The Potential Role of Applied Behavior Analysis in the Cultural Environment of Māori Mental Health

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Abstract

Significant mental health disparity exists in Aotearoa New Zealand between Māori and the non-Māori majority. Although much has been written about mental health and the cultural competence of health professionals, cultural context has not been specifically considered within the behavioral paradigm, and it was placed in the center of practice in multicultural societies by the behavioral community only recently. In this article, we discuss some of the problems encountered by Māori in the mental health system and the role of behavior analysts in addressing the divide in service provision. Dialogue with other disciplines that investigate the importance of indigenous cultural values is necessary. We conclude with some suggestions about strategies that may be implemented across services by behavior analysts in order to improve mental health outcomes for Māori.

Keywords Māori · Health disparities · Cultural competence · Cultural awareness · Mental health

Kei muri i te awe kāpara he tangata kē, māna te ao, he mā.

Shadowed behind the tattooed face a stranger stands, he who owns the earth, and he is white.

—An old prophecy made by a dying Māori chief

Whereas Western countries show improving health outcomes for the general population, one group of people is consistently left behind. Indigenous people in Aotearoa New Zealand (Ministry of Health [MoH], 2016), Australia (Al-Yaman, 2017), Canada, and the United States of America (Ramraj et al., 2016) have less access to health care and show consistently poorer health outcomes than the nonindigenous populations. The existing health systems have failed to provide equitable outcomes to indigenous populations,

presenting an urgent need to address indigenous health outcomes, particularly in mental health, where broader perspectives are needed to address the multiple factors (socioeconomic, psychological, and environmental) that impact on mental health and well-being (Allen, Balfour, Bell, & Marmot, 2014).

The World Health Organization (WHO) defines mental health as “a state of well-being,” whereby an individual is aware of his or her own potential, is resilient to stress variables, works productively, and is able to contribute to society (WHO, 2014, para 2). In behavioral terms, mental health problems may be characterized by a class of contextually inappropriate behaviors that seem to be under faulty stimulus control. As the understanding and interpretation of “mental health” varies from culture to culture, it is necessary to analyze mental health and mental health problems within a cultural context in order to gain a better understanding of the client’s “unwellness” (Choudhry, Mani, Ming, & Khan, 2016).

The purpose of this article is to illustrate how applied behavior analysis (ABA) can play a central role in addressing health disparities in Aotearoa New Zealand in mental health. This article extends previous work in the field of ABA by addressing the context of health care in Aotearoa New Zealand and specifically looking to understand how ABA can be responsive to Māori culture. It is important to note that although Aotearoa shares characteristics with other postcolonial societies, the Māori culture represents a unique worldview, which plays an important role in the health context

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due to obligations undertaken by the Crown under the Te Tiriti o Waitangi¹ (hereafter referred to as the Treaty), the founding document of Aotearoa New Zealand. In order for the behavior analysts to meet the requirement to act in culturally competent ways, a multifaceted undertaking is required, both at the level of the practitioner and at the level of the training and research institutions and service providers.

First, this article provides an overview of the disparities in mental health outcomes experienced by Māori, and how the historical treatment of Māori has contributed to this disparity. Second, we will expand on how these disparities persist due to conflict between the monocultural practice of biomedical approaches to mental health and the bicultural nature of Aotearoa New Zealand based on the Treaty. Third, this article outlines how ABA may positively contribute to the well-being of Māori and the potential barriers associated with these efforts. Finally, this article provides some strategies to encourage behavior analysts to communicate across disciplines and make behavior-analytic services accessible to the indigenous population of Aotearoa.

Te Reo and Māori Terminology

Te reo Māori, along with English and New Zealand sign language, is one of three official languages used in Aotearoa New Zealand. The language is a *taonga* (treasure) of the Māori people and an essential expression of culture. Throughout this manuscript, we have elected to use Māori terminology, where relevant, to describe important concepts, as the meaning may be lost in translation. For practitioners to work effectively with Māori, it is important that they are comfortable using elements of Te reo within their practice, whether in greetings (such as the always-appropriate “*kia ora*”) or in performing *karakia* or *waiata* (prayer or singing). At the same time, the use of Te reo in this context is an acknowledgment of identity and a sign of respect. The meaning of Te reo words and phrases used within this manuscript can be found in Table 1.

Mental Health Outcomes for Māori

Māori are the *tangata whenua*, the indigenous Polynesian people of Aotearoa. Māori experience some of the worst health inequities in the world (Alcorn, 2011)—though Māori

represent 15.3% of the country’s population (Statistics New Zealand, 2013), they are the recipients of 27% of all mental health services (MoH, 2017). The Māori population is young (50% are younger than 24 years of age; Statistics New Zealand, 2013) and more likely to live in the most deprived areas of Aotearoa (63%, compared to 34% for non-Māori; MoH, 2018), which may contribute to a higher incidence of mental health problems (Durie, 2012). However, the true extent of Māori mental health needs is unclear due to incomplete data and poor access to health services. In 2013–2014, Māori were more likely than non-Māori to experience unmet needs for primary health care and were 1.5 times more likely to not visit their family doctor compared to non-Māori, due to related costs (MoH, 2015).

Despite evidence of the need for Mental Health Services (MHS), it is clear that Māori are not receiving adequate treatment under the current mental health system. The New Zealand MoH report on mental health (MoH, 2017) acknowledges that the inequalities experienced by Māori are still apparent today, despite 30 years of efforts to close the gap between Māori and *Pākehā* (New Zealand Europeans). In the Te Rau Hinengaro² national survey ($n = 1,646$), Māori reported significantly higher levels of depression, anxiety, and psychological distress compared to non-Māori (Kvalsvig, 2018). Māori are 3.4 times more likely than non-Māori to receive Compulsory Treatment Orders³ and are 4.8 times more likely to be placed in seclusion. Māori, along with other indigenous populations, experience a health system with inherent inequalities of access that contribute to disparities in mental health status (Reid & Robson, 2007), including delays in access to MHS, faster discharge from the hospital, and minimal follow-up in the community.

