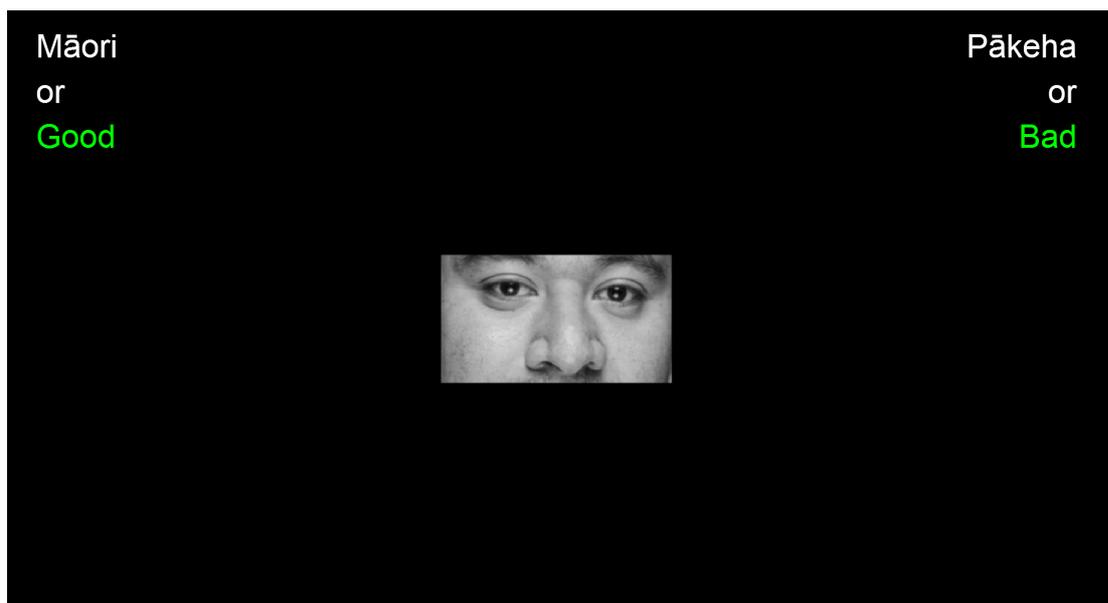
Order of blocks. Participants completed a one-category practice block for targets, and a one-category practice block in counterbalanced order (Blocks 1 and 2). Compatible and incompatible blocks were then presented in counterbalanced order (Blocks 3-4, and 6-7) separated by another one-category practice block (Block 5), where they practised the reversed target discrimination. See Table 1 for an example of a sequence of blocks in one counterbalancing order.

Blocks 3, 4, 6 and 7 comprised the critical tasks. An implicit bias towards Māori reflected the averaged standardised differences between latencies in the compatible and incompatible trials (Trial 4 and 7) (Greenwald et al., 2003). In other words, participants who found it easier to sort Māori with unpleasant (and Pākehā with pleasant) compared to sorting Māori with pleasant (and Pākehā with unpleasant) possessed an implicit anti-Māori bias/pro Pākehā bias.

Biculturalism Perceptions

Biculturalism perceptions were measured using Sibley and Liu's (2004) Pākehā Attitudes towards Biculturalism Scale. Two types of biculturalism attitudes were assessed: resource-allocation biculturalism (5 items) and symbolic biculturalism (5 items). Items were rated on a 7-point Likert scale from 0 "strongly disagree" to 6 "strongly agree". Resource allocation items included e.g. "We are all New Zealanders", and "No one ethnic group should get special privileges". Items were worded in the negative direction and were reverse coded before analysis. Symbolic biculturalism items included, "Māori language should be taught in all New Zealand schools" and, "New Zealand should embrace its cultural diversity" (see Appendix B for full scale). These items were positively worded. Higher scores corresponded to greater support for symbolic biculturalism/resource allocation.

Treaty of Waitangi knowledge (actual vs perceived)

Participants' Treaty of Waitangi knowledge was evaluated using a 14 multiple-choice Treaty of Waitangi questionnaire. The questionnaire was developed by adapting items from the original State Services Commission (2004) Treaty survey. Questions included, "When was the Treaty of Waitangi signed" and "Where was the Treaty of Waitangi signed" (see Appendix C for full questionnaire). Higher scores corresponded to greater Treaty of Waitangi knowledge. Perceived Treaty of Waitangi knowledge was assessed using a semantic

differential item from 1 "I know very little about the Treaty of Waitangi" to 4, "I know a lot about the Treaty of Waitangi" (see Appendix D for full measure).

Socio-demographic Questionnaire:

Demographic information asked participants their age, gender (female, male, non-binary, other), and their ethnicity (New Zealand European, Māori, Pasifika, Hispanic, Asian, Other New Zealand European, Other).

Procedure

Research procedures took place at the Victoria University of Wellington, School of Psychology Department at the Kelburn campus. On arrival, researchers and participants were required to use hand sanitizer, and sign in using the NZ Covid Tracer QR code or alternatively, a pen-paper sign sheet. Facemasks were also offered. Data collection took place in segregated computer rooms. Four students attended each and took approximately half an hour in length. Pen-paper information and consent sheets were provided at the commencement of the experiment. These outlined that their anonymous data may be used in future research, publications or conferences. All instructions were displayed on the computer screen, to minimise research-participant contact.

First, participants completed the Implicit Racial Association Test (IAT) (Greenwald et al., 1998), followed by the Pākehā Attitudes towards Biculturalism Scale (Sibley & Liu, 2004) and both declared and explicit Treaty of Waitangi knowledge questionnaire. Lastly, demographic information; age, ethnicity, gender was collected. Upon completion, participants were thanked and debriefed about the study. Participants were encouraged to contact the researchers at any point, if they had any queries or concerns. If participants felt any emotional or psychological discomfort, contact details for Victoria University's Student Health and Counselling services were also provided.

Data analysis

IAT reaction time data was analysed using Greenwald and colleagues (2003) scoring recommendations. The conventional *D* score was used to demonstrate whether participants showed an implicit racial bias towards Māori or Pākehā faces. For participants either too fast or slow, latencies below 300ms and above 3,000ms were excluded before further computations. The D score was calculated by the difference in mean reaction times between critical blocks, divided by the combined standard deviation (Greenwald et al., 2003). The IAT D effect was scored in a way that larger (positive) values represented stronger implicit associations between Pākehā faces + pleasant words (relative to Māori faces +unpleasant words). Larger negative values were indicative of stronger implicit associations between Māori faces + pleasant words (relative to Pākehā + unpleasant words). A score of 0 demonstrated that participants had no bias, responding equally fast to both sets of pairings within an IAT, and hence both categories.

Note, IAT effects must be interpreted in a relative manner (Teige-Mocigemba et al., 2010). A racial IAT effect, for instance, does not permit any conclusions about an individual's evaluation of Māori or Pākehā but provides insight into an individual's preference for Māori over Pākehā (or Pākehā over Māori). Overall, the IAT has achieved greater reliability than other latency based implicit measures, reporting internal consistency from .70 to .90, as well as, good construct, convergent and discriminant validity (Greenwald et al., 1998; Greenwald et al., 2003; Nosek et al., 2007; McConnell & Leibold, 2001).

Results

Descriptive statistics are presented in Table 2. The Kolmogorov-Smirnof test was

performed to test the assumption of normality. P values for resource allocation, symbolic

biculturalism, Treaty and declared Treaty knowledge were significant and confirmed the data

were non-normally distributed. Therefore, we used medians and interquartile ranges as

central tendency measures (see Table 2). Wilcoxon Signed Rank Test were also used to

compare conditions and Spearman's Rank correlation were used to test for relationships

between variables. Table 2 shows participants displayed greater support for symbolic

biculturalism, than resource allocation. On average, participants answered 50% of Treaty of

Waitangi questions correctly, and declared that they knew little about the Treaty. Lastly, IAT

scores indicated a positive racial bias.

Table 2

Medians and Interquartile Ranges Across All Study Variables (n = 56)

Variables	*Median (Md)*	Interquartile Range (*IQR)*
1. Resource Allocation	3.40	3.05
2. Symbolic Biculturalism	5.40	.95
3. Treaty Knowledge (%)	50.00	14.29
4. Declared	1.00	1.00
5. Treaty Knowledge		
6. Age	19.00	2.75
7. IAT (D score)	.21	.75

Box plots further illustrate the non-normal data distribution. Figure 2 shows resource

allocation responses were normally distributed. Symbolic biculturalism responses were

negatively skewed and outliers were clear (see dots on figure). Respondents were

significantly more supportive of symbolic biculturalism, than resource allocation (Z= 5.69, *p*

<.001). Figure 3 shows participants knowledge of the Treaty, with the highest score being

80%. The rest of the distribution centred around the 50% mark (see dots on figure). In fact, participants declared that they knew little about the Treaty (see Figure 4). Lastly, IAT scores were positively skewed (see Figure 5). Scores were above 0 which indicated a positive IAT effect. A one sample *t*-test confirmed this positive IAT effect $t(55) = 3.63$, $p < .05$.

**Figure 2**

Resource vs Symbolic Biculturalism
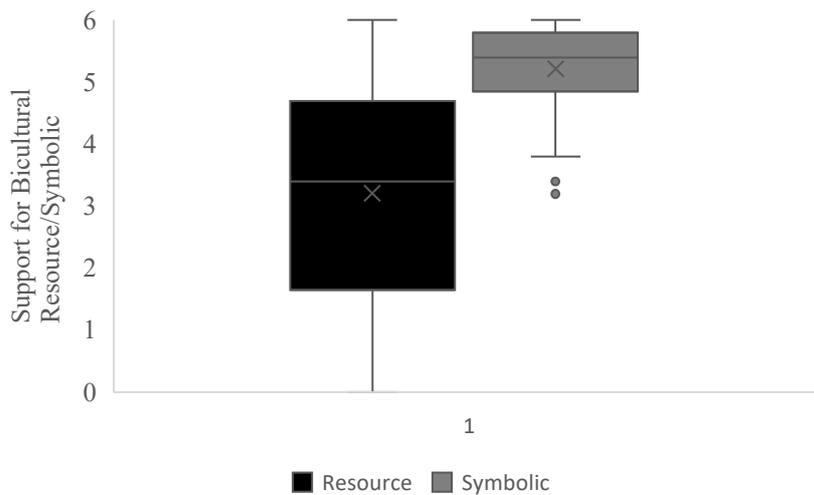
Figure 3

Treaty of Waitangi knowledge
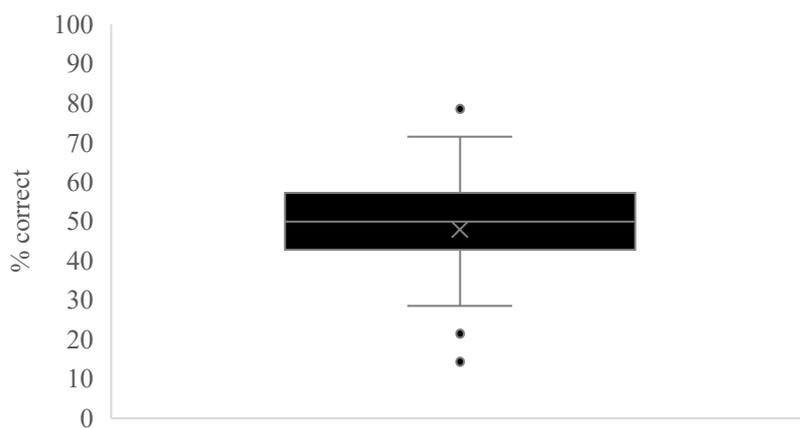
Figure 4

Declared Treaty of Waitangi Knowledge
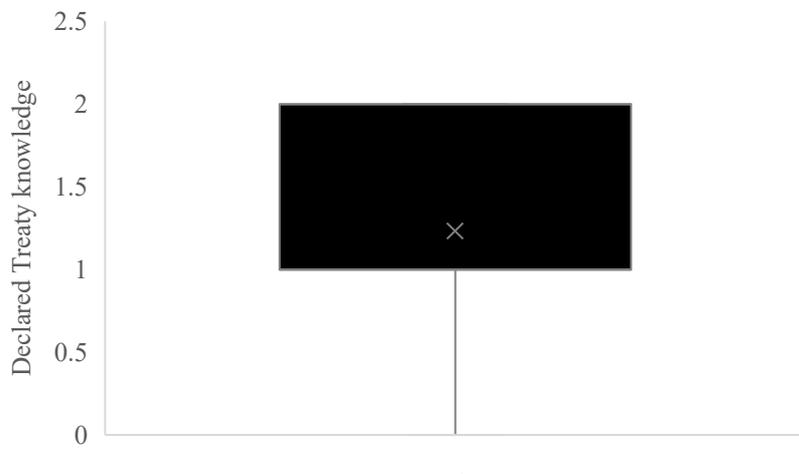
Figure 5

IAT scores
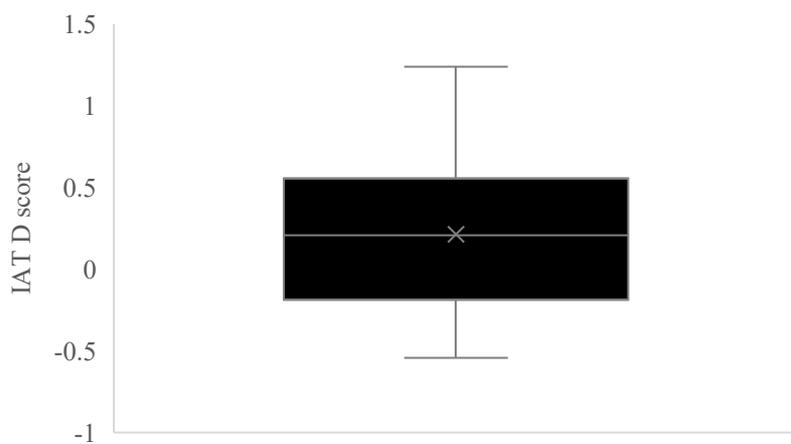
Correlations Among Measures

We determined whether correlations were significant using the Holm Bonferroni Sequential method (Holm, 1979), across the set of 10 correlations. This was to counteract issues of multiple comparisons, and control for family wise errors. Table 3 illustrates the non-significant correlations following Bonferroni correction.

Spearman's Rank correlations were calculated across all variables (see Table 3). The correlations between IAT scores and Treaty of Waitangi knowledge $r(55) = -.28$, $p < .05$, and

IAT scores and declared Treaty of Waitangi knowledge $r(55) = .27$, $p < .05$ were significant at the 0.05 level, but not following Bonferroni correction. Contrary to previous predictions, no relationship between resource allocation and symbolic biculturalism was documented. The dispersion of declared Treaty knowledge responses, also indicate potential issues with the scale not accurately capturing self-perceived knowledge because a large majority of participants selected one of the same two response options (see bottom right graph Figure 6). Evidently, amendments to the current measures are needed, to reveal whether these relationships exist. Therefore, we did not conduct more extensive analyses of the relationships between declared and actual knowledge to explore the Dunning-Kruger effect, and test Hypothesis 3 in Study 1. We reserved these analyses for Study 2 in which we used an improved measure of declared knowledge and explicit Treaty of Waitangi knowledge (see below).

Table 3

Spearman's Correlations Across All Variables (n =56)

Variables	1	2	3	4	5
1. Resource Allocation	-				
2. Symbolic Biculturalism	-.12	-			
3. Treaty Knowledge	.13	.06	-		
4. Declared Treaty Knowledge	-.07	-.15	-.07	-	
5. IAT D score	-.26	-.12	-.28*	.27*	-

Note a. *p <.05 following Bonferroni correction *p*-value was not significant.

