KŌTĀTĀ

INSIGHT

BEHAVIOURAL ECONOMIC & SOCIAL ANALYSIS

What matters for wellbeing?

Estimating the relative contribution of different outcome measures to overall subjective wellbeing

Research report

Luisa Beltran-Castillon, Keith McLeod and Conal Smith
November 2021

SUMMARY

He Ara Oranga wellbeing outcomes framework - An aspirational vision of 'what good looks like' in the future

The Mental Health and Wellbeing Commission has developed an outcomes and monitoring framework called the He Ara Oranga Wellbeing outcomes framework. It is designed to focus on wellbeing for all New Zealanders, as well as being specifically relevant to those with lived experience of mental health and addiction. The framework looks at outcomes from both te ao Māori and shared wellbeing perspectives.

The research aims to support the framework

This research seeks to better understand the relative importance of the different outcome measures adopted under He Ara Oranga wellbeing outcomes framework for overall wellbeing.

The research data and method

The research has taken a statistical modelling approach using existing microdata data available in the Stats NZ's Integrated Data Infrastructure (IDI).

Modelling individual and whānau wellbeing

This modelling approach tests the relationship between overall individual wellbeing and the different indicators identified in the He Ara Oranga wellbeing outcomes framework. We have used life satisfaction measure as proxy for overall wellbeing.

Relationships and connections are central to Māori and te ao Māori concepts of wellbeing. In addition to modelling individual wellbeing, we have modelled the relationship between individual wellbeing measures and whānau wellbeing as perceived by the same individual.

The key population and priorities groups

As well as analysing the relationships between the indicators and wellbeing for the overall New Zealand population this research tests this relation for each of the populations identified by the He Ara Oranga wellbeing outcomes framework; Māori (as tangata whenua), people with lived experience of mental distress and addiction as well as eleven identified priority groups.

Research scope

The research is limited to those indicators that could be derived using this data and linked to overall wellbeing or whānau measures. As such the research examines 27 indicators out of a total of 48.

What do the findings say about the wellbeing of New Zealanders?

Most indicators in the shared perspective framework are useful in understanding the wellbeing of New Zealanders

Almost all indicators in the shared perspective He Ara Oranga wellbeing outcomes framework show a strong statistical relationship with subjective wellbeing, although some have a stronger relationship than others. As expected, those measures that represent alternative aspects of subjective wellbeing or are clearly focus on subjective perceptions have the strongest connection to life satisfaction. These include feeling that life is worthwhile, positive mental wellbeing, having good general health, and not feeling lonely. The strong relationship here is influenced strongly by conceptual overlap between the measures and should not be taken as a strong indication of the relative importance of these factors to overall life satisfaction.

Some indicators lose their significance once other indicators are included in the model, indicating that other indicators may be capturing the same relationship. For example, living in a crowded house is connected to

lower life satisfaction, but there is no relationship once we control for other indicators of material wellbeing.

A te ao Māori perspective is important in understanding the wellbeing of Māori

Although Māori report lower levels of wellbeing across several He Ara Oranga outcomes framework indicators, given the same values in the indicators they report higher levels of life satisfaction than the rest of the population. On average, Māori were more likely to report low levels of trust in others, poor financial wellbeing, experience of racial discrimination, and relatively low levels of mental wellbeing. However average life satisfaction in the New Zealand General Social Survey (NZGSS) is only around 0.15 points (out of 10) lower than the general population.

For Māori, indicators of wellbeing from a shared perspective are just as important for life satisfaction as they are for non-Māori, but many indicators of wellbeing from a te ao Māori perspective are also important for the life satisfaction of Māori[1]. In particular, Māori who reported that it was important to them to be involved in Māori culture, those that reported their whānau doing well, and those that were able to find support in times of need had higher levels of life satisfaction. Positive values in these indicators have a protective effect against negative values in other indicators.

More work is needed to develop an understanding of what is important for the wellbeing of the whānau

Many He Ara Oranga indicators also correlate with whānau wellbeing but, as expected, as a whole they explain less of the variation in whānau wellbeing than they do in individual wellbeing. Those indicators with the stronger relation to whānau wellbeing tend to either relate specifically to the whānau or are subjective in nature. Further work would be necessary to better understand what is important for whānau wellbeing.