The Context of Māori MHS

In order to understand the current limitations of MHS, it is important to consider the historical and social context of Aotearoa New Zealand that generates disparities for Māori. As with other former colonies of the British Empire, Aotearoa’s MHS has its roots in the cultural beliefs characteristic of 18th-century Britain (Shearer, 1974), such as individualism and self-reliance. Initially, psychiatric patients were treated in local jails; when the first asylum was built in 1844, it was attached to a jail (Kingi et al., 2018). Following World War I, the treatment of mental illness

¹ Te Tiriti o Waitangi is a document signed between the Crown and the majority of Māori leaders in 1840. The treaty promised Māori the right to be subjects of the Queen and to have full possession of their lands while ceding governorship and the right to purchase land only to the British Crown. The document was translated from English to Māori before it was signed, and it therefore has two legally equivalent but differing versions: English and Māori. It is considered as the founding document of New Zealand.

² Te Rau Hinengaro is the New Zealand Mental Health Survey (NZMHS), funded by the Ministry of Health, the Alcohol Advisory Council, and the Health Research Council of New Zealand. The survey was carried out in conjunction with the WHO World Mental Health (WMH) Survey Initiative. Since the original study (Browne, Wells, & Scott, 2006), the Annual Data Explorer results are generated from the continuation of the New Zealand Health Survey, with comparisons to earlier surveys.

³ Compulsory treatment orders are a legislated part of psychiatric practice in New Zealand. A psychiatrist has the authority to enforce outpatient treatment, including pharmacotherapy, with police assistance, if required (<http://www.legislation.govt.nz/act/public/2013/0088/latest/DLM4088208.html>).

Table 1 Glossary of Te Reo words and phrases

Te Reo	English explanation
Aotearoa	traditional name for New Zealand meaning “land of the long, white cloud”
hapū	subtribe; primary political unit within Māori society
hui	a meeting or coming together
iwi	tribe; a regional group of hapū sharing a common ancestor
kai	food or meal
kaiairahi	cultural advisor
karakia	prayer, incantation
kaumātua	Māori elders, persons with status within the whānau; may also be referred to as kuia (female elder) or koroua (male elder)
kaupapa Māori	the Māori principles; also, agenda, program
kete	basket or kit; also, resources
kia ora	a commonly used greeting
Māoritanga	the beliefs, values, and practices of Māori
marae	open area in front of the meeting house of an iwi, hapū, or whānau
mihimihī	introduction or greeting speech
Pākehā	New Zealanders of European descent
pepeha	the essence of the person; self-introduction through formulaic expressions demonstrating genealogical and land connections
poroporoaki	farewell after closing a meeting
pōwhiri	ceremonial welcoming process or reception; the meeting of two groups of people for a common purpose, to exchange information and knowledge or negotiate disputes
taha hinengaro	the psychological aspect of health, relating primarily to emotions and thoughts
taha tinana	the physical, bodily aspect
taha wairua	the spiritual aspect; relates to the Western notion of soul and religious life
taha whānau	the close relationships, especially familial, aspect of health
tangata whenua	people of the land; name traditionally given to the local people of a place; in contemporary settings, it is a reference to the indigenous Māori of Aotearoa New Zealand
taonga	treasure, heirloom; traditional knowledge and practices are also taonga
tapu	restrictions protecting from godly energy; sets someone or something out of bounds of secular roles or usage
te kanohi ki te kanohi	face-to-face, in-person meeting
Te Rau Hinengaro	the many minds
Te Tiriti o Waitangi	Treaty of Waitangi, the founding document of New Zealand that sets out the obligations of the Crown with respect to Māori
Te Whare Tapa Whā	Māori mental health model meaning “the house with four edges/sides,” developed by Sir Mason Durie; the four sides are taha wairua,

Table 1 (continued)

Te Reo	English explanation
	taha hinengaro, taha tinana, taha whānau (see previous definitions)
tikanga Māori	Māori customs and cultural practices; the Māori way of doing things
tīpuna	ancestors
tohunga	select individuals possessing esoteric knowledge and trained to perform roles of occult knowledge (e.g., priests, magicians, artists)
utu	retribution; giving back
waiata	song; waiata are sung during pōwhiri and hui, as well as in other gatherings
whaiora	persons seeking health, hence “patients”
whakapapa	genealogy or descent
whakawhanaungatanga	making a social connection, getting to know each other
whānau	wider family supportive relationships; nowadays it may also include close friendships
whenua	land

moved from jails and asylums to hospitals. In Aotearoa, the change from criminalization to hospitalization came about as a result of who was being treated, rather than being a part of a moral imperative to treat the mentally ill (as was seen in other Western countries such as the United States; see Bragg & Cohen, 2007). The treatment of returning soldiers changed public perceptions of mental illness from something happening to the poor to something that could happen to “respectable people” (Kingi et al., 2018). This change in the perception of mental illness served as the catalyst for hospitalization rather than imprisonment of people with mental illnesses.

Since the 1990s, there has been growing acknowledgement by the MoH of the need for specialized Māori MHS, which has contributed to the development of the *Kaupapa Māori* services (MoH, 1997). *Kaupapa Māori* services are developed to be responsive to Māori needs: They are designed and delivered by Māori practitioners with explicit links to the community and *Māoritanga* (Baker, 2015). Mental health planning also emphasizes the importance of appropriate cultural assessments and the development of a Māori mental health workforce that can respond to the needs of Māori communities, and embraces a consumer-driven approach that includes Māori in the design and delivery of health services. In 2003, the Health Practitioners’ Competence Assurance Act provided specific guidelines for developing cultural competence among health professionals.

The relatively recent developments described previously are based on the Crown’s obligations under the Treaty. The MoH has taken further steps to meet these obligations toward

Māori in recent years by initiating special procedures for Māori clients, including the development of guidelines and standards for assessing cultural competence in health practitioners and identifying health inequities (e.g., Medical Council of New Zealand, 2017) and the inclusion of Māori mental health models in psychology training.

Despite the MoH's objective to create better MHS for Māori, the outcomes of Māori mental health still remain poor (MoH, 2017) and fail to take into account the broader inequalities that disproportionately impact Māori and contribute to poor mental health outcomes (Durie, 1999). Factors such as the growing urbanization of Māori with insecure incomes (e.g., King, Hodgetts, & Mohi, 2017), poor housing conditions (e.g., Howden-Chapman et al., 2012), homelessness (e.g., Stolte & Hodgetts, 2015), food insecurity (e.g., Jackson & Graham, 2017), and poor educational/occupational status (e.g., King, Smith, & Gracey, 2009) can contribute to mental stress and act as triggers for mental illness. All these factors highlight the need for a cross-sectional solution steered by Māori. Any movement toward a better society requires action on the social determinants of health and health needs in order to ensure equity and empower Māori to flourish.