Figure 6

Scatterplots of Correlations Across All Variables
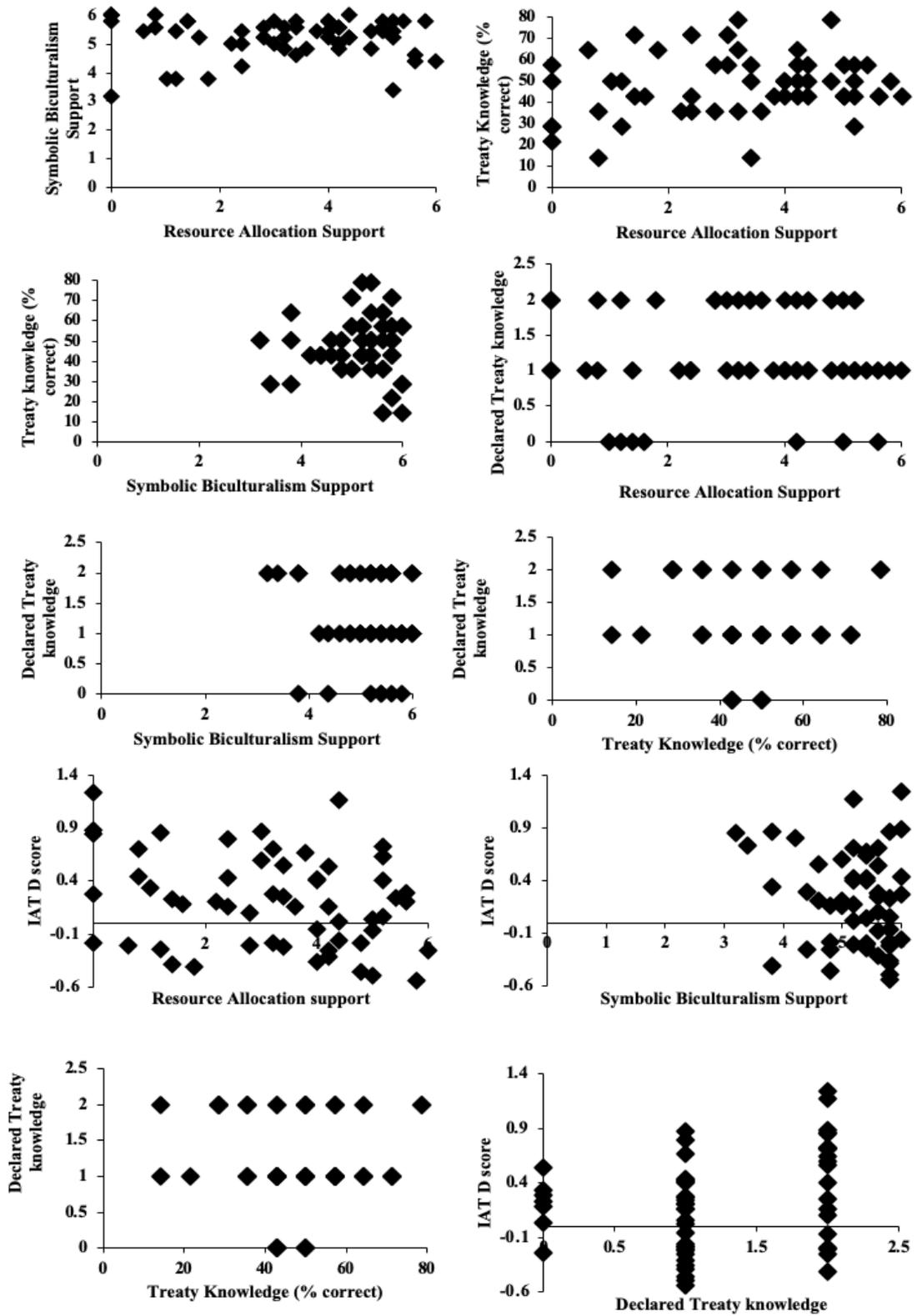
Exploratory Factor Analysis

To replicate Sibley and Liu (2004) analyses, a principal components exploratory analysis with varimax rotation was performed. This was conducted on the 10 attitudes towards biculturalism items. Initial analyses indicated a three-factor solution, with 74% variance. Eigenvalues displayed a steep trend after the second factor and the 3rd factor did not explain substantial variance. Consistent with Sibley and Liu (2004), the third factor was removed, and a two-factor solution was conducted. Also Item 6 had a cross-loading on Factor 1 of .36, but because it was approaching .3 it was deemed an adequate resource allocation measure.

The two factors we identified divided the items identically to the analysis by Sibley and Liu (2004). The first factor contained items assessing attitudes towards resource allocation to ethnic groups in New Zealand. The second factor contained items assessing symbolic biculturalism attitudes. Item content and factor loadings are reported in Table 4. Similar cross-loading patterns across Sibley and Liu (2004) were reported in the current study. A two-factor solution (eigenvalues 4.25 and 2.10) accounted for 63.53% of the total variance, a replication of Sibley and colleagues (2004) work; 62.63%.

Table 4

Factor Analysis of Attitudes towards Biculturalism in New Zealand Questionnaire

		Factor 1	Factor 2
Resource Allocation			
1	We are all New Zealanders, and no one ethnic group should get special privileges.	**.83**	-.02
2	It is racist to give one ethnic group special privileges, even if they are a minority	**.90**	-.05
3	I feel that although Māori have had it rough in past years, they should still be treated the same as everyone else.	**.85**	-.03
4	No one group should be given special privileges on the basis of ethnic or racial background	**.95**	.03
5	I find the idea of giving priority or special privileges to one group appalling, minority or otherwise	**.91**	-.00
Symbolic Biculturalism			
6	Māori language should be taught in all New Zealand schools.	**.43**	**.61**
7	The New Zealand national anthem should be sung in both Māori and English	-.06	**.76**
8	New Zealand should be known and seen as a bicultural society, reflecting an equal partnership between Māori and Pākehā	-.06	**.83**
9	If New Zealand were to change to a republic, then the Treaty of Waitangi should be used as a foundation for our constitution.	-.13	**.50**
10	New Zealand should embrace its cultural diversity	.24	**.44**

Note a. Item loadings >.3 are printed in bold. Items are sorted by magnitude of factor loading

Discussion

Implicit racial biases are a pervasive aspect of contemporary, western society. New Zealand is no exception. In Study 1 we found a positive racial IAT effect. However, inconsistent with Hypothesis 2c: IAT scores were not correlated with declared Treaty knowledge and Hypothesis 2d: IAT scores were not correlated with specific Treaty of Waitangi knowledge, following Bonferroni correction. Lastly, consistent with original predictions: two factors underlie biculturalism attitudes: symbolic and resource-based biculturalism (Sibley & Liu, 2004; Sibley et al., 2005). These two factors accounted for 63.53% of the shared variance, replicating Sibley and Liu's (2004) work (62.63% shared variance). As a consequence, we can be confident in the contemporary relevance of the empirical measures used.

In accordance with international research, (Greenwald et al., 2015; Cameron et al., 2012; Greenwald et al., 2009; Oswald et al., 2013; Kurdi et al., 2019) we reported a positive racial IAT effect. These findings strengthen a larger body of qualitative work where Māori have documented experiences of implicit racial biases (Hippolite & Bruce, 2010; Huria et al., 2014; Mayeda et al., 2014; Barnes et al., 2013; Houkamau, 2016). Thus, Māori are still subject to implicit racial biases, raising concern for interracial interactions and establishing equality in New Zealand society.

Additionally, we failed to find significant relationships between IAT scores for declared or explicit Treaty of Waitangi knowledge. First, previous work has explored New Zealanders' declared Treaty knowledge (Sibley & Liu, 2004; 2007), but not in relation to explicit implicit biases. Second, our results do not support work which suggests IAT scores and Treaty knowledge could be related e.g. Whites with higher IAT scores reported lower historical racism knowledge (Nelson et al., 2013). It is difficult to ascertain whether these two findings are a result of our low sample size, or these variables are not related. If indeed, these

variables are not associated, we can speculate that increasing Treaty of Waitangi knowledge and education might not be a useful way to address implicit racial biases. However, the narrow range of responses for the declared measure, and the Treaty knowledge scale possibly being too difficult, suggest that these were not optimal scale measurements, and this conclusion remains extremely tentative.

Study 2 was designed to replicate Study 1 and address several issues. First, the Treaty of Waitangi knowledge scale may have inaccurately measured respondents' general knowledge. On average, participants answered 50% of the Treaty questions correctly. The highest score was 78%. Possibly the items were too difficult, providing a less precise measure of knowledge, particularly for participants with lower levels of knowledge. For this reason, in Study 2 we will readminister the original Treaty of Waitangi knowledge scale, alongside 6 additional questions designed to be easier. This way, participants' performance across Study 1 and 2 can be compared, and a more accurate measure of knowledge can be gauged.

Second, we will improve the declared Treaty of Waitangi knowledge measure in Study 2. Participants are more accurate when asked to make percentile than average judgements (e.g. a grade) (Hartwig & Dunlosky, 2014). On average, 87.5% of participants rated their Treaty of Waitangi knowledge as 1 "a fair amount" or 2 "not much". In Study 2, participants will be asked to make a percentage prediction of their performance and estimate the percentage of other respondents they will perform better than. This will provide an extended, more graded measure of declared Treaty knowledge.

Study 2 will also investigate whether participants' declared knowledge changed following completion of the Treaty knowledge test. Previous research has reported participants' performance predictions decrease from pre-to post test (Miller & Geraci, 2011b). However, these predictions still show participants have a self-inflated view of their ability,

compared to their actual test score (Serra & DeMarree, 2016). In Study 2, we will ask participants to make a percentage prediction of their performance, and estimate their performance relative to their peers, pre and post completing the Treaty of Waitangi knowledge scale (West & Eaton, 2019).

Lastly, participant recruitment was low due to Level 2 COVID restrictions. Although Sibley and Liu (2004), had similar sample sizes for their work ($N= 46$ Study 1, $N = 59$ Study 2), we will recruit a larger and more representative sample size for Study 2. Indeed, following Bonferroni corrections, the aforementioned relationships were not significant. Therefore, we anticipate a larger sample size will help to conclusively characterise these relationships and determine whether these factors are related or not.

Ultimately, in Study 2 we aim to replicate Study 1 with improved measures. As in Study 1, the following hypotheses will be measured. Hypothesis 1a: participants will display greater support for symbolic rather than resource allocation and Hypothesis 1b: those who support symbolic biculturalism will report higher declared Treaty of Waitangi knowledge (Sibley & Liu, 2004, Sibley et al., 2005). Hypothesis 2a: there will be an IAT effect; participants will take longer to respond on incompatible blocks than compatible blocks (Greenwald et al., 1998). If this effect is shown, we anticipate students with higher racial IAT scores Hypothesis 2b: will be more supportive of resource allocation and Hypothesis 2c: report higher declared Treaty of Waitangi knowledge. Hypothesis 2d: We also anticipate a relationship between IAT scores and Treaty knowledge, although currently there is not enough research to make a directional hypothesis. Hypothesis 3a: we predict a Dunning-Kruger effect: lower performers will overestimate their own Treaty knowledge, and higher performers will under-estimate their Treaty knowledge, relative to their actual scores

Extending these: in Study 2 we predict Hypothesis 3b: a Dunning-Kruger effect: lower performers will overestimate their own Treaty knowledge, and higher performers will

under-estimate their Treaty knowledge, both when estimating the number of questions they

will answer correctly, and when estimating the number of others they will perform better

than.

Study 2

In Study 2 we aimed to replicate Study 1's findings with refined measures. Similar to work in this area (West & Eaton, 2019; Miller & Geraci, 2011), New Zealanders will predict the number of other participants they'll perform better than, before and after the explicit Treaty of Waitangi measure. These amendments will allow us to test the Dunning-Kruger (1999) effect. Lower performers, in addition to lacking knowledge e.g. of test material, fail to recognise the knowledge that they do or do not possess. Higher performers, on the other hand, typically under-estimate their knowledge. Furthermore, the recruitment of a larger sample size in Study 2 will help us to characterise non-significant relationships that were reported after Bonferroni correction in Study 1. In sum, Study 2 will help us to gain a better understanding of New Zealanders' attitudes towards biculturalism, and test the Dunning-Kruger effect.

Method

Participants

To determine Study 2's sample size a priori power analysis was conducted using G*power (Faul et al., 2007; Faul et al., 2009). Assuming a medium effect size, consistent with Study 1's correlations and previous correlational work, (Sibley & Liu, 2004; West & Eaton, 2019) 101 participants were required to obtain statistical power at the .80 level (Cohen, 1988).

Participants were (49 males, 51 females) recruited via Prolific Academic, an online participant pool - see https://www.prolific.co/. Participants ranged from 18 to 67 years of age (M =35; SD =11.97). Of these 73 identified as New Zealand European, 11 Asian, 6 Māori, 7 Other, 2 Other New Zealand European and 1 Pasifika. To be eligible to partake, participants had to currently reside in New Zealand. This criterion avoided recruiting participants who were New Zealand born, but had not resided here for some time. Further, 62 participants reported only ever living in New Zealand. Participants were paid £1.88 (approximately $3.50NZD) for their contribution. The Victoria University of Wellington Human Ethics Committee #0000028029 has approved all aspects of this procedure.

Measures

Implicit Association Test

An identical Race IAT to Study 1 was used. IATgen was used to build the IAT in Qualtrics (Carpenter et al, 2019). Carpenter and colleagues (2019) have found that the IATGen IAT functions similar to lab based IATs.

Biculturalism Perceptions

To assess resource allocation and symbolic biculturalism, the same Pākehā Attitudes Towards Biculturalism (Sibley & Liu, 2004) was administered as in Study 1.

Perceived Treaty of Waitangi Knowledge

Declared Treaty of Waitangi knowledge was assessed using two items (adapted from West and Eaton, 2019). Firstly, participants were asked to estimate, on a scale from 0 to 100, what percentage of questions they would answer correctly. Secondly, they were asked to indicate, out of the 100 other people completing the questionnaire, how many people they predicted that they would perform better than (see Appendix F for full questionnaire). Participants also completed these questions following completion of the Treaty of Waitangi questionnaire, but with reference to the knowledge test that they had just completed.

Treaty of Waitangi knowledge

The amended Treaty of Waitangi knowledge included an additional 6 questions (19 items in total). These questions were designed to be easier than those in Study 1 e.g. "What time period was the Treaty signed in*?"* which required participants to report the century that the Treaty was signed in rather than the precise year (see Appendix G for amended questionnaire). Question 6, "Who was the first Māori to sign the Treaty?" was inadvertently left out of the questionnaire in Study 2 due to a technical error. We presented the new items before Study 1 items in a random order, to avoid revealing the answers to later questions. For example, it was important Question 3, which asked the date the Treaty of Waitangi was signed, was presented before Question 16, as this question asked participants to select the time period of the Treaty. Original items were also presented in random order. The number of correct answers, as a percentage (%) was calculated for each participant. Higher scores corresponded to greater Treaty of Waitangi knowledge.

Procedure

The procedure was almost identical to that of Study 1, apart from a few minor scale alterations as described above. All questionnaires were administered via Qualtrics, an online survey creator. Firstly, participants were sent a link via Qualtrics to the surveys. Participants

could proceed if their device was compatible e.g. a computer with a keyboard. Information and consent sheets were provided on-screen at the commencement of the survey. These outlined that responses were not linked to their identity on Prolific, and once responses were submitted, it was impossible to retract them. If participants did not wish to continue, they were instructed to close the browser window. Next, participants completed all tasks; in the same format as Study 1, except the revised declared Treaty of Waitangi questions were presented before and after the revised Treaty of Waitangi knowledge questionnaire. To exit at any stage, participants could press the escape button at the top of the screen. Upon completion, participants were debriefed.

Data-analysis

Data analyses were identical to that of Study 2, except for the IAT and declared Treaty of Waitangi scores. For the IAT analyses, the building and scoring procedures were automated using iatgen (Carpenter et al, 2019), although Greenwald and colleagues'(2003) scoring procedures were applied. For comparison of predicted vs actual Treaty of Waitangi scores, participants' absolute scores were grouped in a manner similar to Miller and Geraci's (2011) work. These cut-offs ranged from low, medium and high knowledge. Grouping participants based on their actual knowledge scores, was deemed a more appropriate measure of accuracy than quartile splits (Serra & Gerarci, 2016).

Pre-registration

Prior to data analysis, this study was pre-registered via Open Science Framework (OSF)- see https://osf.io/5vstn. Pre-registration is an open research practice, where the research design, hypotheses and data analysis are specified before data analysis.

Results and Discussion

Descriptive statistics are presented in Table 5. The Kolmogorov-Smirnof test was performed to test the assumption of normality. *P*-values for all variables, except the IAT and resource allocation, were significant, and confirmed the data were non-normally distributed. Similar to Study 1, we used medians as central tendency measures and interquartile ranges as measures of variability. Wilcoxon-signed rank tests and Spearman's Rank tests were also used.