Some groups of New Zealanders seem to be doing better than others but for different reasons

There are quite large differences in reported life satisfaction for different populations of interest identified in the He Ara Oranga report (Government Inquiry into Mental Health and Addiction, 2018). Users of mental health services,[2] disabled people, people who identify as not being heterosexual and ex-prisoners report particularly low levels of life satisfaction on average. These differences in life satisfaction can largely be explained by differences in responses to various He Ara Oranga outcomes framework indicators:

- These four groups all reported poor mental wellbeing and poor financial wellbeing.

- Disabled people and mental health service users were both more likely than other New Zealanders to report poor general health.

- Former prisoners and people identifying as non-heterosexual were more likely to report discrimination than other New Zealanders, while the latter group were also more likely to report finding it hard to be themselves in New Zealand.

Pacific people reported low levels of financial wellbeing and also reported lower levels of trust and higher levels of reported racial discrimination than other New Zealanders. However this did not translate into low levels of life satisfaction overall. Pacific people reported high levels of social connectedness and were seldom lonely, and reported good levels of general health, consistent with being a relatively young population on average.

Recent migrants to New Zealand also reported higher than average levels of racism, although the majority did not report any discrimination in the past year. They also reported higher levels of loneliness than most

---

[1] We have not explored whether any of the te ao Māori indicators are important for the wellbeing of the non- Māori population. However, based on other New Zealand research it is likely that this would be the case for at least some of the te ao Māori indicators.

[2] In our analysis, this group is our best proxy for people with lived experience of mental health and addiction problems, although people with low mental wellbeing in the WHO-5 or SF-12 screening tools could be used to form an alternative population.

other groups but reported high levels of both general and mental health, and average levels of financial wellbeing. Recent migrants reported higher life satisfaction than other New Zealanders, on average.

Older people and those living in rural areas also reported particularly high levels of life satisfaction on average, with both groups reporting good wellbeing across most He Ara Oranga outcomes framework indicators. Both groups reported good mental and financial wellbeing, low levels of discrimination, that it was easy to be themselves in New Zealand, and that life is worthwhile. Both groups did report lower than average levels of face-to-face contact with friends, but this was not reflected in higher-than-average levels of loneliness. Older people also reported relatively high levels of poor general health.

The things that are important to one group of New Zealanders appear to be equally important to others

Although there is some variability in the importance of different indicators for different populations, those that are important for the total population tend to be similarly important for all sub-population groups. However, those differences that do exist may be of policy interest.

What do the findings say about the He Ara Oranga outcomes framework indicators?

The subset of indicators included in this report are all associated significantly with life satisfaction

The subset of measures included in this report are all associated significantly with people's reported life satisfaction. The shared perspective indicators have been shown to be broadly relevant to the wellbeing of all identified priority populations, while the te ao Māori perspective indicators add additional value in understanding the life satisfaction of Māori in addition to their intrinsic value from a te ao Māori perspective.

It would be helpful to have a better alignment between the He Ara Oranga wellbeing outcomes framework and the main social surveys

While the analysis included in this report provides useful information about the wellbeing of New Zealanders, a more comprehensive picture was not possible due to the exclusion of several of the framework indicators, as data for them could not be linked.

In future revision of the He Ara Oranga outcomes framework indicators, it may be useful to give particular consideration to prioritising the inclusion of indicators collected as part of the current core set of NZGSS questions. This enables indicators to be considered both individually, for monitoring purposes, and also alongside other indicators, for purposes of research such as that covered by this report. Where indicators are collected in other surveys or in earlier waves of the NZGSS, and are considered to be critical to measuring the wellbeing of New Zealanders, this gap should be brough to the attention of Statistics NZ for potential inclusion in future NZGSS or Te Kupenga (TK) survey years.

Further research would support the further development of the framework

Many of the current He Ara Oranga wellbeing outcomes framework indicators either overlap or capture similar aspects of wellbeing, particularly the more subjective measures. This research gives some information on which of the current indicators could be excluded without losing the explanatory power of the framework in order to make space for other indicators. However, it is not possible to reach strong conclusions about the relative importance of different indicators until some of the conceptual and practical issues with the indicator list are resolved. Future development could focus on the relationship between life satisfaction, subjective wellbeing more broadly, mental health, and wider individual, household, and environmental drivers of wellbeing and how these relate to each other.