Moreover, a key limitation of the current MHS is the lack of appropriately detailed data on health outcomes for Māori. A recent meta-analysis highlighted a critical methodological weakness in research—namely, the lack of direct comparisons with demographically similar nonindigenous controls (Black, Kisely, Alichniewicz, & Toombs, 2017). Specifically, cross-sectional studies that compare indigenous and nonindigenous groups are often comparing groups that differ along other important health correlates, as well ethnicity, due to differences in the age, gender, and socioeconomic makeup of these populations. As such, observable health disparities between indigenous and nonindigenous populations may be aggravated by socioeconomic differences. Moreover, Te Rau Hinengaro noted that Western diagnostic tools are insufficient to capture information on Māori mental health, and, therefore, they contribute to misunderstandings and misrepresentations of the mental health needs of Māori (Browne et al., 2006).

Due to the incomplete nature of the data provided by District Health Boards (DHBs)⁴ (Alcorn, 2011), it is not possible to accurately assess the needs of Māori communities and develop plans specifically designed to address those needs and reduce health disparities. This often results in broad plans that lack transparency or measurable goals (O'Connor, 2012). In addition, assessments of service use by indigenous populations are often less comprehensive and fail to take into account

sociocultural factors (McIntyre et al., 2017). Limitations in the health data and research result in a limited understanding of the daily functioning of Māori with mental health problems and to what extent existing systems fail to facilitate their well-being.

The Current Role of ABA Services in Aotearoa

In Aotearoa New Zealand, interventions based on ABA principles do not receive direct funding from the MoH or Ministry of Education. Rather, service providers will be contracted by the MoH to provide consultation services or needs-based interventions, usually in crisis, to address a specific “challenging behavior” (e.g., violence or self-injury) rather than long-term comprehensive behavioral programs aimed at developing skills across a broad curriculum. Health care, in general, in Aotearoa New Zealand is funded by the government, and seeking private health services is not very common. The public health sector often provides diagnostic services and then refers the client to a contractor (e.g., a nongovernmental organization). Contractors are funded for interventions such as positive behavioral support to address specific behaviors, not for comprehensive interventions based on diagnosis. ABA-driven services are scarce, privately run, and often too costly to be accessed by most Māori.

Biculturalism and Mental Health Outcomes in Aotearoa

An Uneasy Fit for Current Practices Within MHS

Adoption of Western medicine in Aotearoa led to the replacement of *tohunga* with professionals trained in the Western medical model, and Māori knowledge and practices associated with healing were marginalized (Durie, 1995). Taitimu, Read, and McIntosh (2018) demonstrated how conflicts arise due to differing perceptions of mental health between indigenous communities and practitioners of Western medicine. Fifty-seven Māori were asked about their perceptions of schizophrenia. The predominant explanations the participants offered were spiritual and cultural explanations, rather than explanations that centered around biological mechanisms, such as substance abuse or predisposing factors (although these were also part of explanatory models). For example, the participants talked about receiving messages from *tūpuna* or about linking their present-day experience to transgressions by ancestors in need of *utu*. Additionally, the study notes that participants often felt that they would be criticized if they shared these views with MHS staff.

Māori perceive mental health problems as a state of mind—that is, a way of thinking that is diverse rather than pathological (Kingi et al., 2018). Māori as active members of

⁴ In New Zealand, health care is provided by DHBs, which are local bodies responsible for the funding, planning, and provision of health care in their district. They have been established by the New Zealand Public Health Disability Act 2000 (<http://legislation.govt.nz>).

their society and part of the natural world did not regard sickness as a problem that required scientific action (i.e., Western practices); they perceived it, instead, as a temporary disharmony between nature and society (Lange, 1999). In the Māori worldview, social ties are necessary components of a healthy identity (Durie, 1984); the health of mind, body, spirit, important relationships, and land, and their interconnections constitute an individual's good health and well-being (Mark & Lyons, 2010).

Most health practitioners adhering to the Western worldview practice the biomedical model of care, which isolates the ailment from the person who suffers from it, thus giving little weight to social causes and subjective interpretations of well-being (Nettleton, 2006); this perspective is inconsistent with the Māori worldview. The MHS prioritize biomedical interpretations of psychological symptoms as illnesses of the mind and favor pharmacological treatment approaches and crisis management as the only expedient treatment modalities, rather than more holistic approaches consistent with Māori models of mental health. This model of mental illness can be detrimental, particularly to indigenous populations, by leading to social estrangement, discrimination, and negative attitudes toward “mental illness,” as well as increased pessimism regarding prognosis (Haslam & Kvaale, 2015).

Discrimination Within the Health System

The United Nations Declaration on the Rights of Indigenous Peoples and the Treaty demand governments to address discrimination against indigenous populations (Newton-Howes, Lacey, & Banks, 2014). Research indicates that Māori often encounter discrimination once they enter the health system. A recent study investigating doctors' biases toward ethnic groups in diagnosing depressive or anxiety disorders demonstrated that Māori are more likely to be underdiagnosed compared to Pākehā (Lee, Duck, & Sibley, 2017). International studies have also demonstrated that a doctor's ability to diagnose is often biased by the patient's ethnicity (e.g., Snipes et al., 2011). A survey conducted by Johnstone and Read (2000) showed that 20% of psychiatrists perceived Māori as less able to choose their treatment or follow through with the treatment offered, compared to their perceptions of non-Māori. Moreover, Johnstone and Read (2000) suggested that many psychiatrists believed that Māori are predisposed to mental illness. Although the survey has not been replicated, a recent experiment using the implicit association test found that, on average, medical students demonstrated an implicit pro-Pākehā bias, viewing New Zealand Europeans as more compliant with treatment recommendations than Māori patients (Cormack et al., 2018). The participants also expressed explicit racial biases; on average, the participants' self-reported warmth toward New Zealand European patients

was higher than their warmth toward Māori, and Māori were rated as lower in compliance and competence.