Consistent with Study 1's findings, New Zealanders were more supportive of symbolic biculturalism, than resource allocation ($Z = -8.14$, $p < .001$). On average, participants answered 58% of the Treaty of Waitangi questions correctly, higher than in Study 1 and consistent with the idea that we successfully added easier questions. The highest score was 84%. Table 5 also illustrates predictions of participants' declared Knowledge and compared to others decreased from T1 to T2. Lastly, IAT scores were above 0, which suggests a positive IAT effect. Similar to Study 1, a one sample t-test confirmed this $t(99) = 6.81$, $p < .05$.

Table 5

Medians and Interquartile Ranges Across All Variables (n = 100)

Variables	Median (*Md*)	Interquartile Range (I*QR*)
Resource Allocation	2.80	2.80
Symbolic Biculturalism	4.80	1.20
Treaty Knowledge (%)	57.89	15.79
Declared Knowledge (T1)	40.00	35.75
Declared Knowledge (T2)	27.50	30.00
IAT D score	.38	.68
Declared Knowledge vs Others (T1)	45.00	35.75
Declared Knowledge vs Others (T2)	39.00	41.00

Box plots further illustrate the non-normal data distribution. Figure 7 shows resource allocation responses were normally distributed, and similar to Study 1. Symbolic biculturalism responses were negatively skewed with outliers (see dots on Figure 7). Figure 8 shows Treaty knowledge were slightly negatively skewed, and declared Knowledge data dispersion at T1 and T2 were positively skewed. Participants actual knowledge was higher than their Declared knowledge at Time 1 and Time 2. Next, IAT scores were normally distributed (see Figure 9). Lastly, Figure 10 illustrates declared Knowledge vs others at T1

and T2 data dispersion were slightly negatively skewed, and predictions declined slightly at

T2 after the Treaty test.

Figure 7

Resource Allocation vs Symbolic Biculturalism
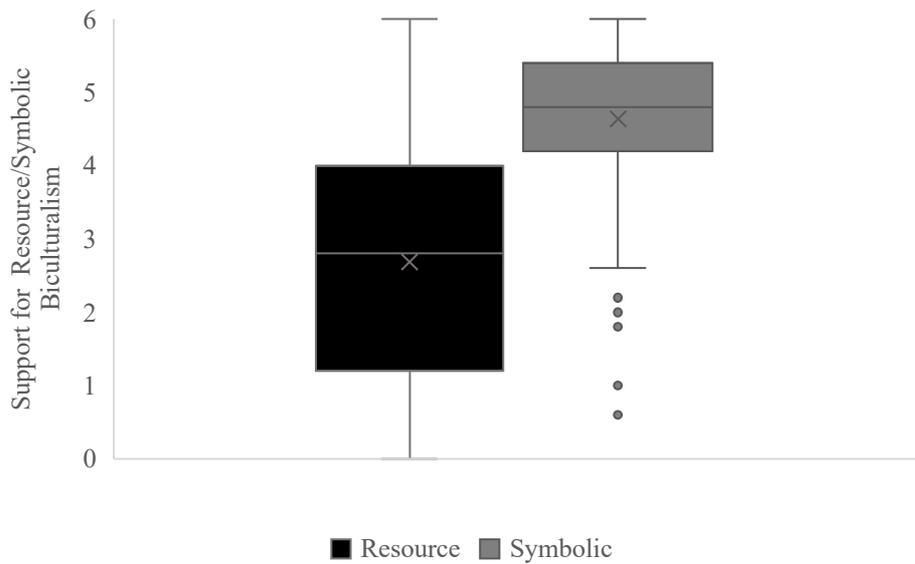
Figure 8

Treaty of Waitangi Knowledge vs Declared knowledge T1 and T2
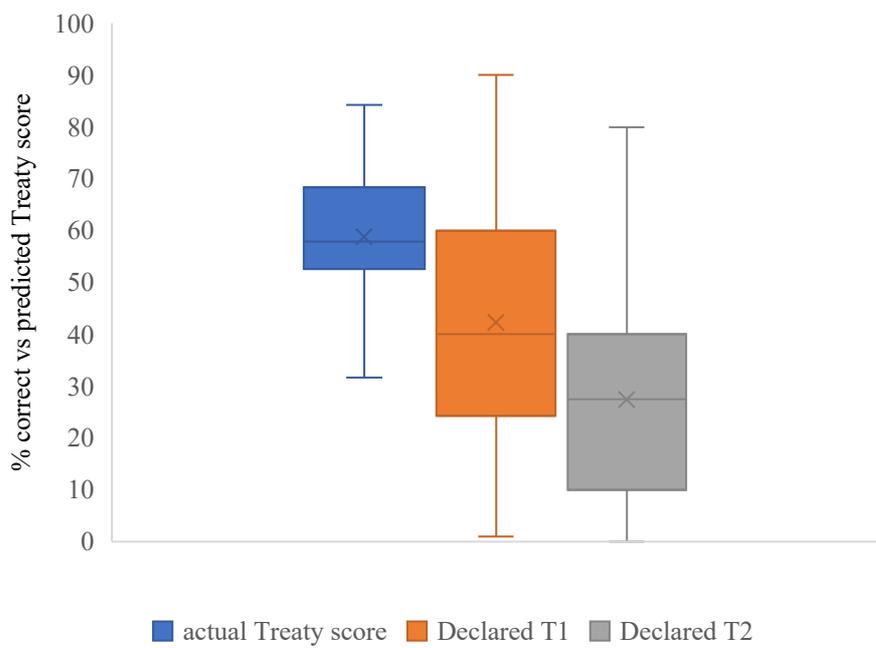
Figure 9

IAT D Scores
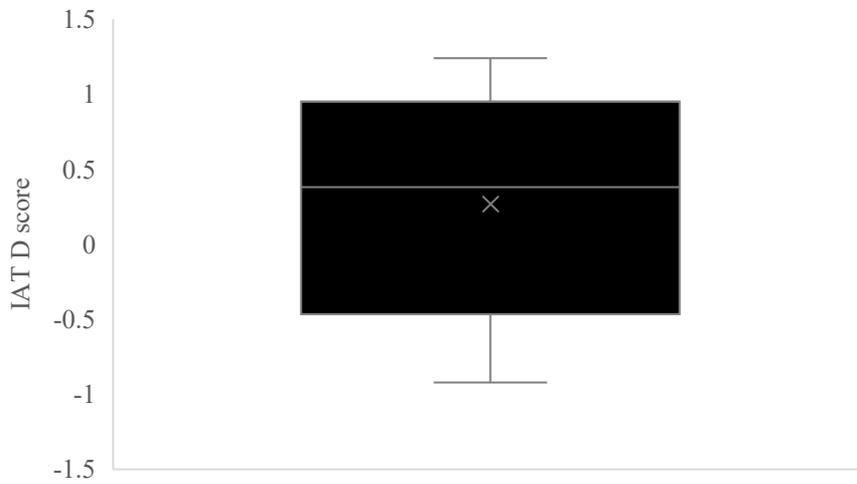
Figure 10

Declared Knowledge vs Others T1 vs T2
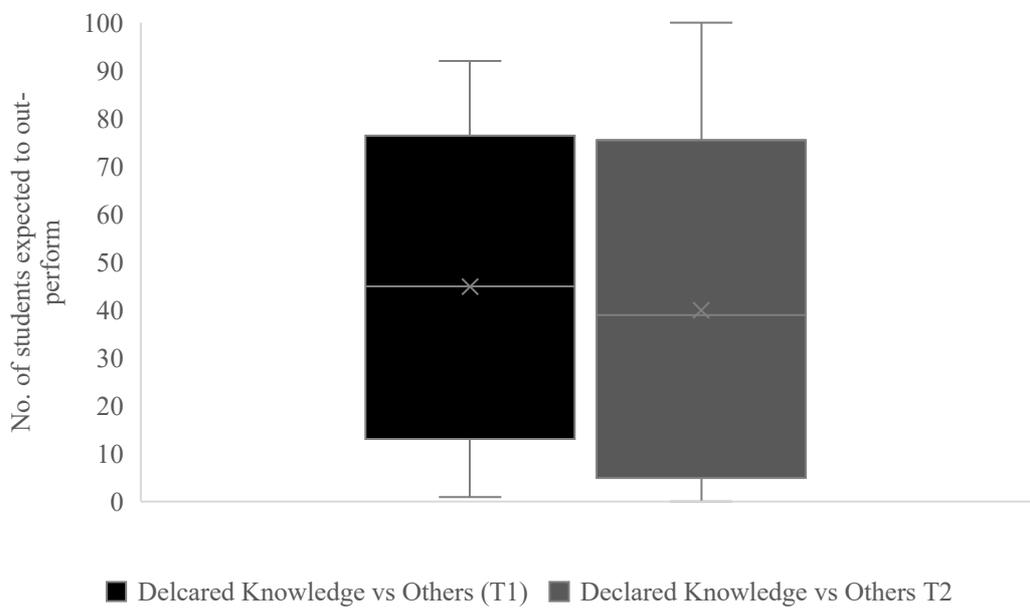
■ Delcared Knowledge vs Others (T1) ■ Declared Knowledge vs Others T2

Correlations Among Measures

We determined whether correlations were significant using the Holm Bonferroni

Sequential method, across the set of 27 correlations. This was to counteract issues of multiple

comparisons, and control for family wise errors. Table 6 illustrates the significant correlations following Bonferroni correction.

Spearman's rank correlations were calculated across all variables (see Table 6). Consistent with Hypothesis 1a: and Sibley and Liu (2004), we found a moderate positive correlation between symbolic biculturalism and resource allocation. Inconsistent with Hypothesis 1b: symbolic biculturalism and declared Treaty of Waitangi knowledge (T1), and Hypothesis 2b: IAT scores and resource allocation were not significant following Bonferroni correction. Although not directly testing the Dunning-Kruger effect, but related to the idea that declared vs actual knowledge are positively correlated, we found a modest correlation between Treaty knowledge and declared Treaty of Waitangi knowledge T1 $r(99) = .34$, p <.05. Positive correlations were also reported between declared Treaty knowledge at T1 and T2 $r(99) = .54$, p <.05, and declared knowledge versus Others at T1 and T2 $r(99) = .58$, p <.05.

Table 6

Spearman's Correlations Across All Variables (n =100)

Variables	1	2	3	4	5	6	7	8
1.Resource Allocation	-							
2.Symbolic Biculturalism	.34**	-						
3.Treaty Knowledge	.18	.10	-					
4.Declared Knowledge (T1)	.16	.19*	.34**	-				
5. Declared Knowledge (T2)	-.07	.11	.34**	.54**	-			
6. IAT D scores	-20*	-.09	-.07	.04	.18	-		
7. Declared Knowledge vs Others (T1)	.08	.24*	.20*	.55**	.42**	.01	-	
8. Declared Knowledge vs Others (T2)	-.00	.24*	.20*	.32**	.58**	.14	.58**	-

*p<.05 after Bonferroni correction p value was not significant.

** p<.001 significant following sequential Bonferroni correction

Note a. Following item 9 removal, symbolic biculturalism vs declared Knowledge T1; symbolic biculturalism vs declared Knowledge vs others T1 and symbolic biculturalism vs declared Knowledge vs others T2 correlations were not significant.

Figure 11

Scatterplots of Correlations Across All Variables
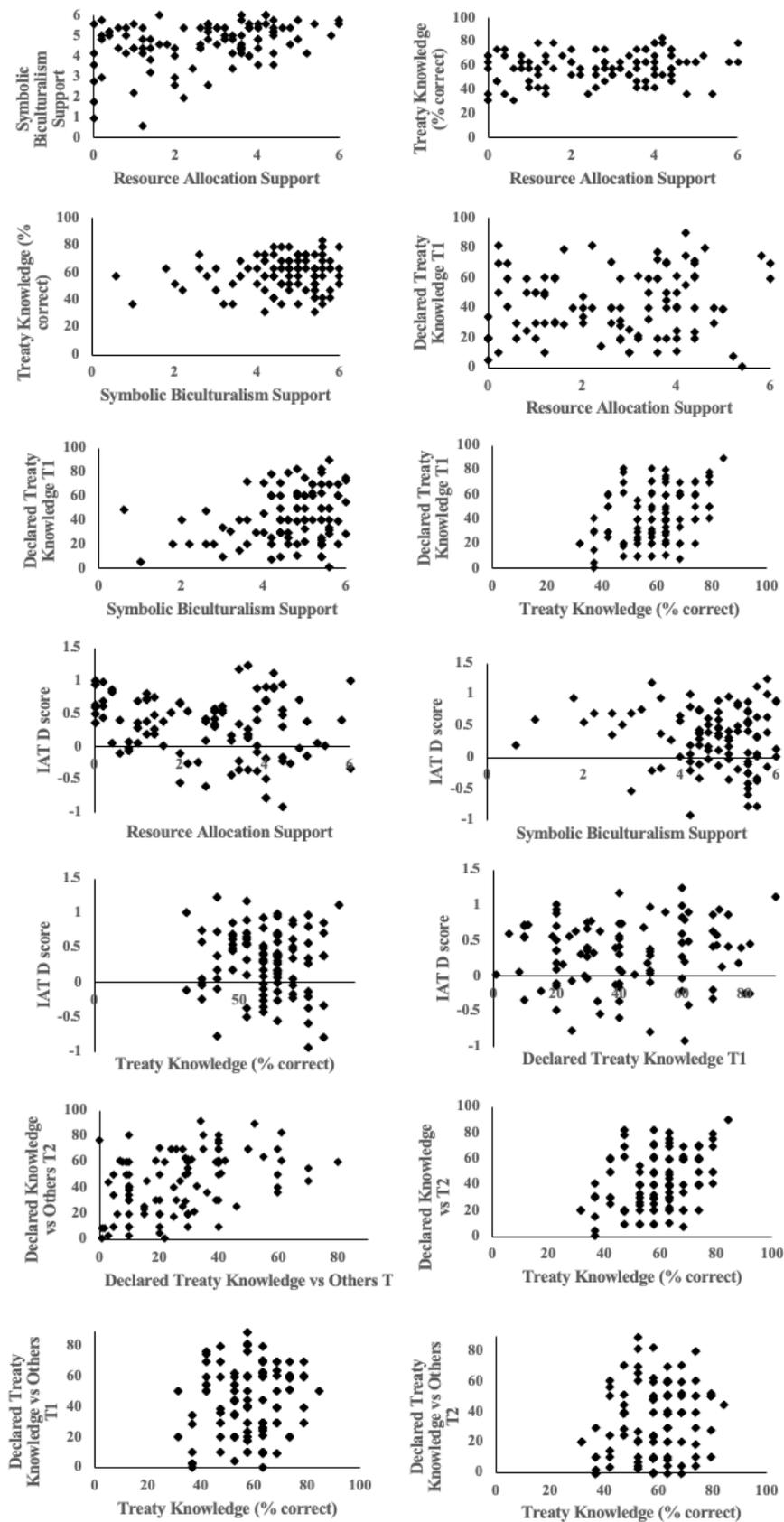
Exploratory Factor Analysis

First, to replicate Study 1 and analyses by Sibley and Liu (2004), we performed an exploratory principal components analysis with varimax rotation. Consistent with Study 1: 63.53% variance and Sibley & Liu (2004): 62.63% variance, we found a two-factor solution explaining 66.88% of the variance. Eigenvalues steeply declined after the second factor (eigenvalues 4.63 and 2.05 for the first and second factors). Item 9 had a cross-loading onto Factor 2 of 2.1. This suggested responses to this item reflected attitudes towards both resource allocation and symbolic biculturalism. We therefore conducted secondary analyses with it removed. Item 9 was "If New Zealand were to change to a republic, then the Treaty of Waitangi should be used a foundation for our constitution". Following removal, the two-factor solution accounted for 73.4% of total variance. Factor 1 contained items assessing resource-allocation, and Factor 2 contained items assessing symbolic biculturalism. Factor 2 cross-loadings were also stronger (ranged between .73 to .85).