INTRODUCTION

The Mental Health and Wellbeing Commission has developed an outcomes and monitoring framework called the He Ara Oranga wellbeing outcomes framework. The framework presents an 'aspirational vision of 'what good looks like' in the future'. It is designed to focus on wellbeing for all New Zealanders, as well as being specifically relevant to those with lived experience of mental health and addiction and looks at outcomes from both te ao Māori and shared wellbeing perspectives.

The implementation of the outcomes framework for monitoring purposes involved the identification of a range of outcomes measures which reflect the domains described in the framework. A long list of several hundred potential measures were identified, and these have been reduced to produce a draft list of approximately 60 measures which form the basis of the monitoring framework.

While each of these individual measures is important in its own right, it is useful to understand the degree to which they correlate with people's overall sense of wellbeing. This variation will depend on the importance the outcome has for each individual, and on the impact it has on their life, depending on their specific situation.

People's subjective wellbeing sheds important light on the outcomes in the He Ara Oranga Wellbeing outcomes framework in two ways. For some people wellbeing is considered fundamentally a subjective phenomenon. What matters for a person's wellbeing is how they judge their own life. From this perspective life satisfaction provides a meaningful summary of overall wellbeing against which indicators from the He Ara Oranga wellbeing outcomes framework relating to specific things that might drive wellbeing can be considered. Other perspectives on wellbeing emphasise that wellbeing has important aspects that go beyond a person's subjective perceptions. From this perspective a person living in degrading poverty does not have a high level of wellbeing, regardless of how happy they are with their life. Looking at measures of life satisfaction is valuable, even from this perspective, because empirically high life satisfaction is strongly correlated with a low risk of poor outcomes across all of the main aspects of wellbeing commonly identified as important to people.

No matter which perspective on wellbeing is considered most important, looking at life satisfaction can help address two questions for the Mental Health and Wellbeing Commission. First, are all of the indicators identified in the He Ara Oranga outcomes framework actually important to people's wellbeing? If an indicator is not correlated with life satisfaction this suggests that it is worth at least asking whether the measure in question is a good indicator of wellbeing.

ng. Second, the impact of an indicator on life satisfaction can give an indication of how important different aspects of wellbeing are compared to each other. Developing an understanding of the strength of the relationship between each of the specific wellbeing measures and overall wellbeing is an important first step in developing priorities for future action in improving wellbeing for the NZ population and sub-populations of interest.

This research seeks to better understand the relative importance of the different outcome measures adopted under the He Ara Oranga wellbeing outcomes framework for overall individual and whānau subjective wellbeing. The research has been undertaken by Kōtātā Insight on behalf of the Mental Health and Wellbeing Commission.

Research questions

The research is focussed on answering three high level research questions:

1. What is the relative contribution of the cross-domain indicators of He Ara Oranga wellbeing framework to subjective wellbeing?

2. Is the contribution different for different subpopulations of interest?

3. Is the contribution different for different measures of individual wellbeing compared to measures of family or whānau wellbeing?

Report outline

The report covers the following:

- The results of a literature scan that has informed the research approach and provided context for the findings.

- The research design and method used.

- Documentation of the data generated for the analysis.

- Information on how the populations of interest have been constructed in the data and used in the analysis.

- Results from the descriptive analysis and statistical modelling of He Ara Oranga wellbeing framework indicators against measures of overall subjective wellbeing for:

  - the total population and sub-populations of interest from a shared wellbeing perspective, and

  - the Māori population and sub-populations of interest from shared and te ao Māori perspectives.

- Discussion of the key findings and their possible implications.

- Next steps for potential future research.

BACKGROUND

Research to understand the relative determinants of wellbeing has previously been undertaken in New Zealand by Brown et al, (2012), Jia and Smith (2016), and more recently, by McLeod (2018) in the context of the Treasury's Living Standards Framework. Smith et al (2019) looks at wellbeing from the perspective of family wellbeing and multiple disadvantage. None of these studies looked at the full range of indicators identified under He Ara Oranga wellbeing outcomes framework, nor did they examine measures informed by te ao Māori.

In this section we summarise evidence from the literature that is relevant to the project research questions, with a focus on empirical studies that follow a similar quantitative methodology. We focus on New Zealand studies, but also draw on the international literature where relevant. The evidence is summarised following the He Ara Oranga wellbeing outcomes framework structure.