Implicit and explicit biases can influence health outcomes both directly through treatment and management decisions and indirectly through the quality of communication and interactions. Being Pākehā provides advantages that patients and practitioners may be unaware of, as much as they can be unaware of history's obvious impact on our daily behavior in many subtle ways (King, 2012). Māori in Aotearoa have devastating historical experiences of coercion and misuse of power by government agencies, including the health system. There is, therefore, a concern that reliance on Compulsory Treatment Order for Māori leads to both discrimination and a perceived abuse of power. Thus, racism can be considered as a fundamental health determinant that exacerbates inequities between groups and has both a historical and an ongoing impact on Māori experiences of mental health (Cormack et al., 2018).

Māori Disempowerment in MHS

The status of the mental health of indigenous groups ought to be determined on the basis of what constitutes mental health and well-being for those groups rather than by the imposition of Western beliefs and values on these communities. Unfortunately, the experience of acute mental health care by *tāngata whaiora* is described as narrow and disempowering, fulfilling the needs of the clinicians rather than the individual and unique needs of the patients (Medical Council of New Zealand, 2017). Besides it is unproductive to judge indigenous knowledge on the basis of scientific reasoning principles or vice versa (NiaNia, Bush, & Epston, 2017).

The Māori Model of Health

The predominant Māori model for health and well-being is *Te Whare Tapa Whā*, which translates as “the house with four sides” (Durie, 2011). This model recognizes that the concept of well-being is multifaceted and interconnected in a way that is often overlooked by the biomedical model (see Figure 1). According to this model, well-being is examined from four viewpoints: *taha tinana* (physical), *taha hinengaro* (psychological), *taha whānau* (familial/relational), and *taha wairua* (spiritual). Wairua comprises one's values and ideals, religious faith, and connection with the ancestors. Whānau encapsulates both familial relationships and other close social relations that can be a source of either support or strain; these relationships provide a sense of belonging and duty, and in that capacity, they form part of one's identity. *Te taha tinana* refers to physical aspects, such as physical fitness and somatic symptoms, whereas *te taha hinengaro* is concerned with thoughts, mood, and emotions.

Like a house, all four elements must be healthy and working together in harmony, or else the house, or well-being of the

person, will be unstable. The Te Whare Tapa Whā model recognizes that well-being is not just one part of the individual, but several intertwined things. Consequently, a mental health problem should be evaluated by assessing the role of physical health, emotions and thoughts, spiritual factors, and relationships.

The Role for ABA in Māori Mental Health

ABA is well placed to respond to the mental health needs of indigenous communities, including indigenous Māori. However, in Aotearoa and in other countries, ABA is underutilized in mental health, which tends to be dominated by cognitive behavioral therapy and pharmacotherapy (Harvey, Luiselli, & Wong, 2009). Unlike biomedical approaches to mental health, the treatment and assessment protocols of behavior analysts are not bound to a specific diagnosis that locates mental illness within the individual, but rather to observable behaviors at the time of assessment in the context of a given environment. By developing treatment based on observable behaviors rather than diagnoses, the behavioral approach provides an objective and empirical framework to guide treatment decisions (Harvey et al., 2009) and respond to the needs of the client while recognizing the impact of the environmental and broader social context on current behavior. The environmental and social context is crucial for understanding Māori and indigenous people's experiences of mental health and well-being.

Fig. 1. Diagram demonstrating the Te Whare Tapa Whā model

Additionally, ABA has rigorous mechanisms for assessing treatment effectiveness within the broader social context. One of the key dimensions of ABA is social validity and the need to produce outcomes that are important both to the client and their close relations (Baer, Wolf, & Risley, 1968). Social validity is made up of three elements: the social significance of the treatment goals, the social importance of the treatment effect or outcomes, and the acceptability of the treatment (Carr, Austin, Britton, Kellum, & Bailey, 1999). The acceptability of treatment involves the process of consulting with clients and their whānau to ensure that the methods used are acceptable to those involved and that they will be open to future interventions. This philosophical approach aligns with Te Whare Tapa Whā in emphasizing the importance of the presenting behavior in the broader context of whānau and community.

Based on the Te Whare Tapa Whā model, a behavior analyst would put emphasis on strengthening crucial skills: social-communication skills to support the elements of taha whānau and taha hinengaro, physical abilities to support taha tinana, and participation in the closer community through functional behaviors manifesting the taha wairua. For example, when the target is to reduce self-injurious behavior, a practice consistent with Te Whare Tapa Whā would be to complement the decrease in challenging behavior and risk of physical harm with an increase in communication skills that allow the individual to access forms of reinforcement from whānau and members of their community. By embracing the Te Whare Tapa Whā model, multiple facets of the individual's well-being are addressed, rather than focusing on only decreasing the problem behavior. Service delivery has been overshadowed by a crisis intervention model that limits itself to managing behavior reactively instead of proactively teaching new skills and functional behavior that would contribute to the taha whānau (Durie, 2013). The Te Whare Tapa Whā model is consistent with the more holistic ways of thinking about health and well-being found in other indigenous and non-Western cultures (Mark & Lyons, 2010), and it is consistent with the applied dimension of ABA (Baer et al., 1968).

Because behavioral outcomes are measured throughout treatment, practitioners can make moment-to-moment treatment decisions and tailor the interventions to suit the specific circumstances of the client, their whānau, and their cultural practices. ABA is explicit in its recognition of the role of antecedents and setting events on current behavior, including the role of past learning history. Taking a broader view of the environment enables behavior analysts to assess the effects of historical or socioeconomic variables (Strain et al., 1992). ABA can include cultural values, explanations, and environmental elements as part of the assessment and treatment of behaviors. Increasingly in assessing behavior, the role of the broader context is recognized, including the cultural context and how cultural understandings of behavior should factor

into analysis (Fong, Catagnus, Brodhead, Quigley, & Field, 2016)—for example, gathering key information from community stakeholders (e.g., *kaumātua*) in order to better understand the sociocultural framework in which a given behavior occurs.

Cultural Competence

As noted by Sheridan et al. (2011), cultural competency is a prerequisite for any intervention that aims to reduce the inequalities in health outcomes experienced by indigenous groups. Cultural competence involves using cultural knowledge in delivering interventions. Whaley and Davis (2007) define cultural competence as follows: “a system that acknowledges the importance of and incorporates culture, assessment of cross-cultural relations, vigilance toward the dynamics that result from cultural differences, expansion of cultural knowledge, and adaption of intervention to meet culturally unique needs at all levels” (p. 564).