Additional analyses of the biculturalism scale with Item 9 excluded

The factor analysis we performed identified that Item 9 had small cross-loadings. Therefore, we re-ran correlational analyses excluding this item. Following removal, symbolic biculturalism and resource allocation were positively correlated $r(99) = .31$, $p < .05$. The remainder of the correlations between symbolic biculturalism and other measures reported pre-item 9 exclusion, were not significant (see Table 6 for non-significant correlations).

Dunning-Kruger analyses

Non-parametric Wilcoxon Signed Rank Tests were performed to analyse the differences between actual and declared scores (see also Figure 8). Participants' declared Treaty of Waitangi scores at T1 were significantly below their actual Treaty knowledge scores $Z = -6.36$, $p < .001$. In fact, participants' declared knowledge at T1 was significantly different to their declared knowledge at T2 $Z = -6.11$, $p < .001$. Similarly we found a

significant difference between participants declared knowledge compared to their peers at T1 to T2 $Z = -3.91$, $p < .001$.

We divided participants into groups, based on the percentage of Treaty knowledge questions answered correctly. These ranged from 0-50 (bottom), 51-60 (second), 61-70 (third) and 71-100 (top). We did not have a baseline comparison score for Treaty knowledge. Therefore, we factored in the Min= 24 and Max= 84.5% scores when identifying these four categories. We calculated difference scores for each participant by subtracting their actual Treaty score from their declared Treaty score (T1 and T2). Positive numbers showed overconfidence whereas negative numbers indicated under-confidence.

Figures 12 and 13 show median, predicted percentiles and difference scores for each score group (at T1 and T2). Left graphs display actual scores compared to declared knowledge (and vs others) as a function of score group. Right graphs show difference scores, between actual and predicted performance (for each score group). Table 12 (left graph) shows participants under-estimated their Treaty knowledge, at T1 and T2. Thus, not supporting the Dunning-Kruger effect and Hypothesis 3a, whereby participants in lower scoring groups would have over-estimated their scores. Figure 13 (left graph) illustrates participants in the first and second group, over-estimated the number of people they predicted to perform better than at Time 1. Participants in the third and fourth groups, underestimated their knowledge at T1. At Time 2, participants in the lowest score group over-estimated their knowledge relative to others, whereas those in the top score group, under-estimated their knowledge. This over-estimation effect, among participants with relatively low scores, when estimating their performance relative to others', is consistent with the Dunning-Kruger effect and Hypothesis 3b.

Figure 12

Actual vs Declared Treaty Knowledge at T1 and T2
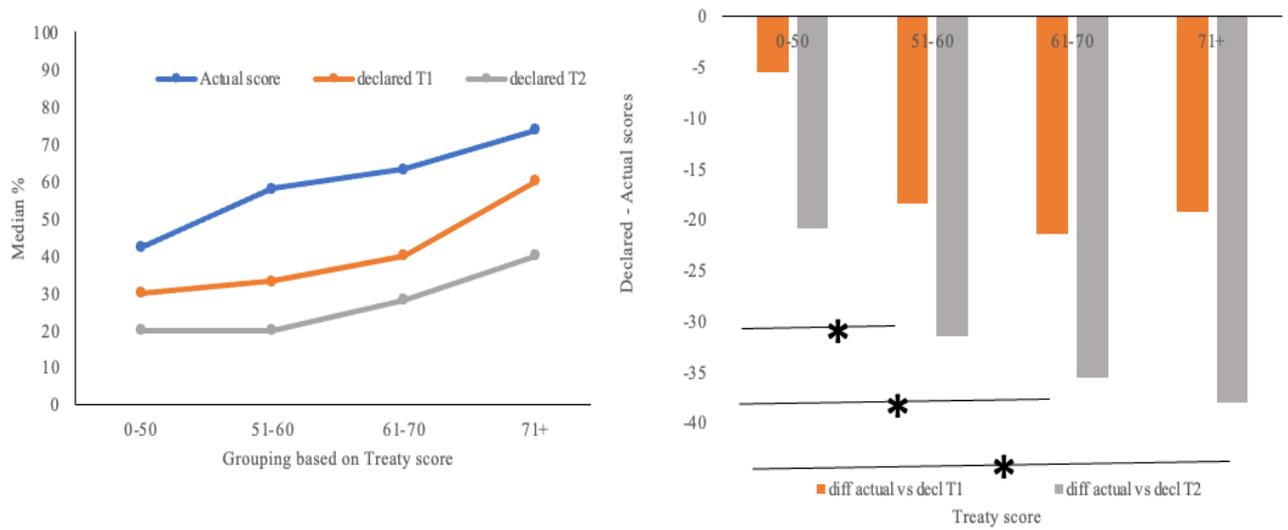
Note a. (left) Actual Treaty scores vs declared Knowledge T1 and T2; (right) Difference scores between actual Treaty score vs declared Knowledge T1 and T2

.* significant at the .05 level

Figure 13

Actual % Out-performed vs Declared Others' Knowledge T1 and T2
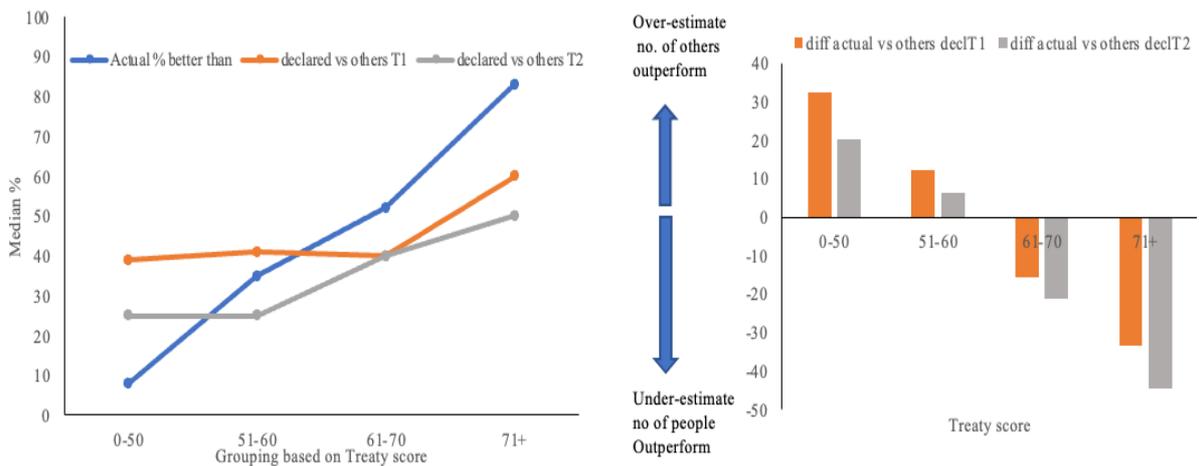
Note a. (left)Actual number of people performed better than vs declared estimates T1 and T2; (right) Difference scores between the actual number of people performed better than T1 and T2

Consistent with the pattern in Figures 12 and 13, a Repeated Measures ANOVA was performed to compare differences between predicted and actual absolute estimates of the percentage of questions answered correctly, and the estimated and actual percentage of other participants each individual scored better than at Time 1 and 2. Levene's Homogeneity of Variances confirmed variances across groups were equal. Sphericity Assumed, for participants declared relative to their actual performance, we found a significant main effect of time $F(1, 96) = 55.54$, $p < .001$, which confirmed an increase in under-estimation of scores from Time 1 to Time 2. No significant interaction between time and group was reported $F(1,96) = .30$, $p > .05$). For participants predicted performance relative to others, we found a significant main effect of time $F(1,96) = 14.22$, $p < .001$ and group $F(1,96) = 39.65$, $p < .001$. There was no significant interaction between time and group $F(1, 96) = .65$, $p < .05$.

Post Hoc Tukey and Games-Howell tests were performed to identify where the differences between groups occurred. For participants own performance predictions, the lowest performing group was significantly different to the second ($M = 11.73$, $p < 0.4$), third ($M = 15.25$, $p < .001$), and fourth ($M = 15.40$, $p < .01$) (see Figure 12 right graph with asterisks). No other differences were significant. A different pattern of results emerged for participants predicted performance, relative to peers (see Figure 13 right graph). All pairs of conditions were significantly different. Participants in the bottom score group over-estimated their position in sample more than those in second ($M = 16.98$, $p < .03$), third ($M = 22.82$, $p < .001$), and fourth ($M = 65.36$, $p < .001$). Similarly, participants in the top score group significantly under-estimated their position in the sample, compared to those in the third ($M = -20.54$, $p = < .01$), second ($M = -48.38$, $p = .001$) and first ($M = -65.36$, $p < .001$).

General Discussion

Our research sought to investigate New Zealanders' attitudes towards biculturalism in Aotearoa New Zealand. Two studies were conducted. Significant effects in Study 1,were replicated in Study 2, specifically, New Zealanders were more supportive of symbolic biculturalism than resource allocation and demonstrated a racial IAT effect (Hypothesis 2a). Following Bonferroni corrections, IAT scores were not correlated with declared Treaty knowledge (Hypothesis 2c) or Treaty of Waitangi knowledge (Hypothesis 2d).

In Study 2, (Hypothesis 1a) symbolic biculturalism was correlated with resource allocation. Inconsistent with hypotheses: correlations between symbolic biculturalism and declared Knowledge (T1) (Hypothesis 1b), as well as between IAT scores and resource allocation were not significant following Bonferroni correction (Hypothesis 2b). Finally, we found partial support for Hypotheses 3a and b: New Zealanders significantly under-estimated their Treaty knowledge when asked to predict their percentage score. However, when asked to estimate their performance relative to others, lower performers showed an over-estimation, and higher performers showed a under-estimation of their knowledge. This finding conformed to the Dunning-Kruger effect (Hypothesis 3b).

Biculturalism

In New Zealand, we can distinguish between two forms of support for biculturalism: symbolic biculturalism and resource-based biculturalism. Across both studies, and consistent with previous findings (Sibley & Liu, 2004, 2007; Sibley et al., 2005; Sibley et al., 2008; Sibley, 2010; Sibley et al., 2011; Jackson & Fischer, 2007; Sibley & Wilson, 2007; Liu et al., 2014), New Zealanders were more supportive of symbolic than resource-based biculturalism. This distinction is similar to that offered by the Integrated Threat Theory (ITT) (Stephan & Stephan, 2000), where opposition towards resource allocation is largely driven by a perceived realistic threat to New Zealanders' status and resources (Sibley & Liu, 2004; 2007). In Study

1 (*Med* = 3.4) and 2 (*Med* = 2.8) participants support for resource allocation was consistent around the midpoint. However, Study 1 is the most comparable to Sibley and Liu (2004), as they were both student samples. There appears to be only a small difference in resource allocation support between Sibley and Liu's (2004) study (*M* =1.27) and Study 1 (*Med* = 3.4). As such, these findings strengthen the case that, under the current socio-political climate, New Zealanders' biculturalism perceptions have remained broadly similar to Sibley and Liu's (2004) work. Furthermore, this raises concerns as to the aspirations of New Zealand as a bicultural nation.

In Study 2, we failed to find a relationship between symbolic biculturalism and declared Treaty knowledge. This finding is interesting as Sibley and Liu (2004), reported a modest correlation (*r* =.3), raising the possibility of a type two error. However, if indeed, these factors are not related, we can speculate that New Zealanders might not view the Treaty as a symbolic resource. Efforts to promote and raise awareness of the Treaty (Collins, 2021), may have created "Treaty fatigue" and in turn given rise to dissatisfaction among New Zealanders (Hill & Bonisch-Brednich, 2007). Although the government has embarked on projects that have brought the Treaty of Waitangi to New Zealanders' consciousness, perhaps we need to re-consider how this is executed.

Given the strong theme of New Zealanders' symbolic support, this could be harnessed to indirectly increase resource allocation support (Liu & Sibley, 2006; Sibley & Liu, 2004; Sibley et al., 2006; Sibley et al., 2011). Supporting this notion, we found a modest correlation between support for symbolic biculturalism and support for resource-allocation in Study 2 (Sibley & Liu, 2004). Experimentally increasing symbolic biculturalism support e.g. presenting people with New Zealand cultural icons (Sibley et al., 2006), and explicitly outlining that the Treaty is the legal basis for resource-allocation, could be one way to achieve this. Conservative values e.g. social dominance, are strong predictors of opposition to

resource allocation (Duckitt & Sibley, 2007; Sibley et al., 2008). People with more conservative values, may be more receptive to legal information, since obedience to social institutions is important to them (Newton et al., 2018). Future work could directly test this, to see whether following stimuli administration e.g. icons and legal information, resource allocation opposition changes or remains stable e.g. immediately after the test, and one day later. Targeting New Zealanders' general inclination to support symbolic biculturalism, coupled with framing resource allocation through a legal lens, might be a more constructive way that government and policymakers can reduce opposition to resource allocation.

One limitation to be noted, is that in the Pākehā Attitudes towards Biculturalism Scale, (Sibley & Liu, 2004) items assessing support for resource allocation were negatively worded e.g., "We are all New Zealanders, and no one ethnic group should get special privileges", whereas items assessing support for symbolic biculturalism, were positively worded e.g. "Māori language should be taught in all schools". This might have inflated the difference between symbolic and resource based biculturalism scores, leading participants to respond more favourably to the positively worded items. Researchers have shown that using a blend of positive and negative wording can increase response set bias and confusion (Sonderen et al., 2013). In turn, people tend to agree more with positive statements, and disagree with negative statements. An interesting future direction, could be to re-administer this scale, and to keep the wording of items consistent with both subscales (negative or positive), to see whether respondents' resource allocation or symbolic support changes (Sonderen et al., 2013).

It is important to consider the COVID-19 pandemic when interpreting these results. COVID posed a realistic threat to New Zealanders e.g. health and safety (Kachanoff et al., 2020). Studies 1 and 2 were conducted when New Zealand was moving between Alert levels 1 and 2. It is recognised that political attitudes can be influenced by threats in the

environment. Nail and McGregor (2009) found Americans demonstrated more conservative views following 9/11, than 6 months prior. Taking into account these circumstances, New Zealanders may have been more opposed to resource allocation. Therefore, when COVID-19 is less prominent, New Zealanders might be more supportive of resource allocation. Of course, this possibility is speculative. Replication of these findings when COVID-19 is not as pervasive would be informative.

Implicit Racial Bias

Implicit racial biases towards Māori are prevalent in New Zealand. Given the negative consequences of these, it is important to understand how they are manifested. Our findings are commensurate with New Zealand (Carroll et al., 2011; Marriot & Sim, 2014; Hippolite & Bruce, 2010; Huria et al., 2014; Barnes et al., 2013; Pack et al., 2016; Reid et al., 2017; Houkamau, 2016), and international research (Greenwald et al., 1998; Nosek et al., 2007; Shirodkar, 2019), whereby dominant group members show implicit racial biases towards out-group members. One possible driver of implicit racial biases is the cultural environment (Greenwald et al., 1998; Payne et al., 2017). Once viewed as "savages" and "primitive barbarians" (Belich, 1996; McCreanor, 1997), today, Māori have been depicted as having strong physical rather than intellectual attributes (Hokowhitu, 2004), and as criminals (Friesen, 1997). These negative depictions of Māori are amplified by Māori being disadvantaged across every life domain (Reid et al., 2019). Further to this, racial biases frequently occur without peoples' awareness or intent (Greenwald et al., 1995). The reality that New Zealanders typically view Māori through a negative lens, cannot be ignored.

Targeting media outlets, may be one way to evade implicit racial biases towards Māori. Media outlets are gatekeepers for depicting negative representations of Māori (Barclay & Liu, 2003; Barnes et al., 2012; Houkamau et al., 2017). However, implicit attitudes can be adaptive to new learning on a situational basis (Dasgupta & Greenwald,

2001). For example, Dasgupta and Greenwald (2001) found exposure to admired African Americans and disliked White Americans, led to lower IAT scores among White Americans. These lower IAT scores were reported 24 hours after stimuli exposure. Promotion of Māori role models e.g. Taika Waititi through social media, might challenge these negative biases. Removing the focus from biased individuals to biased contexts, is an avenue where societal structures that reinforce racial biases can begin to be dismantled (Payne et al., 2017).