Wellbeing from a te ao Māori perspective

There are few empirical studies that focus on the determinants of wellbeing from a te ao Māori perspective and even fewer that utilise the analysis of subjective wellbeing data. This is an area where this study can provide new evidence in the unique context of Aotearoa.

Wellbeing from a shared perspective

Drivers of subjective wellbeing

The way in which different outcomes affect subjective wellbeing varies from outcome area to outcome area. Some outcomes vary primarily at the individual or household level. Other aspects of quality of life, however, can affect everyone in the immediate environment . This implies that the determinants of subjective wellbeing potentially act on multiple levels (e.g., country, region, household, individual). (Boarini, Comola, Smith, Manchin, & de Keulenaer, 2012)

Being safe and nurtured

Measures of social support and trust in others are shown to be positively associated with life satisfaction (Helliwell and Wang, 2011). Safety/security variables have also been shown to have a significant relationship with life satisfaction, although the size of the coefficients is small (Brown, Woolf, & Smith, 2012), (Smith & Davies, 2020).

Across countries, perceptions that corruption is widespread have a strong negative correlation with average life satisfaction, while measures of trust in others have a strong positive correlation (Helliwell, 2008).

Having what is needed

Higher income is associated with a higher level of life satisfaction, but with diminishing returns as income increases. However, the evidence at the aggregate level is more ambiguous, with different views as to whether the evidence supports life satisfaction increasing in line with the log of per capita GDP (Boarini, Comola, Smith, Manchin, & de Keulenaer, 2012).

Unemployment is associated with a large negative impact on life satisfaction at the individual level (Boarini, Comola, Smith, Manchin, & de Keulenaer, 2012). It is not the lack of a job per se that has a negative impact on life satisfaction, rather the involuntary state of not having a job i.e., being unemployed. Groups without a job, but that are not unemployed such as the retired, students, and full-time parents, do not consistently report lower levels of life satisfaction (Blanchflower & Oswald, 2004).

For those that are working, there is significant evidence on the impact of work/life balance on subjective well-being (Boarini, Comola, Smith, Manchin, & de Keulenaer, 2012).

Most studies find a strong correlation between measures of education and skills and life satisfaction across people (OECD, 2011). Some studies find that the relationship is weaker or non-existent after considering income, health, and social trust; this suggests that the effect of education on subjective well-being may be mediated by its impact on these variables (Helliwell, 2008).

Having one's rights and dignity fully realised

There is limited evidence of the relationship between experience of discrimination or racism and overall life satisfaction. In a New Zealand context Smith and Davies (2020) identify a significant negative impact of experienced discrimination on life satisfaction, while Helliwell, Huang, and Wang (2016) identify freedom over life choices as important and Frey and Stutzer (2004) highlight the importance of citizenship to subjective wellbeing. Multidimensional analysis of wellbeing in New Zealand following The Living Standards framework indicates a significant relationship between its Social Connections domain and overall life satisfaction (McLeod, 2018). The Social Connections domain includes measures of individual's experience of discrimination.

Healing, growth and being resilient

Self-assessed health status has a large negative impact on life satisfaction (Dolan P., 2008). This relationship holds for measures of both mental and physical health. Beyond this association, there is evidence of a strong causal relationship of health on life satisfaction (Boarini, Comola, Smith, Manchin, & de Keulenaer, 2012).

New Zealand results using data from the General Social Survey show that mental health and physical health both have the expected relationship of increasing life satisfaction with increases in health status, but the relationship is stronger for mental health (Brown, Woolf, & Smith, 2012).

Being connected and valued

Social connections and human contact are also strongly associated with life satisfaction (Boarini, Comola, Smith, Manchin, & de Keulenaer, 2012) and (Helliwell, Huang, & Wang, 2016).

Having hope and purpose

There is limited evidence of the relationship between having control over one's life and psychological wellbeing, mostly reflecting a lack of data. For life worthwhile there is little evidence of the relationship in a multivariate context, but the OECD reports a small but significant bivariate association (OECD, 2013).

Relative importance of the different drivers

The relative magnitude of the non-income determinants of life satisfaction is large. Not being unemployed, not having health problems, and positive social contact are associated with large differences in life satisfaction (Boarini, Comola, Smith, Manchin, & de Keulenaer, 2012).