Cultural competence involves recognition that the practitioner is not coming from a position of cultural neutrality. Practitioners bring their cultural values and beliefs to the relationship with their clients. An essential component of cultural competence, as noted by Fong and Tanaka (2013), is becoming aware of how one’s own predispositions may interfere or conflict with the client’s cultural biases. The predominance of “White” professionals in the mental health system means that “Pākehā culture” tends to be the default, and the values and beliefs inherent in that culture often go unchallenged.

Increasing awareness of the importance of culture will potentially lead the BACB in the *Professional and Ethical Compliance Code for Behavior Analysts* (BACB, 2017), henceforth referred to as the “BACB Code,” and *Behavior Analyst Certification Board Fourth Edition Task List* (BACB, 2012), henceforth known as the “Task List,” to undertake further steps in developing standards that ensure cultural competence in the field of behavior analysis (Fong & Tanaka, 2013). The BACB Code and Task List only require behavior analysts to have the knowledge and skills to work with clients belonging to minority groups. The BACB Code may at times be incongruent with the requirements for cultural competence in Aotearoa and in a Māori context. For example, a culturally competent health practitioner in Aotearoa will share his or her *pepeha* in order to establish a connection between him- or herself and the client, which serves as a first basis for a therapeutic relationship. This is an important *tikanga* in Māori culture that demonstrates the connection between people, *whakapapa*, and *whenua*. For practitioners working with Māori, this may raise concerns about creating multiple relationships (BACB Code 1.06), making them reluctant to share information with clients and about their *whānau* and connection to the land, thus losing this crucial opportunity to build a rapport with their clients.

Other cultural practices in Aotearoa may also conflict with the BACB Code. For example, Section 1.06(d) states that “behavior analysts do not accept gifts from or give any gifts to clients.” This statement does not align with Māori protocols around *kai*, for instance, during a *pōwhiri* where sharing food is an important aspect of lifting the *tapu* after a new person arrives at the *marae* (Keane, 2013). When visiting Māori clients, practitioners will be offered food and refreshments, and although refusal is imperative under BACB Code 1.06d, doing so would be considered impolite, would impair the development of therapeutic rapport (Medical Council of New Zealand, 2006), and may affect the ability of the behavior analyst to provide competent services. As such, this raises an ethical dilemma for the practitioner between following Code 1.06d, requiring the refusal of gifts, and Code 1.05c, requiring competent service where differences in ethnicity significantly affect the behavior analysts’ work. This practice is not one that is unique to Māori, and in fact, behavior analysts will likely encounter similar practices across many other cultures. Research suggests that behavior analysts do in fact regularly accept small gifts, and that concerns for the therapeutic relationship can be an impetus for doing so (Witts, Brodhead, Adlington, & Barron, 2018).

It is important also to consider that Māori are not a homogeneous group, in which all share the same beliefs and connections to Māori ways of thinking and living. Durie (1995) described the realities underlying the identity positions of modern Māori as diverse and complex. He posited that the relevance of traditional values is not the same for all Māori, nor is the extent to which Māori have active links with *hapū* or *iwi* and tribal land. With this in mind, practitioners working with Māori should be cognizant that Māori can hold different explanations for their experiences that may not be wholly Māori or wholly Western (Taitimu et al., 2018), and be aware of the diverse social and cultural realities within which Māori live. The degree to which some of the protocols described previously are relevant or appropriate will vary between individuals; therefore, the behavior analyst adapted to the individual client or clients.

The New Zealand Health Context and the BACB Code

Behavior analysts, when working in a bicultural environment, need to show cultural competence in developing individualized treatments compatible with culture (BACB Code 1.05c). The need for cultural competence brings forward the need for behavior analysts to systematically evaluate their treatment practices as to how much they fit with a client’s actual needs by giving priority to socially significant interventions in a bicultural context.

For behavior analysts to act as culturally competent practitioners, they have to meet obligations beyond the BACB Code, which requires that behavior analysts “maintain the

high standards of behavior of the profession” (BACB Code 1.0). In a multicultural society, such as Aotearoa, part of the behavior analyst’s obligations as a health professional is to provide services in a way that is equitable for all. Within the New Zealand health context, cultural competence requires practitioners to acknowledge the Treaty and apply the “principles of the Treaty”—partnership, participation, and protection—in their practice (Medical Council of New Zealand, 2016; New Zealand Psychologists Board, 2018). Each of these principles can be aligned with the BACB Code but also demonstrate how practitioners must go a step beyond “good practice” in order to act in ways that are culturally competent. These principles are described next.

Partnership The principle of partnership refers to the recognition of Māori as equal partners and to developing strategies for Māori with Māori (Medical Council of New Zealand, 2006). A similar principle can be found in BACB Code 4.02: “involving the client in planning and consent.” The principle of partnership requires behavior analysts to work with indigenous communities to identify appropriate methods and targets that can improve health disparities in those communities, rather than imposing Western ways of thinking on the communities. Evans and Paewai (1999) note that programs intended for indigenous population groups should be developed with those groups “on equal footing” (p. 29) in order to ensure that health disparity is appropriately addressed.

Participation Under participation, Māori should be involved at all levels of the health sector, particularly at the level of decision-making (Medical Council of New Zealand, 2006). A minimum requirement of participation is consultation with stakeholders, such as kaumātua and Māori health leaders. True participation is achieved through the development of a skilled indigenous health workforce—that is, by providing indigenous communities with the knowledge and technology of behavior analysis for their own use (Evans & Paewai, 1999). It is vital that those in leadership roles provide more opportunities for indigenous practitioners to access behavior-analytic training and research that demonstrates the effectiveness of behavioral technology.

Protection The principle of protection involves ensuring that Māori and non-Māori experience the same levels of health and ensuring the protection of Māori taonga (i.e., the traditional knowledge and practices for Māori health care; Medical Council of New Zealand, 2006). BACB Code 1.05 sets out the standard required of practitioners, who must ensure that they have “the training, experience, consultation, and/or supervision necessary to ensure the competence of their services” when working with groups that differ in ways, such as ethnicity, that significantly affect the work of the behavior analyst. There is a need for culturally experienced clinicians

who are able to adapt to the needs of other cultural communities, and steps are needed to ensure that practitioners have the *kete* and resources they need for treating clients from cultures other than the dominant culture. This standard should be regarded as the minimum level of action needed to meet the obligations of protection.