However, one strategy on its own will not be effective. While it is important to understand New Zealanders' implicit racial biases, it is also important to challenge these biases. Implicit biases require consistent time, effort and intensity of experience to be altered (Devine et al., 2012). Thus, combining strategies e.g. increasing faculty diversity in government departments (Vuletich & Payne, 2019), using social media platforms (McCosker & Johns, 2014), long-term habit breaking interventions (Devine et al., 2012), are needed for sustained change. Addressing implicit racial biases towards Māori will require a range of adaptive approaches enacted at different levels: by individuals, communities, businesses, and importantly policymakers.

Although we found a racial bias effect, IAT scores were not related to support for resource allocation. A compelling body of work has demonstrated prejudice-related antecedents e.g. social dominance, predict New Zealanders' opposition to resource-based biculturalism (Sibley & Liu, 2004; 2007; Kirkwood et al., 2005; Sibley et al., 2008; Sibley et al., 2011). Qualitative work has identified standard discourses underlying this opposition (Nairn & McCreanor, 1990; Wetherall & Potter, 1992). In this case, explicit, rather than implicit racial biases might play a greater role in New Zealanders' resistance to resource allocation. Supporting this claim, researchers have argued that explicit biases are more predictive of political attitudes than implicit biases (Kinder & Ryan, 2015; Tesler, 2012). Our observations highlight that viewing resource allocation opposition as implicitly racist, is too

simplistic. It does not account for the complex range of motivations, personality factors and attitudes that also drive opposition (Sibley et al., 2005).

Furthermore, New Zealanders' IAT scores and Treaty knowledge were not correlated. Some research has provided preliminary evidence of this relationship, but this work was conducted in the United States (Nelson et al., 2013). Māori and African Americans have experienced historical injustice, yet these two groups differ in their indigenous status (Sibley & Barlow, 2009). While these results highlight that increasing Treaty knowledge and awareness is unlikely to alleviate racial biases, we are far from concluding that implicit racial biases towards Māori are innocuous (Kinder & Ryan, 2015).

While the IAT is one of the most popular tools for assessing racial biases, its limitations must be noted. Methodological components of the IAT's reliability (e.g. Dasgupta & Greenwald, 2001; Greenwald & Farnham, 2000; Greenwald & Nosek, 2001; Nosek et al., 2007), validity (Greenwald et al., 2009; Jost et al., 2009), and predictive utility (Blanton et al., 2009; Quillian, 2008; Oswald et al., 2013) have been questioned. For instance, in the current work, IAT scores could have been reflective of participants' familiarity with the IAT test stimuli, rather than a racial bias effect. Setting these criticisms aside, until a superior implicit attitude measure is devised, the IAT continues to out-perform alternatives (Kurdi et al., 2018).

Treaty of Waitangi

In Study 2, we found two contrasting relationships between declared and actual Treaty of Waitangi knowledge. First, discordant with previous research in Western (individualistic) settings, (Dunning et al., 2003; Kruger & Dunning, 1999; Dunning, 2011; Schlosser et al., 2013; Miller & Geraci, 2011; Gibbs et al., 2017) New Zealanders under-estimated their Treaty knowledge relative to their actual scores. Cross-cultural studies have reported similar findings (Coutinho et al., 2019). One interpretation is that cultural values

play a significant role in how people judge their Treaty knowledge. Modesty and humility are widely regarded as being at the core of the national psyche. Although achievement is admired, it is often downplayed (Holmes, 2018). It is not yet clear why this cultural value around modesty would have a greater effect on percentage estimates than predictions compared to other people. Notwithstanding this, to our knowledge, our findings are the first to demonstrate this unique culture effect in a Western setting.

So far, we have offered the interpretation that culture might play a mediating role in how New Zealanders judge their Treaty knowledge. Alternatively, participants may have miscalculated their knowledge, because they anticipated that the test would be harder than it actually was. If indeed, this observation were true, we would have expected the recent experience of an unexpectedly easy knowledge test, to have led participants to increase their predictions at Time 2. However, participants' estimations lowered at Time 2 (even among lower performers). In fact, participants evaluated their original guesses as not low enough, and the recent experience accentuated how much they did not know. In this regard, our observations provide interesting evidence, against the strongest contention of the Dunning-Kruger account (1999; Dunning et al., 2003), that lower performers lack meta-cognitive awareness of their own performance.

Conversely, a Dunning-Kruger effect was found when participants compared their performance to others' (Kruger & Dunning, 1999; Dunning et al., 2003). Lower performers (those scoring less than 50 on the knowledge quiz) significantly over-estimated their performance compared to others. Competent performers, on the other hand, under-estimated their abilities compared to others. Favourable self-evaluations can serve protective functions and are associated with less depression and anxiety (Cai et al., 2009), and better coping strategies (Gupta & Bonanno, 2010). In short, we offer a novel Dunning-Kruger pattern, whereby New Zealanders lacking in Treaty of Waitangi knowledge, view themselves

positively compared to others, yet lack confidence in the precision of their own evaluations. These evaluations can guide the relationship between culture, society and the self.

New Zealanders' tendency to under-estimate their abilities, could be used to improve the delivery of cultural safety trainings. Across a range of institutions and workplaces, for example, Treaty Resource Centre, Tutira Mai NZ and Te ara ki tua- The pathway forward, cultural safety trainings have been used to promote Treaty knowledge and to ensure cultural best practice (Harris et al., 2016). Lack of confidence, can create a major barrier to effective communication. Facilitators should hence consider how to assess, build and sustain participants' self-efficacy, especially in relation to feelings of doubt. One way to do this is reinforce learnt material. Greater discussion and engagement surrounding the Treaty has the potential to challenge pre-existing stereotypes and biases (Curtis et al., 2019).

Future research might consider replication of this study to explore whether New Zealanders' under-estimation is a) a culture-effect that would affect New Zealanders' reports of their own knowledge in any domain or b) specific to reports about Treaty of Waitangi knowledge. To resolve this puzzle, administration of a control condition e.g. maths test, that has no political or cultural context, combined with the Treaty of Waitangi knowledge scale, would help to confirm this culture effect. If this is a domain-general effect, then New Zealanders would be expected to underestimate their knowledge in the control questions to the same extent as the Treaty questions.

Ultimately, to gain a clearer picture of attitudes towards biculturalism in New Zealand, future work should explore this topic from a Māori perspective. New Zealand (Sibley & Liu, 2004; Sibley et al., 2005) and race-based work (Greenwald et al., 1998; Nosek et al., 2007), typically focuses on dominant groups attitudes. Under the Treaty, the rights of Māori arise from tino rangatiratanga (self-determination), the right to participate, and that Māori have an interest in research that relates to them (Hudson & Russell, 2009). Using a

Kaupapa Māori approach, Māori would have a greater level of participation within the research process. In turn, a research topic and questions that are meaningful to Māori e.g. issues that Māori face as a result of lack of bicultural resource allocation, could be developed within the Māori community. As such, the Māori voice would be heard. This approach would complement my work, and allow for a more balanced understanding of attitudes towards biculturalism.

Conclusion

In sum, despite prolific socio-political changes, New Zealanders' attitudes towards biculturalism have remained relatively unchanged since Sibley and Liu's (2004) work. Across two studies, we demonstrated that New Zealanders were more supportive of symbolic biculturalism rather than resource-based biculturalism and a positive racial bias towards Māori was evident. In Study 2, we revealed new empirical evidence for the Dunning-Kruger effect: when estimating their knowledge relative to peers: lower performers over-estimated their knowledge whereas higher performers under-estimated their knowledge. Together, our findings have helped to provide a contemporary picture of New Zealanders' attitudes towards biculturalism.

New Zealand's aspirations of being a bicultural nation have yet to be realised. Realistically, it remains an abstract principle, that is not aligned with the enduring economic, cultural and implicit racial inequalities faced by Māori. Essentially, bicultural ideals have not translated into bicultural practice. The Royal Commission of Social Policy in 1987 stated that the Māori dimension of the Treaty, was at the core of New Zealand society (Hayward, 2012). Based on our findings, it would appear that the Treaty of Waitangi has not been developing as an evolving social contract. Neither has it been used to guide our understanding of biculturalism.

Overall, we hope that this research will act as an impetus for greater discussion, debate and research surrounding attitudes towards biculturalism. Such conversations are of the utmost importance in the promotion of a just, bicultural society.

References

Abrams, D., & Hogg, M. A. (1988). Comments on the motivational status of self-esteem in social identity and intergroup discrimination. *European Journal of Social Psychology*, *18*(4), 317-334. https://doi.org/10.1002/ejsp.2420180403

Amodio, D. M., Harmon-Jones, E., & Devine, P. G. (2003). Individual differences in the activation and control of affective race bias as assessed by startle eyeblink response and self-report. *Journal of Personality and Social Psychology*, *84*(4), 738-753. https://doi.org/10.1037/0022-3514.84.4.738

Amodio, D. M., Harmon-Jones, E., Devine, P. G., Curtin, J. J., Hartley, S. L., & Covert, A. E. (2004). Neural signals for the detection of unintentional race bias. *Psychological Science*, *15*(2), 88-93. https://doi.org/10.1111/j.0963-7214.2004.01502003.x

Banaji. (2001). Implicit attitudes can be measured. In *The nature of remembering: Essays in honour of Robert G. Crowder* (pp. 117-150). American Psychological Association.

Barclay, K., & Liu, J. H. (2003). Who gets voice? (Re)presentation of bicultural relations in New Zealand print media. *New Zealand Journal of Psychology*, *32*(1), 3-12. https://search.proquest.com/scholarly-journals/who-gets-voice-re-presentation-bicultural/docview/212441553/se-2?accountid=14782

Bargh, J. A., & Pratto, F. (1986). Individual construct accessibility and perceptual selection. *Journal of Experimental Social Psychology*, *22*(4), 293-311. https://doi.org/10.1016/0022-1031(86)90016-8

Barnes, A. M., Borell, B., McCreanor, T., Nairn, R., Rankine, J., & Taiapa, K. (2012). Anti-Maori themes in New Zealand journalism—toward alternative practice. *Pacific Journalism Review*, *18*(1), 195. https://doi.org/10.24135/pjr.v18i1.296

Barnes, A. M., Taiapa, K., Borell, B., & McCreanor, T. (2013). Maori experiences and responses to racism in Aotearoa New Zealand. *Mai Journal*, *2*, 63-77. http://www.journal.mai.ac.nz/content/māori-experiences-and-responses-racism-aotearoa-new-zealand

Barton, P. (2018). The elephant in the room-nursing and Māori health disparities. *Kai Tiaki: Nursing New Zealand*, *24*(4). https://search.proquest.com/scholarly-journals/elephant-room-nursing-māori-health-disparities/docview/2048055659/se-2?accountid=14782

Belich, J. (1996). *Making peoples: a history of the New Zealanders from Polynesian settlement to the end of the nineteenth century*. The Penguin Press.

Bell, A. (2006). Bifurcation or entanglement? Settler identity and biculturalism in Aotearoa New Zealand. *Continuum*, *20*(2), 253-268. https://doi.org/10.1080/10304310600641786

Bennett, S. T., & Liu, J. H. (2018). Historical trajectories for reclaiming an Indigenous identity in mental health interventions for Aotearoa/New Zealand—Maori values, biculturalism, and multiculturalism. *International Journal of Intercultural Relations*, *62*, 93-102. https://doi.org/10.1016/j.ijintrel.2017.05.005

Berghan, G., Came, H., Coupe, N., Doole, C., Fay, J., Mccreanor, T., & Simpson, T. (2017). *Te Tiriti o Waitangi-based practice in health promotion*. STIR:Stop Institutional Racism.

Bishop, R., Berryman, M., Cavanagh, T., & Teddy, L. (2009). Te Kotahitanga: Addressing educational disparities facing Maori students in New Zealand. *Teaching and Teacher Education*, *25*(5), 734-742. https://doi.org/10.1016/j.tate.2009.01.009

Blair, I. V. (2002). The malleability of automatic stereotypes and prejudice. *Personality and Social Psychology Review*, *6*(3), 242-261. https://doi.org/10.1207/s15327957pspr0603_8

Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology*, *70*(6), 1142-1163. https://doi.org/10.1037/0022-3514.70.6.1142

Blanton, H., Jaccard, J., Klick, J., Mellers, B., Mitchell, G., & Tetlock, P. E. (2009). Strong claims and weak evidence: Reassessing the predictive validity of the IAT. *Journal of Applied Psychology*, *94*(3), 567-582. https://doi.org/10.1037/a0014665

Booth, J. M., & Hunn, J. K. (1962). *Integration of Maori and Pakeha (Special Studies No. 1)*. Department of Māori Affairs.

Brittain, E., & Tuffin, K. (2017). Ko tehea te ara tika? A discourse analysis of Maori experience in the criminal justice system. *New Zealand Journal of Psychology*, *46*(2), 99-107. https://search.proquest.com/scholarly-journals/ko-tēhea-te-ara-tika-discourse-analysis-māori/docview/1931235586/se-2?accountid=14782

Bromell, D. (2009). Diversity and democracy. *Policy Quarterly*, *5*(4), 29-35. https://doi.org/10.26686/pq.v5i4.4310

Broughton, C. (2019). *A refugee in my own country*. Stuff.co.nz. https://interactives.stuff.co.nz/2019/12/being-kiwi-racism-survey-results/

Byrnes, G. (2006). "Relic of 1840" or founding document? The treaty, the tribunal and concepts of time1. *Kotuitui: New Zealand Journal of Social Sciences Online*, *1*(1), 1-12. https://doi.org/10.1080/1177083x.2006.9522407

Cai, H., Wu, Q., & Brown, J. D. (2009). "Is self-esteem a universal need? Evidence from the People's Republic of China". *Asian Journal of Social Psychology*, *12*(2), 104-120. https://doi.org/10.1111/j.1467-839x.2009.01278.x

Came, H. (2014). Sites of institutional racism in public health policy making in New Zealand. *Social Science & Medicine*, *106*, 214-220. https://doi.org/10.1016/j.socscimed.2014.01.055

Cameron, C. D., Brown-Iannuzzi, J. L., & Payne, B. K. (2012). Sequential priming measures of implicit social cognition: A meta-analysis of associations with behavior and explicit attitudes. *Personality and Social Psychology Review*, *16*(4), 330-350. https://doi.org/10.1177/1088868312440047

Carpenter, T. P., Pogacar, R., Pullig, C., Kouril, M., Aguilar, S., LaBouff, J., Isenberg, N., & Chakroff, A. (2019). Survey-software implicit association tests: A methodological and empirical analysis. *Behavior Research Methods*, *51*(5), 2194-2208. https://doi.org/10.3758/s13428-019-01293-3

Carroll, P., Casswell, S., Huakau, J., Howden-Chapman, P., & Perry, P. (2011). The widening gap: perceptions of poverty and income inequalities and implications for health and social outcomes. *Social Policy Journal of New Zealand/Te Puna Whakaaro*, (37). https://www.proquest.com/scholarly-journals/widening-gap-perceptions-poverty-income/docview/1081890401/se-2?accountid=14782

Carruthers, P. (2018). Implicit versus explicit attitudes: Differing manifestations of the same representational structures? *Review of Philosophy and Psychology*, *9*(1), 51-72. https://doi.org/10.1007/s13164-017-0354-3

Chekroud, A. M., Everett, J. A., Bridge, H., & Hewstone, M. (2014). A review of neuroimaging studies of race-related prejudice: Does amygdala response reflect threat? *Frontiers in Human Neuroscience*, *8*. https://doi.org/10.3389/fnhum.2014.00179

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Collins, S. (2021, February 3). *National party's Paul Goldsmith slams Aotearoa NZ histories curriculum as 'lacking in balance'*. NZ Herald. https://www.nzherald.co.nz/nz/national-partys-paul-goldsmith-slams-aotearoa-nz-histories-curriculum-as-lacking-in-balance/C5MRXHSZXUIDWXXZI2BF4VMMBQ/

Corenblum, B., & Stephan, W. G. (2001). White fears and native apprehensions: An integrated threat theory approach to intergroup attitudes. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, *33*(4), 251-268. https://doi.org/10.1037/h0087147

Cormack, D., Harris, R., & Stanley, J. (2020). Maori experiences of multiple forms of discrimination: Findings from te Kupenga 2013. *Kōtuitui: New Zealand Journal of Social Sciences Online*, *15*(1), 106-122. https://doi.org/10.1080/1177083x.2019.1657472

Cornell, S., & Hartmann, D. (2006). *Ethnicity and race: Making identities in a changing world*. SAGE Publications.