New Zealand-specific research indicates there are independent effects of both mental and physical health on wellbeing and suggests that the impact of mental health on life satisfaction is greater than for physical health (Brown, Woolf, & Smith, 2012).

Relative comparison analysis of The Treasury's Living Standard framework domains indicated that the association between the different domains and overall life satisfaction is maintained although reduced when put together in a model to control for interactions. The two exceptions are the 'Knowledge and Skills' and Safety domains. Once other wellbeing domains are controlled for, the association between these two domains and life satisfaction disappears (McLeod, 2018). This study also confirms the relative importance of the health domain above Income and Consumption.

Consistent with evidence in the international literature, New Zealand data suggests that education affects life satisfaction through other variables such as income, employment and economic resources (Brown, Woolf, & Smith, 2012). This study also confirms with New Zealand data that unemployment has a strong negative impact on life satisfaction, after holding all other factors constant.

This empirical investigation into the determinants of life satisfaction in New Zealand confirms the importance of factors associated with social life and community relationships on subjective wellbeing. Not having a partner and not having access to help in a crisis both contribute negatively to life satisfaction. Similarly, not participating in voluntary work, feeling isolated most of the time, having difficulty expressing one's identity and feelings of not belonging to New Zealand all had negative coefficients. The size of the coefficient was particularly high for unavailability of help in a crisis.

RESEARCH DESIGN AND METHOD

This research seeks to better understand the relative importance of the different outcome measures adopted under He Ara Oranga wellbeing outcomes framework for overall individual and whānau subjective wellbeing.

The research has taken a statistical modelling approach using existing microdata data available in the Stats NZ's Integrated Data Infrastructure (IDI) and the scope of the research is limited to what can be undertaken easily using this data. This modelling approach tests the relationship between overall individual and whānau wellbeing and the different indicators identified in He Ara Oranga wellbeing outcomes framework. Similar approaches have been used successfully in the past in New Zealand (Brown, Woolf, & Smith, 2012), (Smith & Davies, 2020), (Smith, Peach, & Cording, 2019).

For the purposes of this study, we have used life satisfaction and whānau wellbeing measures as proxies for overall wellbeing. The use of life satisfaction in this role is widely used in the academic and policy literature on wellbeing (Smith C. , 2018). Our analysis of whānau wellbeing, on the other hand, is relatively novel. This reflects the fact that measures comparable to the whānau wellbeing measure in TK are not widely investigated outside New Zealand (see Benjamin, Guzman, Fleurbaey, Heffetz, & Kimball (2021) for one recent example). By using two different measures – one based on an individual view of wellbeing and the other on a more collective view of wellbeing – we will be able to test the degree to which the relative importance of different wellbeing outcomes is sensitive to different conceptions of wellbeing.

He Ara Oranga wellbeing outcomes framework is depicted from both the te ao Māori and shared perspectives. This study will include these two perspectives for the Māori population. There is no existing empirical analysis of wellbeing determinants from a te ao Māori perspective.

Modelling individual wellbeing

In the individual case, we have used life satisfaction as proxy for overall subjective wellbeing and estimate a model similar to that of Brown et al. (2012):

$W = \beta_1 D + \beta_2 X + \beta_3 E + \varepsilon$

where:

- W is an individual's reported life satisfaction on a scale from 0 to 10,

- D is a vector containing the individual's demographic characteristics,

- X is a vector of observed or reported values of wellbeing outcomes related to the different domains of He Ara Oranga,

- E is a vector containing individual-specific factors that cannot be observed (e.g. genetic, environmental), and

- ε is the random error term.

It is not possible to estimate the vector of unobserved characteristics E, resulting in potential bias in our estimates of β_1 and β_2. However, if we assume that E is uncorrelated with the independent variables in the vectors D and X, then any omitted variables will affect only the error term, leaving unbiased the estimates of β_1 and β_2.

Regression models are run individually for each of the indicators as well as together in a combined model to help identify the relative contribution of each indicator to subjective wellbeing. Following Ferrer-i-Carbonell and Frijters (2004) we test both linear and ordered probit specifications for the model (which treats life satisfaction data as ordinal rather than cardinal). The two sets of results are not substantively different and we only report results from the linear specification in this report.