A much higher standard is set out for behavior analysts as scientist-practitioners conducting ethical research. Protection requires that the benefits and burdens of research be equally distributed among groups (Millum, 2011); therefore, there should be no barriers to intervention that are experienced by some groups and not others. As Evans and Paewai (1999) note, under the principle of protection, the knowledge and skills of behavior analysts need to be available to Māori in order to ensure that Māori have equal access to the benefits of behavior-analytic interventions. For example, behavior-analytic services should be available in Te reo, so that language barriers do not prevent Māori from accessing services. Furthermore, it is crucial that behavior analysts engage with iwi and community leaders from the outset, in order to ensure that research and interventions aimed at Māori are acceptable and are provided in a way that is accessible to Māori.

General Strategies to Improve Mental Health Outcomes for Māori

Despite efforts to deal with confounding factors such as poverty, lack of education, homelessness, and the outcomes derived from these factors (e.g., drug and alcohol abuse), health disparities for Māori are persisting. The strategies that follow are presented as an example of actionable behavioral solutions to prevent health inequities and are grouped according to the level of intervention: institutional, service, and practitioner levels. Institutional-level strategies refer to policy changes at the level of academic and regulatory bodies that impact the way behavior analysts and behavioral researchers are trained. Service-level strategies occur at the level of the organizations that provide services to clients. Practitioner strategies occur at the level of behavior analysts as scientist-practitioners. The following strategies are not considered an exhaustive list but rather a starting point to address health disparities through clinical practice in Māori mental health.

Institutional Level

The following section provides examples of how the institutions that are responsible for training and overseeing behavior analysts can establish positive contingencies to encourage practices that better serve Māori clients.

Ensuring Māori are Part of the Process Māori are often positioned as clients of the mental health system rather than equal

partners who participate in the planning and implementation of services (Levy, 2002). The need for more Māori professionals is not a problem unique to ABA or even psychology. In Aotearoa, there is a shortage of Māori health professionals across the health system: Only 8.5% of the health workforce identify as Māori (Sewell, 2017). The majority of Māori health workers (71%) are in unregulated professions (i.e., support workers, carers, health care assistants, and administration), and only 4% of psychologists identify as Māori. At present, there are no available data on the ethnic makeup of behavior analysts in New Zealand, as the BACB only reports on the number of certificants and does not provide information on certificant ethnicity. Future research surveying those practicing ABA in New Zealand may serve to draw attention to the need for ethnic diversity and may prompt action in this area to increase the number of Māori (and Pacific Islanders) working in behavior analysis.

Māori practitioners can help to bridge the gap between Māori clients and the non-Māori health workforce. If Māori are to play a role at all levels of decision-making involving their interventions, this will be meaningful in a context of equal partnership, rather than an unequal power dynamic where one party is viewed as an expert and the other as lay consumers. In order to address the need for more Māori health professionals, behavioral institutions should actively recruit and retain Māori to the health professions, including ABA. For example, in 2012, the University of Otago Division of Health Science adopted a “mirror of society” policy, which specifically aimed to increase the number of Māori and Pacific Islander students enrolling in health programs (Crampton, Weaver, & Howard, 2018). As a result, the number of Māori in health sciences increased by 124% from 2012 to 2016.

For the number of indigenous behavior analysts to rise, Levy (2002) suggests that a crucial step toward recruiting and retaining more Māori to psychology is to create environments that Māori will wish to participate in—that is, to create a reinforcing environment in which Māori students, psychologists, and researchers are motivated to be part of. The reinforcing environment is one in which Māori have role models and support and do not feel isolated from their non-Māori peers. Behavioral institutions could support this environment by creating research networks or special interest groups (SIGs, such as the Multicultural SIG, Multicultural Alliance of Behavior Analysts) that facilitate connections between indigenous behavior analysts and help make indigenous contributions to ABA more visible.

In order to encourage Māori researchers and students, clinical and research practices in ABA should, where possible, align applied research with kaupapa Māori methodology. Taitimu et al. (2018) define kaupapa Māori research as research that is conducted by Māori scholars within Māori

communities and recognizes the importance of sociocultural factors in working to promote Māori well-being. By collaborating with Māori researchers and aligning research with kaupapa values and *tikanga*, behavioral researchers can demonstrate the relevance of behavioral science to Māori realities. The result of integrating ABA with kaupapa teams and *tikanga Māori* can result in interventions with high social significance, therefore creating more chances for interventions to be implemented.

Ensuring Practitioners Have the Skills to Work with Māori

In order for behavior analysts to work effectively with Māori clients, they need to be equipped with the necessary skills for working across cultures. Therefore, the institutions that oversee training and accreditation of behavior analysts need to play a central role in ensuring that practitioners have skills in cultural competence and safety. In Aotearoa, regulated health professions include standards for cultural competence as part of their accreditation process by professional bodies (see, e.g., the New Zealand Medical Council; Medical Council, 2017).

The BCBA Code contains obligations (Section 1.05) to receive training and experience to provide competent service; however, the guidelines do not highlight the importance of cultural competence when working with indigenous groups or the need for consultations with stakeholders in those communities. In contrast, the New Zealand Psychologists Board (NZPB) Code of Ethics⁵ requires practitioners to seek training regarding customs and beliefs of groups they are working with and to obtain guidance from appropriate members of the community (Principle 4.2, Respect for Society). In designing ethical guidelines and standards that are appropriate for working with Māori, it is important that educational and professional boards develop these guidelines with Māori using a consumer-driven approach. Recently, the Medical Council of New Zealand has partnered with *Te Ohu Rata o Aotearoa (Te ORA)*, the Māori Medical Practitioners' Association, to develop cultural safety standards for doctors.

In addition to cultural competence standards, we need to ensure that behavior analysts have the skills needed to collaborate with other health professionals in a multidisciplinary team (St. Peter, Pence, & Kestner, 2017). For example, the skill set of a behavior analyst should include the ability to “translate” behavioral concepts, such as reinforcement and social validity, into language that is consistent with other disciplines so as to be able to work across multidisciplinary teams (Becirevic, Critchfield, & Reed, 2016). Furthermore, skills for collaborating across disciplines could be incorporated into an extended version of the

⁵ In New Zealand, as in most countries outside the United States, you need to be registered as a psychologist to work as a behavior analyst. Thus, behavior analysts must also comply with the NZPB Code of Ethics.