Coutinho, M., Thomas, J., & Alshamsi, S. (2019). Exploring the Dunning-Kruger effect in a collectivist Arab society: An empirical study in the United Arab Emirates. *Frontiers in Human Neuroscience*, *13*. https://doi.org/10.3389/conf.fnhum.2019.229.00009

Craig, M. A., & Richeson, J. A. (2014). On the precipice of a "majority-minority" America. *Psychological Science*, *25*(6), 1189-1197. https://doi.org/10.1177/0956797614527113

Cumming, G. (2004, February 23). Non-Maori say they've had enough. *nzherald.co.nz*. https://www.nzherald.co.nz/nz/non-maori-say-theyve-had-enough/V57R4D4PKLNSUCODEMGUJQR6ZM/

Cunningham, W. A., Johnson, M. K., Raye, C. L., Gatenby, J. C., Gore, J. C., & Banaji, M. R. (2004). Separable neural components in the processing of black and white faces. *Psychological Science*, *15*(12), 806-813. https://doi.org/10.1111/j.0956-7976.2004.00760.x

Cunningham, W. A., Van Bavel, J. J., & Johnsen, I. R. (2008). Affective flexibility:evaluative processing goals shape amygdala activity. *Psychological Science*, *19*(2), 152-160. https://doi.org/10.1111/j.1467-9280.2008.02061.x

Curtis, E., Jones, R., Tipene-Leach, D., Walker, C., Loring, B., Paine, S., & Reid, P. (2019). Why cultural safety rather than cultural competency is required to achieve health equity: A literature review and recommended definition. *International Journal for Equity in Health*, *18*(1). https://doi.org/10.1186/s12939-019-1082-3

Danbold, F., & Huo, Y. J. (2015). No longer "All-American"? Whites' defensive reactions to their numerical decline. *Social Psychological and Personality Science*, *6*(2), 210-218. https://doi.org/10.1177/1948550614546355

Dasgupta, N., & Greenwald, A. G. (2001). On the malleability of automatic attitudes: Combating automatic prejudice with images of admired and disliked individuals. *Journal of Personality and Social Psychology*, *81*(5), 800-814. https://doi.org/10.1037/0022-3514.81.5.800

Department of Corrections. (2007). *Over-representation of Māori in the criminal justice system An exploratory report*. https://www.corrections.govt.nz/__data/assets/pdf_file/0014/10715/Over-representation-of-Maori-in-the-criminal-justice-system.pdf

Department of Corrections. (2020). *Annual Report 2019/2020*. https://www.corrections.govt.nz/resources/strategic_reports/annual-reports/annual_report_2019_2020

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*(1), 5-18. https://doi.org/10.1037/0022-3514.56.1.5

Devine, P. G. (2001). Implicit prejudice and stereotyping: How automatic are they? Introduction to the special section. *Journal of Personality and Social Psychology*, *81*(5), 757-759. https://doi.org/10.1037/0022-3514.81.5.757

Devine, P. G., Forscher, P. S., Austin, A. J., & Cox, W. T. (2012). Long-term reduction in implicit race bias: A prejudice habit-breaking intervention. *Journal of Experimental Social Psychology*, *48*(6), 1267-1278. https://doi.org/10.1016/j.jesp.2012.06.003

Devos, T., & Banaji, M. R. (2005). American = white? *Journal of Personality and Social Psychology*, *88*(3), 447-466. https://doi.org/10.1037/0022-3514.88.3.447

Dovidio, J. D., & Gaertner, S. L. (1986). *Prejudice, discrimination, and racism*. Academic Press.

Dovidio, J. F., Kawakami, K., & Beach, K. R. (2001). Implicit and explicit attitudes: Examination of the relationship between measures of intergroup bias. *Intergroup Processes*, *4*, 175-197. https://doi.org/10.1002/9780470693421.ch9

Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology*, *82*(1), 62-68. https://doi.org/10.1037/0022-3514.82.1.62

Dunning, D. (2011). The Dunning–Kruger effect. *Advances in Experimental Social Psychology*, 247-296. https://doi.org/10.1016/b978-0-12-385522-0.00005-6

Dunning, D., Johnson, K., Ehrlinger, J., & Kruger, J. (2003). Why people fail to recognize their own incompetence. *Current Directions in Psychological Science*, *12*(3), 83-87. https://doi.org/10.1111/1467-8721.01235

Durie, E. T. (2005). The Rule of Law, Biculturalism and Multiculturalism. *Waikato Law Review: Taumauri*, *13*, 41-

45. https://search.informit.org/doi/10.3316/INFORMIT.650116721192887

Durie, M. (1998). *Whaiora: Maori health development*. Oxford University Press.

Farrelly, S., Rudegeair, T., & Rickard, S. (2006). Trauma and dissociation in Aotearoa (New Zealand). *Journal of Trauma Practice*, *4*(3-4), 203-

220. https://doi.org/10.1300/j189v04n03_02

Faul, F., Erdfelder, E., Lang, A., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175-191. https://doi.org/10.3758/bf03193146

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149-1160. https://doi.org/10.3758/brm.41.4.1149

Fazio, R. H., Jackson, J. R., Dunton, B. C., & Williams, C. J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology*, *69*(6), 1013-

1027. https://doi.org/10.1037/0022-3514.69.6.1013

Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, *54*(1), 297-

327. https://doi.org/10.1146/annurev.psych.54.101601.145225

Friesen, W. (1997). Nga Patai: Racism and ethnic relations in Aotearoa/New Zealand by Paul Spoonley, cluny Macpherson, David Pearson (EDS). *New Zealand Geographer*, *53*(2), 66-67. https://doi.org/10.1111/j.1745-7939.1997.tb00509.x

Gibbs, S., Moore, K., Steel, G., & McKinnon, A. (2017). The Dunning-Kruger effect in a workplace computing setting. *Computers in Human Behavior*, *72*, 589-595. https://doi.org/10.1016/j.chb.2016.12.084

González, R., Sirlopú, D., & Kessler, T. (2010). Prejudice among peruvians and chileans as a function of identity, intergroup contact, acculturation preferences, and intergroup emotions. *Journal of Social Issues*, *66*(4), 803-824. https://doi.org/10.1111/j.1540-4560.2010.01676.x

Gordon, S., Davey, S., Waa, A., Tiatia, R., & Waaka, T. (2017). *Social Inclusion and Exclusion,Stigma and Discrimination, and the Experience of Mental Distress*. Mental Health Foundation of New Zealand.

Gordon-Burns, D., & Campbell, L. (2014). Indigenous rights in Aotearoa/New Zealand— Inakitia rawatia hei kakano Mo āpōpō: Students' encounters with bicultural commitment. *Childhood Education*, *90*(1), 20-28. https://doi.org/10.1080/00094056.2014.872506

Green, A. R., Carney, D. R., Pallin, D. J., Ngo, L. H., Raymond, K. L., Iezzoni, L. I., & Banaji, M. R. (2007). Implicit bias among physicians and its prediction of thrombolysis decisions for black and white patients. *Journal of General Internal Medicine*, *22*(9), 1231-1238. https://doi.org/10.1007/s11606-007-0258-5

Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, *102*(1), 4-27. https://doi.org/10.1037/0033-295x.102.1.4

Greenwald, A. G., Banaji, M. R., & Nosek, B. A. (2015). Statistically small effects of the implicit association test can have societally large effects. *Journal of Personality and Social Psychology,*, *108*(4), 553-561. https://doi.org/10.31234/osf.io/as2ez

Greenwald, A. G., & Farnham, S. D. (2000). Using the implicit association test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, *79*(6), 1022-1038. https://doi.org/10.1037/0022-3514.79.6.1022

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*(6), 1464-1480. https://doi.org/10.1037/0022-3514.74.6.1464

Greenwald, A. G., & Nosek, B. A. (2001). Health of the implicit association test at age 3. *Experimental Psychology*, *48*(2), 85-93. https://doi.org/10.1026//0949-3946.48.2.85

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). "Understanding and using the implicit association test: I. An improved scoring algorithm": Correction to Greenwald et al. (2003). *Journal of Personality and Social Psychology*, *85*(3), 481-481. https://doi.org/10.1037/h0087889

Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the implicit association test: III. meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, *97*(1), 17-41. https://doi.org/10.1037/a0015575

Gupta, S., & Bonanno, G. A. (2010). Trait self-enhancement as a buffer against potentially traumatic events: A prospective study. *Psychological Trauma: Theory, Research, Practice, and Policy*, *2*(2), 83-92. https://doi.org/10.1037/a0018959

Haddock, G., Zanna, M. P., & Esses, V. M. (1993). Assessing the structure of prejudicial attitudes: The case of attitudes toward homosexuals. *Journal of Personality and Social Psychology*, *65*(6), 1105-1118. https://doi.org/10.1037/0022-3514.65.6.1105

Harding, J. F., Sibley, C. G., & Robertson, A. (2011). New Zealand = Maori, New Zealand = bicultural: Ethnic group differences in a national sample of Maori and Europeans. *Social Indicators Research*, *100*(1), 137-148. https://doi.org/10.1007/s11205-010-9608-5

Harris, F., Macfarlane, S., Macfarlane, A., & Jolly, M. (2016). Maori values in the workplace: Investing in diversity. *MAI Journal: A New Zealand Journal of Indigenous Scholarship*, *5*(1), 48-62. https://doi.org/10.20507/maijournal.2016.5.1.4

Harris, R., Cormack, D., Tobias, M., Yeh, L., Talamaivao, N., Minster, J., & Timutimu, R. (2012). The pervasive effects of racism: Experiences of racial discrimination in New Zealand over time and associations with multiple health domains. *Social Science & Medicine*, *74*(3), 408-415. https://doi.org/10.1016/j.socscimed.2011.11.004

Harris, R., Tobias, M., Jeffreys, M., Waldegrave, K., Karlsen, S., & Nazroo, J. (2006). Effects of self-reported racial discrimination and deprivation on Maori health and inequalities in New Zealand: Cross-sectional study. *The Lancet*, *367*(9527), 2005-2009. https://doi.org/10.1016/s0140-6736(06)68890-9

Hart, A. J., Whalen, P. J., Shin, L. M., McInerney, S. C., Fischer, H., & Rauch, S. L. (2000). Differential response in the human amygdala to racial outgroup vs ingroup face stimuli. *NeuroReport*, *11*(11), 2351-2354. https://doi.org/10.1097/00001756-200008030-00004

Hartwig, M. K., & Dunlosky, J. (2014). The contribution of judgment scale to the unskilled-and-unaware phenomenon: How evaluating others can exaggerate over- (and under-) confidence. *Memory & Cognition*, *42*(1), 164-173. https://doi.org/10.3758/s13421-013-0351-4

Hayward, J. (2012). *Principles of the Treaty of Waitangi – ngā mātāpono o te tiriti*. https://teara.govt.nz/. https://teara.govt.nz/en/principles-of-the-treaty-of-waitangi-nga-matapono-o-te-tiriti

Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology*, *53*(1), 575-604. https://doi.org/10.1146/annurev.psych.53.100901.135109

Hill, R. (2010). Teaching te reo Maori as a second language in primary schools: Two case studies. *Waikato Journal of Education*, *15*(3). https://doi.org/10.15663/wje.v15i3.80

Hill, R. S., & Bönisch-Brednich, B. (2007). Politicizing the past: Indigenous scholarship and crown—Maori reparations processes in New Zealand. *Social & Legal Studies*, *16*(2), 163-181. https://doi.org/10.1177/0964663907076525

Hippolite, H. R., & Bruce, T. (2010). Speaking the unspoken: Racism, sport and Maori. *Cosmopolitan Civil Societies: An Interdisciplinary Journal*, *2*(2), 23-45. https://doi.org/10.5130/ccs.v2i2.1524

Hokowhitu, B. (2004). Tackling Maori masculinity: A colonial genealogy of savagery and sport. *The Contemporary Pacific*, *16*(2), 259-284. https://doi.org/10.1353/cp.2004.0046

Holmes, J. (2018). Negotiating the culture order in New Zealand workplaces. *Language in Society*, *47*(1), 33-56. https://doi.org/10.1017/s0047404517000732

Houkamau, C. A. (2016). What you can't see can hurt you: How do stereotyping, implicit bias and stereotype threat affect Maori health? *MAI Journal: A New Zealand Journal of Indigenous Scholarship*, *5*(2), 124-136. https://doi.org/10.20507/maijournal.2016.5.2.3

Houkamau, C. A., Stronge, S., & Sibley, C. G. (2017). The prevalence and impact of racism toward Indigenous Maori in New Zealand. *International Perspectives in Psychology*, *6*(2), 61-80. https://doi.org/10.1037/ipp0000070

Hudson, M. L., & Russell, K. (2008). The Treaty of Waitangi and research ethics in Aotearoa. *Journal of Bioethical Inquiry*, *6*(1), 61-68. https://doi.org/10.1007/s11673-008-9127-0

Human Rights Act 1993.

Huria, T., Cuddy, J., Lacey, C., & Pitama, S. (2014). Working with racism:a qualitative study of the perspectives of Māori (indigenous peoples of Aotearoa New Zealand) registered nurses on a global phenomenon. *Journal of Transcultural Nursing*, *25*(4), 364-372. https://doi.org/10.1177/1043659614523991

Hülür, G., Wilhelm, O., & Schipolowski, S. (2011). Prediction of self-reported knowledge with over-claiming, fluid and crystallized intelligence and typical intellectual engagement. *Learning and Individual Differences*, *21*(6), 742-746. https://doi.org/10.1016/j.lindif.2011.09.006

Jackson, B., & Fischer, R. (2007). "Biculturalism in employee selection or 'who should get the job'? Perceptions of Maori and Pakeha job applicants in a NZ European student sample.". *New Zealand Journal of Psychology*, *36*(2), 100-108.

Jackson, M. (1992). The Treaty and the word: the colonization of Māori philosophy. In *Justice, Ethics, and New Zealand Society.* (pp. 1-10). Oxford University Press.

Jost, J. T., Rudman, L. A., Blair, I. V., Carney, D. R., Dasgupta, N., Glaser, J., & Hardin, C. D. (2009). The existence of implicit bias is beyond reasonable doubt: A refutation of ideological and methodological objections and executive summary of ten studies that no manager should ignore. *Research in Organizational Behavior*, *29*, 39-69. https://doi.org/10.1016/j.riob.2009.10.001

Kachanoff, F., Bigman, Y., Kapsaskis, K., & Gray, K. (2020). Measuring realistic and

symbolic threats of COVID-19 and their unique impacts on wellbeing and adherence

to public health behaviors. https://doi.org/10.31234/osf.io/5zr3w

Kelsey, J. (2015). *The New Zealand experiment: A world model for structural

adjustment?* Bridget Williams Books.

Kinder, D. R., & Ryan, T. J. (2015). Prejudice and politics re-examined the political

significance of implicit racial bias. *Political Science Research and Methods*, *5*(2),

241-259. https://doi.org/10.1017/psrm.2015.49

King, M. (2003). *New Zealanders at war*. Penguin Books (NZ).