Task List with items associated with strategies to achieve positive outcomes in working with other professionals and broadening the concept of social validity (e.g., Winett, Moore, & Anderson, 1991).

Service Level

The purpose of this section is to present possible policies that organizations can put in place that could make competent ABA interventions accessible to increased numbers of Māori clients taking into consideration the Treaty's principles.

Availability of ABA to Indigenous Communities In order to address the principles of partnership and protection, practitioners should take steps that ensure that the availability of their services is not constrained—that is, ABA services should be equally available to all groups in society.

In Aotearoa, ABA services can be found in large cities, such as Auckland and Wellington, but rarely outside of those areas. In areas where the Māori population is relatively high, such as Gisborne or Rotorua, there are virtually no ABA services available. In order to increase the access of Māori to ABA and MHS, these services need to be available where the concentration of Māori is higher, such as in central and eastern North Island. One method that appears promising for improving Māori access to health care is the use of telehealth and mobile health services. Many Māori live in rural communities with limited health services available to them. Telehealth is increasingly being used by behavior analysts to access clients in remote areas overseas (see Wacker et al., 2013). Although this technology seems to be a promising way of addressing access to health services, it is crucial to consider cultural factors and technological barriers in designing such systems and how they can be dealt with (e.g., the need for whānau participation, the preference for face-to-face meetings, the limited access to fast Internet, and privacy concerns).

To increase accessibility to ABA and MHS, it is also crucial to consider the impact of cost on access to health care. A well-designed intervention needs to consider cost (Santiago, Hanley, Moore, & Jin, 2016) and how cost may differentially prohibit some groups from accessing services. Cost barriers can only be addressed if ABA services in Aotearoa are actively involved in ensuring that adequate funding is provided for MHS, so that the cost of accessing the services does not fall on the end user or consumer, by advocating for more government funding for mental health. Moreover, ABA services could be integrated in schools; a recent UK example shows how this can be achieved in an affordable manner (Foran et al., 2015).

Developing Interventions with Māori Any interventions and programs that are intended for Māori clients should be co-developed with key stakeholders in the Māori community, especially the whānau. New policy initiatives in mental health

are often developed from the perspective of non-Māori and through the lens of what non-Māori experts think that Māori need. The service development process may not take into account the Māori perspectives on their own needs, and it may not provide solutions acceptable to Māori. Developing social validity questions for an interview process before and after an intervention will help the service develop better insight and promote necessary changes.

Moreover, identifying settings and customs that can make Māori patients feel more comfortable in the health care setting is mutually beneficial. Māori culture emphasizes familial and community ties. Strategies that are developed with Māori, rather than merely developed for Māori, should encompass the variables that are most important to Māori, such as relationships, values, beliefs, and tikanga (Rangihuna, Kopua, & Tipene-Leach, 2018), and by doing so will increase the probability of buy-in from the Māori community.

ABA interventions can provide care by joining the Whānau Ora initiative, a government policy that aims at strengthening the whole family by creating services for the entire family group, through evidence-based approaches (MoH, 2002). Whānau Ora can rebalance power structures by developing a sense of entitlement for socially excluded communities and by shaping a positively assertive behavior (Guareschi & Jovchelovitch, 2004). This rebalance of the power structure can provide behavior analysts with a solid indigenous framework to assess and intervene in behaviors in their sociocultural context.

Data-Based Decisions As noted earlier, the planning of Māori MHS has often been based on inadequate health data that are incomplete and do not fully account for Māori experiences of mental health and well-being. For example, accurate data collection can help identify the protective antecedent factors related to mental well-being (i.e., the involvement of the whānau in the person's daily life routine, proficiency in Te reo), as well as social indicators that can contribute to or worsen mental health conditions (e.g., economic hardship). In order to answer these and other questions, it is critical that clinical staff collect ethnicity and diagnostic data accurately.

Moreover, it is crucial to provide guidelines to services on the type of data they need to collect and the type of measurements that correspond to those data, including values relevant to Māori. Services should consider developing systems that evaluate staff performance in working with Māori (Pitama et al., 2017). Importantly, practitioners need to identify their own behavior as an antecedent that may lead to poorer outcomes for Māori, and how changes could be made to their practice to address those outcomes. As Fong, Ficklin, and Lee (2017) note, the practitioner's own cultural values and beliefs can impair the delivery of adequate care to clients. We need a data collection system in place to measure outcomes in relation to culture that are included in the assessment

and intervention procedures; behavior analysts could make a tremendous contribution in assisting services to reach such a goal (e.g., by providing clear operational definitions of what is being measured, or establishing procedures that can demonstrate staff performance in working with Māori).

Given the experience of behavior analysts in using single-subject experimental designs and developing evidence-based practices (Slocum et al., 2014), behavior analysts could help fill gaps in current data collection—for example, linking any data on the characteristics or the diagnosis of Māori to performance reporting. The Public Health and Disability Act 2000 requires that Māori participate actively in developing strategies to improve Māori health; however, given the lack of in-depth information from Aotearoa's DHBs, it is difficult to improve current policies.

Practitioner Level

The purpose of this section is to identify what behavior analysts can do at the practitioner level in order to work effectively with Māori clients and communities.

Building Communication Elers (2014) indicates that Māori often report feeling ill-informed and powerless in the mental health system. Communicating with Māori in familiar ways can alter power dynamics, so that the health care environment is seen less like a thing that caters only to the dominant group. For ABA services to be more accessible, it is important to establish a positive relationship with Māori clients in ways that increase participation by connecting at a personal level. For example, the *Hui* process is a set of recommendations used to enhance Māori patients' engagement during clinical encounters and consists of four parts: *mihimihi* (initial greeting engagement), *whakawhanaungatanga* (making a new social connection), *kaupapa* (purpose of the encounter), and *poroporoaki* (closing the session). For instance, as part of the *mihimihi* process, the behavior analyst should focus on relating rather than limiting the introduction to his or her name and professional credentials. In particular, behavior analysts could make reference to where they grew up or where they reside now with their family, the land they have grown up on, or a little bit about their own *whānau*. Similarly, as part of the *whakawhanaungatanga* process, the behavior analyst can choose a personal in order to establish a personal connection with the client.