Kirkwood, S., Liu, J. H., & Weatherall, A. (2005). Challenging the standard story of

Indigenous rights in Aotearoa/New Zealand. *Journal of Community & Applied Social

Psychology*, *15*(6), 493-505. https://doi.org/10.1002/casp.837

Knightley, O. (2016, March 20). Oscar Kightley: Special treatment for Maori? Yeah

right. *Stuff.co.nz*. https://www.stuff.co.nz/national/politics/78033002/oscar-kightley-

special-treatment-for-maori-yeah-right

Kohli, R., & Solórzano, D. G. (2012). Teachers, please learn our names!: Racial

microagressions and the K-12 classroom. *Race Ethnicity and Education*, *15*(4), 441-

462. https://doi.org/10.1080/13613324.2012.674026

Krill, A., & Platek, S. M. (2009). In-group and out-group membership mediates anterior

cingulate activation to social exclusion. *Frontiers in Evolutionary

Neuroscience*, *1*. https://doi.org/10.3389/neuro.18.001.2009

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in

recognizing one's own incompetence lead to inflated self-assessments. *Journal of

Personality and Social Psychology*, *77*(6), 1121-1134. https://doi.org/10.1037/0022-

3514.77.6.1121

Kukutai. (2010). *The Thin Brown Line: Re-Indigenizing Inequality in Aotearoa New Zealand* (28131164) [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

Kurdi, B., Seitchik, A. E., Axt, J. R., Carroll, T. J., Karapetyan, A., Kaushik, N., Tomezsko, D., Greenwald, A. G., & Banaji, M. R. (2019). Relationship between the implicit association test and intergroup behavior: A meta-analysis. *American Psychologist*, *74*(5), 569-586. https://doi.org/10.1037/amp0000364

Lawson-Te Aho, K., & Liu, J. H. (2010). Indigenous suicide and colonization: The legacy of violence and the necessity of self-determination. *International Journal of Conflict and Violence*, *4*(1), 124-133. https://doi.org/10.4119/ijcv-2819

LeDoux, J. (1996). Chapter 26 emotional networks and motor control: A fearful view. *Progress in Brain Research*, 437-446. https://doi.org/10.1016/s0079-6123(08)61880-4

Leong, C., & Ward, C. (2011). Intergroup perceptions and attitudes toward immigrants in a culturally plural society. *Applied Psychology*, *60*(1), 46-65. https://doi.org/10.1111/j.1464-0597.2010.00426.x

Lepore, L., & Brown, R. (1997). Category and stereotype activation: Is prejudice inevitable? *Journal of Personality and Social Psychology*, *72*(2), 275-287. https://doi.org/10.1037/0022-3514.72.2.275

Levine. (2006). Moving Beyond Cultural Essentialism. In *New Zealand identities: Departures and destinations* (pp. 104-117). Victoria University Press.

Liu, J. H. (2006). History and Identity: A system of Checks and Balances for Aotearoa New Zealand. In *New Zealand identities: Departures and destinations* (pp. 69-87). Victoria University Press.

Liu, J. H., Sibley, C. G., & Huang, L. (2014). History matters: Effects of culture-specific

symbols on political attitudes and intergroup relations. *Political Psychology*, *35*(1),

57-79. https://doi.org/10.1111/pops.12027

Liu, J. H., & Sibley, C. S. (2006). Differential effects of societal anchoring and attitude

certainty in determining support or opposition to (bi) cultural diversity in New

Zealand. *Papers on Social Representations*, *15*, 1.1-

1.15. http://www.psr.jku.at/frameset.html

Lourie, M. (2015). Symbolic policy and the educational myth of biculturalism. *Knowledge

Cultures*, *5*(5), 49-56. http://hdl.handle.net/10292/9314

Mahuika, N. (2011). 'Closing the Gaps': From postcolonialism to Kaupapa Māori and

beyond. *New Zealand Journal of History*, *45*(1), 15-

32. https://researchcommons.waikato.ac.nz/handle/10289/6579

Mandelbaum, E. (2016). Attitude, inference, association: On the propositional structure of

implicit bias. *Noûs*, *50*(3), 629-658. https://doi.org/10.1111/nous.12089

Marriott, L., & Sim, D. (2015). Indicators of inequality for Maori and Pacific people. *The

Journal of New Zealand Studies*, (20). https://doi.org/10.26686/jnzs.v0i20.3876

Maydell, E., Tuffin, K., & Brittain, E. (2021). The effect of media populism on racist

discourse in New Zealand. *Critical Discourse Studies*, 1-

17. https://doi.org/10.1080/17405904.2021.1874449

Mayeda, D. T., Ofamo'oni, I. F., Dutton, H. D., Keil, M., & Lauaki-Vea, E. (2014). Māori

and Pacific student experiences with every-day colonialism and racism. *Social

Space*, *8*(2), 115-139. http://hdl.handle.net/10092/17651

McConnell, A. R., & Leibold, J. M. (2001). Relations among the implicit association test,

discriminatory behavior, and explicit measures of racial attitudes. *Journal of

Experimental Social Psychology, *37*(5), 435-

442. https://doi.org/10.1006/jesp.2000.1470

McCosker, A., & Johns, A. (2014). Contested publics: Racist rants, bystander action and

social media acts of citizenship. *Media International Australia*, *151*(1), 66-

72. https://doi.org/10.1177/1329878x1415100109

McCreanor, T. (1997). When Racism Stepped Ashore: Antecedents of Anti-Māori Discourse

in Aotearoa. *New Zealand Journal of Psychology*, *26*(23), 43-

57. https://www.researchgate.net/publication/292587598_When_racism_stepped_ash

ore_Antecedents_of_anti-Maori_discourse_in_New_Zealand

McIntosh, T., & Workman, K. (2017). Māori and Prison. In *The Palgrave Handbook of*

Australian and New Zealand Criminology, Crime and Justice (pp. 725-735).

Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-55747-2_48

Meissner, F., Grigutsch, L. A., Koranyi, N., Müller, F., & Rothermund, K. (2019).

Predicting behavior with implicit measures: Disillusioning findings, reasonable

explanations, and sophisticated solutions. *Frontiers in Psychology*, *10*,

2483. https://doi.org/10.3389/fpsyg.2019.02483

Miller, T. M., & Geraci, L. (2011). Unskilled but aware: Reinterpreting overconfidence in

low-performing students. *Journal of Experimental Psychology: Learning, Memory,*

and Cognition, *37*(2), 502-506. https://doi.org/10.1037/a0021802

Ministry for Culture and Heritage. (2015). *Annual Report Pūrongo ā-*

Tau. https://mch.govt.nz/sites/default/files/Annual%20report%202014-15%20%28D-

0629771%29.PDF

Ministry for Culture and Heritage. (2020). *Te Wiki o te reo Maori - Maori language week*.

New Zealand History. https://nzhistory.govt.nz/culture/maori-language-week/history-

of-the-maori-language

Ministry of Health. (2019). *Achieving Equity in Health Outcomes: Summary of a discovery process*. https://www.health.govt.nz/system/files/documents/publications/achieving-equity-in-health-outcomes-summary-of-a-discovery-process-30jul2019.pdf

Ministry of Social Development. (2016). *The Social Report 2016 – Te pūrongo oranga tangata*. https://socialreport.msd.govt.nz/civil-and-political-rights/perceived-discrimination.html

Morris, G. (2004). James Predergast and the Treaty of Waitangi: Judicial attitudes to the treaty during the latter half of the nineteenth century. *Victoria University of Wellington Law Review*, *35*(1), 117. https://doi.org/10.26686/vuwlr.v35i1.5634

Muriwai, E., Houkamau, C., & Sibley, C. G. (2015). Culture as Cure? The Protective function of Māori Cultural Efficacy on Psychological Distress. *New Zealand Journal of Psychology*, *44*(2), 14-24. https://www.researchgate.net/publication/292477204_Culture_as_Cure_The_Protective_function_of_Maori_Cultural_Efficacy_on_Psychological_Distress

The Māori Language Act 1987.

Māori Television. (2015, November 29). *Police working on unconscious bias towards Maori* [Video]. Māori Television. https://www.teaomaori.news/police-working-on-unconscious-bias-towards-maori

Nail, P. R., & McGregor, I. (2009). Conservative shift among liberals and conservatives following 9/11/01. *Social Justice Research*, *22*(2-3), 231-240. https://doi.org/10.1007/s11211-009-0098-z

Nairn, R. G., & Mccreanor, T. N. (1990). Insensitivity and hypersensitivity: An imbalance in pakeha accounts of racial conflict. *Journal of Language and Social Psychology*, *9*(4), 293-308. https://doi.org/10.1177/0261927x9094005

Nash, R. (1990). Society and Culture in New Zealand: An Outburst for 1990. *New Zealand Sociology*, *5*(2), 99-124. https://search.proquest.com/scholarly-journals/society-culture-new-zealand-outburst-1990/docview/61252883/se-2?accountid=14782

Nelson, J. C., Adams, G., & Salter, P. S. (2013). The Marley hypothesis. *Psychological Science*, *24*(2), 213-218. https://doi.org/10.1177/0956797612451466

New Zealand Constitutional Advisory Panel. (2013). *New Zealand's Constitution A Report on a Conversation He Kōtuinga Kōrero mō Te Kaupapa Ture o Aotearoa*. New Zealand Ministry of

Justice. https://www.justice.govt.nz/assets/Documents/Publications/Constitutional-Advisory-Panel-Full-Report-2013.pdf

New Zealand Foreshore and Seabed Act 2004.

Newton, H. J., Sibley, C. G., & Osborne, D. (2018). The predictive power of post-colonial ideologies: Historical negation and symbolic exclusion undermine support for resource-based bicultural policies. *International Journal of Intercultural Relations*, *62*, 23-33. https://doi.org/10.1016/j.ijintrel.2017.03.005

Nosek, B. A. (2005). Moderators of the relationship between implicit and explicit evaluation. *Journal of Experimental Psychology: General*, *134*(4), 565-584. https://doi.org/10.1037/0096-3445.134.4.565

Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). Harvesting implicit group attitudes and beliefs from a demonstration web site. *Group Dynamics: Theory, Research, and Practice*, *6*(1), 101-115. https://doi.org/10.1037/1089-2699.6.1.101

Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the implicit association test: II. Method variables and construct validity. *Personality and Social Psychology Bulletin*, *31*(2), 166-180. https://doi.org/10.1177/0146167204271418

Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., Smith, C. T., Olson, K. R., Chugh, D., Greenwald, A. G., & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, *18*(1), 36-88. https://doi.org/10.1080/10463280701489053

Orange, C. (2004). *An Illustrated History of the Treaty of Waitangi*. Bridget Williams Books.

Orange, C. (2012, June 20). *'Treaty of Waitangi - Dishonouring the treaty – 1860 to 1880'*. Te Ara Encyclopedia of New Zealand – Te Ara Encyclopedia of New Zealand. https://teara.govt.nz/en/graph/36364/maori-and-european-population-numbers-1840-1881

Orange, C. (2015). *An illustrated history of the Treaty of Waitangi*. Bridget Williams Books.

O'Sullivan, D. (2007). *Beyond biculturalism: The politics of an Indigenous minority*. Huia Publishers.

Oswald, F. L., Mitchell, G., Blanton, H., Jaccard, J., & Tetlock, P. E. (2013). Predicting ethnic and racial discrimination: A meta-analysis of IAT criterion studies. *Journal of Personality and Social Psychology*, *105*(2), 171-192. https://doi.org/10.1037/a0032734

Pack, S., Tuffin, K., & Lyons, A. (2016). Accounting for racism against Maori in Aotearoa/New Zealand: A discourse analytic study of the views of Maori adults. *Journal of Community & Applied Social Psychology*, *26*(2), 95-109. https://doi.org/10.1002/casp.2235

Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., Gupta, A., Kelaher, M., & Gee, G. (2015). Racism as a determinant of health: A systematic review and meta-analysis. *PLOS ONE*, *10*(9), e0138511. https://doi.org/10.1371/journal.pone.0138511

Payne, B. K., Vuletich, H. A., & Lundberg, K. B. (2017). The bias of crowds: How implicit bias bridges personal and systemic prejudice. *Psychological Inquiry*, *28*(4), 233-248. https://doi.org/10.1080/1047840x.2017.1335568

Phelps, E. A., O'Connor, K. J., Cunningham, W. A., Funayama, E. S., Gatenby, J. C., Gore, J. C., & Banaji, M. R. (2000). Performance on indirect measures of race evaluation predicts amygdala activation. *Journal of Cognitive Neuroscience*, *12*(5), 729-738. https://doi.org/10.1162/089892900562552

Quillian, L. (2008). Does Unconscious Racism Exist? *Social Psychology Quarterly*, *7*(1), 6-11. https://doi.org/10.1177/019027250807100103

Race Relations Act 1971.

Rae, J. R., Newheiser, A., & Olson, K. R. (2015). Exposure to racial out-groups and implicit race bias in the United States. *Social Psychological and Personality Science*, *6*(5), 535-543. https://doi.org/10.1177/1948550614567357

Rata, E. (2004). Leadership ideology in neotribal capitalism. In *Political Power and Social Theory* (pp. 43-71). Emerald Group Publishing Limited.

Reid, J., Rout, M., Tau, T. M., & Smith, C. W. (2017). *The colonising environment: An aetiology of the trauma of settler colonisation and land alienation on Ngai Tahu Whānau*. UC Ngāi Tahu Research Centre.

Reid, J., Varona, G., Fisher, M., & Smith, C. (2016). Understanding Maori 'lived' culture to determine cultural connectedness and wellbeing. *Journal of Population Research*, *33*(1), 31-49. https://doi.org/10.1007/s12546-016-9165-0

Reid, P., Cormack, D., & Paine, S. (2019). Colonial histories, racism and health—The experience of Maori and Indigenous Peoples. *Public Health*, *172*, 119-124. https://doi.org/10.1016/j.puhe.2019.03.027

Renfro, C. L., Duran, A., Stephan, W. G., & Clason, D. L. (2006). The role of threat in attitudes toward affirmative action and its Beneficiaries. *Journal of Applied Social Psychology*, *36*(1), 41-74. https://doi.org/10.1111/j.0021-9029.2006.00003.x

Richeson, J. A., & Shelton, J. N. (2003). When prejudice does not pay. *Psychological Science*, *14*(3), 287-290. https://doi.org/10.1111/1467-9280.03437

Richeson, J. A., & Trawalter, S. (2005). Why do interracial interactions impair executive function? A resource depletion account. *Journal of Personality and Social Psychology*, *88*(6), 934-947. https://doi.org/10.1037/0022-3514.88.6.934

Riek, B., Mania, E., & Gaertner, S. (2006). The integrated threat theory of intergroup relations: A meta-analytic review. *Personality and Social Psychology Review*, *10*(4), 336-353. https://doi.org/10.1037/e633942013-435

Royal Commission on Social Policy. (1987). *The Treaty of Waitangi and social policy. Discussion booklet no. 1*.

Rudman, L. A. (2004). Sources of implicit attitudes. *Current Directions in Psychological Science*, *13*(2), 79-82. https://doi.org/10.1111/j.0963-7214.2004.00279.x

Rudman, L. A., Feinberg, J., & Fairchild, K. (2002). Minority members' implicit attitudes: Automatic ingroup bias as a function of group status. *Social Cognition*, *20*(4), 294-320. https://doi.org/10.1521/soco.20.4.294.19908

Rudman, L. A., & Kilianski, S. E. (2000). Gender and authority measure. *PsycTESTS Dataset*. https://doi.org/10.1037/t16069-000

Schlösser, T., Dunning, D., Johnson, K. L., & Kruger, J. (2013). How unaware are the unskilled? Empirical tests of the "signal extraction" counterexplanation for the Dunning–Kruger effect in self-evaluation of performance. *Journal of Economic Psychology*, *39*, 85-100. https://doi.org/10.1016/j.joep.2013.07.004

Serra, M. J., & DeMarree, K. G. (2016). Unskilled and unaware in the classroom: College

    students' desired grades predict their biased grade predictions. *Memory &*

    Cognition, *44*(7), 1127-1137. https://doi.org/10.3758/s13421-016-0624-9

Sharp, A. (1990). *Justice and the Maori: Maori claims in New Zealand political argument in*

    the 1980s. Oxford University Press, USA.