The *Hui* process is used by clinical psychologists (Pitama et al., 2017) and medical professionals (Lacey, Huria, Beckert, Gillies, & Pitama, 2011) to enhance the relationship between clients, their *whānau*, and health professionals, with reports of positive results in developing responsiveness to treatment. It is vital for behavior analysts to consider this model when pairing themselves with the clinical process in order to establish reinforcement contingencies with a Māori client.

Additionally, it is important to communicate information in a way that is acceptable to clients' cultural practices (Fong et al., 2016). For example, Māori favor *te kanoahi ki te kanoahi* communication. Behavior analysts should make an effort to consider live oral communication rather than just written reports, e-mails, or text messages as the primary means of communication. Behavior analysts may also consider the use of Te reo in their reports, especially when communicating concepts that relate to cultural practices. Such practices may not only assist the development of a therapeutic relationship but also can develop clients' willingness to continue using the service.

Functional Cultural Behavioral Assessment Evans and Paewai (1999) suggest that the causal relation in a functional analysis is based on a Western scientific model; but in order to be "culturally fair," behavior needs to be assessed in its cultural context. In conducting functional behavioral assessments, it is important to consider cultural perspectives when selecting "appropriate behaviors" or when defining a behavior as "inappropriate." It is essential to distinguish culture-related behaviors of a client (Salend & Taylor, 2002) and have an increased awareness of how our own experiences might interfere with the assessment or the selection of the intervention plan.

Current modes of assessing behavior (e.g., functional assessment; Iwata, Dorsey, Slifer, Bauman, & Richman, 1994; Hanley, Jin, Vanselow, & Hanratty, 2014) may not extract information on cultural preferences; without this information, practitioners can end up delivering substandard care, albeit unintentionally. For example, Tanaka-Matsumi, Seiden, and Lam (1996) used a culturally informed functional assessment interview for an intercultural marital couple to formulate a culturally sensitive hypothesis for the client's behavior and selected culturally acceptable target behaviors to increase the effectiveness of the intervention. In order to provide the same standard of care for Māori and non-Māori, behavior analysts may need to take additional steps to ensure that the intervention being delivered is relevant to their clients. Additionally, behavior analysts should seek for multicultural input when measuring reliability and validity—for example, asking whether other members of the client's cultural group agree that an intervention has "worked" and whether the outcomes are meaningful to the client in his or her sociocultural environment.

Strengthening Existing Skills and Building New Skills Socioeconomic factors are often unobservable, and their possible role is often untestable. Practitioners seek to identify observable phenomena and testable hypotheses to deal with health disparities. Observable factors should be located in the environment, rather than in the individual client or population. For example, Sugai, O'Keeffe, and Fallon (2012) demonstrated how schoolteachers could set contextually observable

relevant behavioral examples, for instance, by providing opportunities for the staff to learn about the cultural norms of their students and families, which assisted the teachers in setting individualized targets to encourage participation from students from low socioeconomic backgrounds and who tend to experience poor outcomes.

The Whānau Ora model emphasizes the skills needed to strengthen or build family competency instead of identifying deficits and providing crisis management. As proposed by Sir Mason Durie (2013), we need to consider teaching the skills that will lead to successful inclusion in the society, such as financial management, technological literacy, fluency in Te reo, communication skills, effective parenting, income generation, healthy nutrition, employability, and cultural skills and knowledge. Moreover, the wider family is an important component of Māori well-being; another important component in any individualized intervention plan is increased family participation in recreational, leisure, or sports activities (or any other activity that could lead to success) in order to empower not just the client but the whole whānau.

Interventions should build skills that will directly improve the socioeconomic status of our tangata whaiora and their whānau, and not just target the behavior of concern. Therefore, any intervention plan should include an assessment of risk factors, such as housing quality, food insecurity, and employment status, which increase stress and the risk of developing mental health problems, with the intention to build on protective factors that contribute to well-being. The social importance of the effects of a given intervention is a crucial consideration; therefore, behavior analysts should work to create feedback tools that assess the relationship between an intervention and the clients' values, so we can continuously monitor their reinforcers (Wolf, 1978), engagement with treatment, and outcomes to ensure that the treatment provided is fit for those clients.

Conclusion

The continuing health disparities between Māori and non-Māori remain a cause for concern in Aotearoa New Zealand. These disparities are a result of a combination of social determinants and failures of the current MHS. ABA may be better positioned to respond to the needs of Māori, given its flexible and individualized approach. However, it is crucial for behavioral analysts to consider the importance of culture if they are to achieve better outcomes and ensure that indigenous people are part of the process. In Aotearoa New Zealand, this means recognizing the important status of Māori as the indigenous people, honoring Māori customs and ways of thinking, and monitoring the way that interventions for Māori relate to culture and identities. Behavior analysts are well positioned to develop effective training programs for health professionals

and organizations through collaborations between behavior analysts and *kaiarahi*.

We believe it is imperative to observe the application of the principles of the Treaty in the health sector of bicultural Aotearoa in order to meet the growing demands on MHS. Due to growing needs for MHS, behavior analysts should consider implementing culturally sensitive practices in order to achieve better outcomes, better accessibility, and better choices of treatment for Māori.

Institutions, such as universities and professional bodies, must keep mandating training and practices that take into account cultural differences between the dominant Western culture and indigenous culture and better provide for cultural minorities. Behavior analysts and health practitioners must pursue cultural training and competence and try to resource prompt cultural advice; they can also contribute very significantly to the development of relevant training programs for health care staff.

Measuring clinical performance against the cultural needs of Māori is as important as measuring client outcomes. More work is necessary for the development of operational definitions of the parameters measured and for the generation of health and ethnicity/cultural identity data that will allow us to better understand the relationship between clients' needs and preferences, service practices, and clinical outcomes. Setting up a relevant survey might offer better insights into the realities and barriers to accessing ABA services in the country. Behavior analysts are well equipped to support MHS in carrying out these tasks and should be an integrated part of MHS to achieve better prevention strategies and quality of life for Māori.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no competing interests.

Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

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