Shirodkar, S. (2019). Bias against Indigenous Australians: Implicit association test results

    for Australia. *Journal of Australian Indigenous Studies*, *22*(3-4), 3-

    34. https://search.informit.org/doi/epdf/10.3316/informit.150032703197478

Sibley, C. G., & Barlow, F. K. (2009). Ubiquity of whiteness in majority group national

    imagination: Australian = white, but New Zealander does not. *Australian Journal of*

    Psychology, *61*(3), 119-127. https://doi.org/10.1080/00049530802239300

Sibley, C. G., & Duckitt, J. (2010). The ideological legitimation of the status quo:

    Longitudinal tests of a social dominance model. *Political Psychology*, *31*(1), 109-

    137. https://doi.org/10.1111/j.1467-9221.2009.00747.x

Sibley, C. G., Hoverd, W. J., & Liu, J. H. (2011). New Zealand national character and

    identity scale. *PsycTESTS Dataset*. https://doi.org/10.1037/t21978-000

Sibley, C. G., & Liu, J. H. (2004). Attitudes towards biculturalism in New Zealand: Social

    dominance and Pakeha attitudes towards the general principles and resource-specific

    aspects of bicultural policy. *New Zealand Journal of Psychology*, *33*(2), 88-

    99. https://search.proquest.com/scholarly-journals/attitudes-towards-biculturalism-

    new-zealand/docview/212437534/se-2?accountid=14782

Sibley, C. G., & Liu, J. H. (2007). New Zealand = bicultural? Implicit and explicit

    associations between ethnicity and nationhood in the New Zealand

    context. *European Journal of Social Psychology*, *37*(6), 1222-

    1243. https://doi.org/10.1002/ejsp.459

Sibley, C. G., Liu, J. H., Duckitt, J., & Khan, S. S. (2008). Historical negation

    scale. *PsycTESTS Dataset*. https://doi.org/10.1037/t33046-000

Sibley, C. G., Robertson, A., & Kirkwood, S. (2005). Pakeha Attitudes Toward the

    Symbolic and Resource-specific Aspects of Bicultural Policy in New Zealand: The

    legitimizing role of collective guilt for historical injustices. *New Zealand Journal of*

    Psychology, *34*(3), 171-180. https://search.proquest.com/scholarly-journals/pakeha-

    attitudes-toward-symbolic-resource/docview/212438642/se-2?accountid=14782

Sibley, C. G., Robertson, A., & Wilson, M. S. (2006). Social dominance orientation and

    right-wing authoritarianism: Additive and interactive effects. *Political*

    Psychology, *27*(5), 755-768. https://doi.org/10.1111/j.1467-9221.2006.00531.x

Sibley, C. G., & Ward, C. (2013). Measuring the preconditions for a successful multicultural

    society: A barometer test of New Zealand. *International Journal of Intercultural*

    Relations, *37*(6), 700-713. https://doi.org/10.1016/j.ijintrel.2013.09.008

Sibley, C. G., & Wilson, M. S. (2007). Political Attitudes and the Ideology of Equality:

    Differentiating support for liberal and conservative political parties in New

    Zealand. *New Zealand Journal of Psychology*, *36*(2), 72-

    84. https://search.proquest.com/scholarly-journals/political-attitudes-ideology-

    equality/docview/212438868/se-2?accountid=14782

Simon, J. A., & Smith, L. T. (2001). *A civilising mission?: Perceptions and representations*

    of the native schools system. Auckland University Press.

Simon-Kumar, R. (2019). The Multicultural Dilemma: Amid Rising Diversity and Unsettled

    Equity Issues, New Zealand Seeks to Address Its Past and Present. *Migration*

    Information Source. https://www.migrationpolicy.org/article/rising-diversity-and-

    unsettled-equity-issues-new-zealand

Skinner, A. L., & Cheadle, J. E. (2016). The "Obama effect"? Priming contemporary racial milestones increases implicit racial bias among whites. *Social Cognition*, *34*(6), 544-558. https://doi.org/10.1521/soco.2016.34.6.544

Sonderen, E. V., Sanderman, R., & Coyne, J. C. (2013). Ineffectiveness of reverse wording of questionnaire items: Let's learn from cows in the rain. *PLoS ONE*, *8*(7), e68967. https://doi.org/10.1371/journal.pone.0068967

Stanley, E., & Mihaere, R. (2019). The problems and promise of international rights in the challenge to Maori imprisonment. *International Journal for Crime, Justice and Social Democracy*, *8*(1), 1-17. https://doi.org/10.5204/ijcjsd.v8i1.1045

State Services Commission. (2004, May 17). *Treaty of Waitangi awareness research - A qualitative and quantitative study*. Te Kawa Mataaho Public Service Commission. https://www.publicservice.govt.nz/resources/treaty-awareness-research?e314=action_viewall

Statistics New Zealand. (2020). *Maori population estimates: At 30 June 2020 | Stats NZ*. Home | Stats NZ. https://www.stats.govt.nz/information-releases/maori-population-estimates-at-30-june-2020?gclid=Cj0KCQjwse-DBhC7ARIsAI8YcWLCEwT9MLeBw0Bk9tJpw8uVdLD9RwhDpAt4LcsTUYcDG KBLSG0ytmUaAj9fEALw_wcB

Stepanikova, I., Triplett, J., & Simpson, B. (2011). Implicit racial bias and prosocial behavior. *Social Science Research*, *40*(4), 1186-1195. https://doi.org/10.1016/j.ssresearch.2011.02.004

Stephan, W. G., Lausanne Renfro, C., Esses, V. M., White Stephan, C., & Martin, T. (2005). The effects of feeling threatened on attitudes toward immigrants. *International Journal of Intercultural Relations*, *29*(1), 1-19. https://doi.org/10.1016/j.ijintrel.2005.04.011

Stephan, W. G., & Stephan, C. W. (2000). An Integrated Threat Theory of Prejudice. In *Reducing Prejudice and Discrimination* (pp. 23-45). Lawrence Erlbaum Associates Publishers.

Stephan, W. G., Ybarra, O., & Morrison, K. R. (2009). Intergroup threat theory. In *Handbook of prejudice, stereotyping, and discrimination* (pp. 43-59). Psychology Press.

Stephens, C., Porter, J., Nettleton, C., & Willis, R. (2006). Disappearing, displaced, and undervalued: A call to action for Indigenous health worldwide. *The Lancet*, *367*(9527), 2019-2028. https://doi.org/10.1016/s0140-6736(06)68892-2

Stidsen, S. (2006). *The indigenous world 2006*. IWGIA.

Tajfel, H., & Turner, J. C. (2004). The social identity theory of intergroup behavior. *Political Psychology*, 276-293. https://doi.org/10.4324/9780203505984-16

Teige-Mocigemba, S., Klauer, K. C., & Sherman, J. W. (2010). A practical guide to implicit association tests and related tasks. In *Handbook of implicit social cognition: Measurement, theory, and applications* (pp. 117-139). The Guilford Press.

Tesler, M. (2012). The spillover of racialization into health care: How President Obama polarized public opinion by racial attitudes and race. *American Journal of Political Science*, *56*(3), 690-704. https://doi.org/10.1111/j.1540-5907.2011.00577.x

Thomas, D., & Veno, A. (1996). From assimilation to biculturalism: Changing patterns in Maori-Pakeha relationships. In *Community psychology and social change: Australian and New Zealand perspectives* (pp. 231-256). Dunmore Press.

Todorov, A., Pakrashi, M., & Oosterhof, N. N. (2009). Evaluating faces on trustworthiness after minimal time exposure. *Social Cognition*, *27*(6), 813-833. https://doi.org/10.1521/soco.2009.27.6.813

Vanman, E. J., Saltz, J. L., Nathan, L. R., & Warren, J. A. (2004). Racial discrimination by low-prejudiced whites: Facial movements as implicit measures of attitudes related to behavior. *Psychological Science*, *15*(11), 711-714. https://doi.org/10.1111/j.0956-7976.2004.00746.x

Vuletich, H. A., & Payne, B. K. (2019). Stability and change in implicit bias. *Psychological Science*, *30*(6), 854-862. https://doi.org/10.1177/0956797619844270

Walker, R. (1990). *Ka Whawhai Toni Matou: Struggle without end*. Penguin Books.

Ward, C., & Liu, J. H. (2011). Ethno-cultural conflict in Aotearoa/New Zealand: Balancing Indigenous rights and multicultural responsibilities. *Handbook of Ethnic Conflict*, 45-69. https://doi.org/10.1007/978-1-4614-0448-4_3

West, K., & Eaton, A. A. (2019). Prejudiced and unaware of it: Evidence for the Dunning-Kruger model in the domains of racism and sexism. *Personality and Individual Differences*, *146*, 111-119. https://doi.org/10.1016/j.paid.2019.03.047

Wetherell, M., & Potter, J. (1992). *Mapping the language of racism: Discourse and the legitimization of exploitation*. Harvester Wheatsheaf.

Wheeler, M. E., & Fiske, S. T. (2005). Controlling racial prejudice: Social-cognitive goals affect amygdala and stereotype activation. *Psychological Science*, *16*(1), 56-63. https://doi.org/10.1111/j.0956-7976.2005.00780.x

Wi Parata v Bishop of Wellington [1877] 3 NZ Jur 72.

Appendices

APPENDIX A

Implicit Association Test Stimulus Lists from Greenwald et al (1998)

Positive Items:

1 = "Marvelous"

2 = "Superb"

3 = "Pleasure"

4 = "Beautiful"

5 = "Joyful"

6 = "Glorious"

7 = "Lovely"

8 = "Wonderful"

Negative Items:

1 = "Tragic"

2 = "Horrible"

3 = "Agony"

4 = "Painful"

5 = "Terrible"

6 = "Awful"

7 = "Humiliate"

8 = "Nasty

APPENDIX B

Attitudes towards biculturalism in New Zealand (adopted from Sibley & Liu, 2004)

Following each question, please circle the number, which corresponds to how much you

agree/disagree with the statement.

Resource Specific Biculturalism

    1. We are all New Zealanders, and no one ethnic group should get special privileges

            0   1   2   3   4   5   6

(strongly disagree)   (strongly agree)

2.   It is racist to give one ethnic group special privileges, even if they are a minority

            0   1   2   3   4   5   6

(strongly disagree)   (strongly agree)

3.   I feel that although Māori have had it rough in past years, they should still be treated

the same as everyone else.

            0   1   2   3   4   5   6

(strongly disagree)   (strongly agree)

4.   No one group should be given privileges on the basis of ethnic or racial background.

            0   1   2   3   4   5   6

(strongly disagree)   (strongly agree)

5.   I find the idea of giving priority or special privileges to one group appalling, minority

of otherwise

            0   1   2   3   4   5   6

(strongly disagree)   (strongly agree)

   Symbolic Biculturalism (Biculturalism in Principle)

6.   Māori language should be taught in all New Zealand schools

<div align="center">

0   1   2   3   4   5   6

</div>

(strongly disagree)   (strongly agree)

7.   The New Zealand national anthem should be sung in both Māori and English

<div align="center">

0   1   2   3   4   5   6

</div>

(strongly disagree)   (strongly agree)

8.   New Zealand should be known and seen as a bicultural society, reflecting an equal

partnership between Māori and Pākehā

<div align="center">

0   1   2   3   4   5   6

</div>

(strongly disagree)   (strongly agree)

9.   If New Zealand were to change to a republic, then the Treaty of Waitangi should be

used as a foundation for our constitution.

<div align="center">

0   1   2   3   4   5   6

</div>

(strongly disagree)   (strongly agree)

10.   New Zealand should embrace its cultural diversity

<div align="center">

0   1   2   3   4   5   6

</div>

(strongly disagree)   (strongly agree)

APPENDIX C

Treaty of Waitangi Knowledge Questionnaire

1.When was the Declaration of Independence- He Wakaputanga o te Rangatiratanga o Nu Tīreni signed?

    a) 1831

    b)1832

    c)1833

    d)1834

    e)1835

2.What was the purpose of the Declaration of Independence?

    a) To enforce a New Zealand, western style government.

    b) Northern chiefs wanted to assert their sovereignty over New Zealand.

    c) Māori wanted to assert their authority over British.

    d) British were concerned that the French was purchasing a large amount of land

    e) To promote and protect the rights of Māori.

3.When was the Treaty of Waitangi signed?

    a) 4th February 1840

    b) 6th February 1840

    c) 7th February 1840

    d) 6th February 1841

    e) 7th February 1841

4.Where was the Treaty of Waitangi signed?

a) Kaitaia

b) Hokianga

c) Auckland

d) Waitangi

e) Port Nicholson

5.Who signed the Treaty on behalf of the Crown?

a) Governor William Hobson

b) James Busby

c) Queen Victoria

d) Henry Williams

e) James Prendergast

6.Who was the first Māori to sign the Treaty?

a) Sir Apirana Ngata

b) Rangi Topeora

c) Tāmati Wāka Nene

d) Potatau Te Wherowhero

e) Hone Heke

7.What Māori chief refused to sign the Treaty of Waitangi?

a) Āpihai Te Kawau

b) Tāraia Ngākuti

c) Hone Heke

d) Marupō

e) Ruhe

8. How many articles did the official Treaty of Waitangi contain?

a) 1

b) 2

c) 3

d) 4

e) 5

9. What words created translation issues in the Treaty?

a) 'tikanga'

b) 'kawanatanga'

c) 'tino rangatiratanga' and ' rangatiratanga'

d) 'kawanatanga' and 'tino rangatiratanga'

e) 'tino rangatiratanga and tikanga'

10. What is the body responsible for hearing Treaty of Waitangi claims?

a) The Office of Treaty Settlements

b) The Treaty of Waitangi Office

c) Parliamentary Services

d) Waitangi Tribunal

e) Māori Affairs

11. What are the three principles of the Treaty of Waitangi that underpin the relationship between the government and Māori?

    a) partnership, participation and protection

    b) partnership, participation and sovereignty

    c) participation, sovereignty and membership

    d) reciprocity, protection and consultation

    e) partnership, protection and redress

12. What was the main purpose of the Treaty of Waitangi?

    a) Britain's attempt to conquer New Zealand

    b) To protect New Zealand from France

    c) The Crown felt obligated to set up a Treaty with Māori because of the prior Declaration of Independence signed in 1835

    d) To enable British settlers and Māori to live together in New Zealand under a common set of laws and agreements

    e) To protect the rights of British to keep their land, forests, fisheries and treasures while ceding sovereignty over Māori.

13. When did Chief Justice James Prendergast declare the Treaty of Waitangi a "simple nullity" in the Wi Parata v Bishop of Wellington case?

    a) 1876

    b) 1877

    c) 1878

    d) 1882

    e) 1883

14. Why is the government negotiating with iwi to settle Treaty claims?

    a) To provide monetary compensation for iwi that had their land confiscated.

    b) To avoid unrest.

    c) To ensure that New Zealand remains a British possession.

    d) An act of goodwill.

    e) To acknowledge historical breaches of the Treaty, and provide both financial and cultural redress.

APPENDIX D

Declared Treaty of Waitangi Questionnaire

Please circle the statement which you think best describes your knowledge.

How much would you say you know about the Treaty of Waitangi?

A lot

A fair amount

Not much

Hardly anything

Unsure

APPENDIX E

Updated Demographic Information

How long have you lived in New Zealand?

1. fewer than 5 years

2. 5-10 years

3. 11-10 years

4. 20+ years

APPENDIX F

Amended Declared Treaty of Waitangi Measure (adapted from West & Eaton, 2019)

1. We are going to ask you 20 multiple-choice, general knowledge questions about the Treaty of Waitangi. What percentage of these do you estimate you will answer correctly?

    0   10   20   30   40   50   60   70   80   90   99

(% correct)

2. Out of the 100 other people completing this questionnaire, how many do you estimate you will perform better than?

    0   10   20   30   40   50   60   70   80   90   99

(no. of people)

Post Treaty Declared Knowledge Questionnaire:

3. Now that you have completed the Treaty of Waitangi questionnaire, what percentage do you estimate you answered correctly.

    0   10   20   30   40   50   60   70   80   90   99

(% correct)

4. Out of the 100 people completing this questionnaire, how many do you estimate you will have performed better than?

0   10   20   30   40   50   60   70   80   90   99

(no. of people)

APPENDIX G

Additional Treaty of Waitangi questions for Study 2

Revised questions:

15.Compared to the Treaty of Waitangi, the Declaration of Independence was signed _____?

a) Earlier

b) At the same time

c) Later

d) earlier in the North Island, later in the South Island

e) Earlier in the South Island, later in the North Island

16. What time period was the Treaty of Waitangi signed in?

a) 1600s

b) 1700s

c) 1800s

d) 1900s

e) 2000s

17. The Treaty of Waitangi was an agreement signed between Māori and _____?

a)The British crown

b) The French crown

c) The Australian government

d) The New Zealand government

e) other Māori iwi

18. Were there any Māori chiefs who refused to sign (either versions of) the Treaty of Waitangi?

   a) Yes - one

   b) Yes - many

   c) No

   d) Māori didn't sign the Treaty

   e) It is not known whether any chiefs refused to sign

19. How many principles of the Treaty of Waitangi underpin the relationship between the government and Māori?

   a) 1

   b) 2

   c) 3

   d) 6

   e) 10

20. Where is the Treaty of Waitangi held today?

   a) Archives New Zealand

   b) Parliament Building in Wellington

   c) The Treaty House at Waitangi

   d) British Parliament in London

   e) The British Museum in London