The wellbeing outcomes in X are represented as binary indicators (zero or one), as this is analogous to the He Ara Oranga wellbeing outcomes framework indicators, which are expressed as the percentage of the population with various characteristics. Because the wellbeing indicators take this binary form, the proportion of total variance explained by the model will be smaller than if the full range of scalar information for each indicator was used.

All models include the same set of control variables to allow triangulation of estimates, providing reassurance of the reliability of results in the context of different sets of missing indicators. Given the large number of comparisons being undertaken in the paper, there is some risk of false positive results (i.e. type I error). This is where a significant we see a significant result, and interpret it as being meaningful, when it occurs simply due to random chance. To avoid this as much as possible, we focus on results which are highly significant, particularly when looking at sub-population findings.

Modelling whānau wellbeing

Relationships and connections are central to Māori and te ao Māori concepts of wellbeing. In addition to modelling individual wellbeing, we have modelled the relationship between individual wellbeing measures and whānau wellbeing as perceived by the same individual.

In this approach the same type of model has been used as for the individual wellbeing described above, but W is the individual's perception of whānau wellbeing. Whānau wellbeing is collected in TK, and this approach can be used with all wellbeing indicators sourced from this survey or those that can be linked to it. The same approach could be extended to measure the strength of the relationship between individual wellbeing and family wellbeing, as the NZGSS collects information on family wellbeing, however this information was not collected in the NZGSS until 2018. Our analysis takes advantage of the three most recent iterations of the NZGSS, run in 2014, 2016, and 2018. These three surveys have an almost identical set of questions. By combining them, we have over 24,000 survey responses, a large enough sample to be able to look more closely at specific populations of interest.

Note that we would not necessarily expect there to be a strong link between whānau wellbeing and many of the individual wellbeing outcomes that we are interested in. We would expect whānau wellbeing to be strongly influenced by the wellbeing of other whānau members which may not be reflected in the measures of individual wellbeing available to be tested here. An experimental analysis of a question very similar to whānau wellbeing found this to be the case (Benjamin, Guzman, Fleurbaey, Heffetz, & Kimball, 2021) in the USA. A weak relationship between a wellbeing indicator and whānau wellbeing should therefore not necessarily be interpreted as strong evidence that the indicator does not matter or that the whānau wellbeing measure is not working. It may simply be the case that it is the wellbeing of other unmeasured whānau members that drives whānau wellbeing.

Modelling wellbeing for the populations of Interest

He Ara Oranga identifies two key populations: the first is Māori (as tangata whenua), and the second is people with lived experience of mental distress and addiction. Eleven other priority groups are identified:

1. Pacific peoples
2. Refugees and migrants
3. Rainbow communities
4. Rural communities
5. Disabled people
6. Veterans
7. Prisoners
8. Young people
9. Older people
10. Children experiencing adverse childhood events

11. Children in state care

Whenever possible we have identified the population of interest in the IDI and have tested whether the relationship between subjective wellbeing and the indicators is different for the subpopulation compared with the rest of the population. This has been done by introducing an interaction term in the shared perspective wellbeing model

$$W = \beta_1 D + \beta_2 X + \beta_3 I + \beta_4 X^* I + \beta_5 E + \varepsilon$$

In this model, I is a variable indicating whether a person is in the population of interest or not. The coefficient β_3 gives an estimate of whether people in that population group have different mean levels of wellbeing compared to the rest of the population, after controlling for differences in their demographic characteristics and reported wellbeing across the He Ara Oranga indicators. The parameter coefficients identified as β_4 test whether each the indicators relate to life satisfaction in a different way (more or less strongly) for that population group than the rest of the population.

The next section gives more details on how these population have been identified in the IDI.

Māori as tangata whenua

As indicated above, the study has tested whether the relationship between subjective wellbeing and the indicators is different for the Māori population compared with the non-Māori population. This has been done by introducing an interaction term in the shared perspective wellbeing model as illustrated above for other population groups i.e.

$$W = \beta_1 D + \beta_2 X + \beta_3 \text{Māori} + \beta_4 X^* \text{Māori} + \beta_4 E + \varepsilon$$

In addition to the interaction analysis, we have been able to model the determinants of wellbeing for the Māori population following both He Ara Oranga te ao Māori and shared perspective frameworks as a separate model. For this purpose, we have used data from Statistics New Zealand's 2018 TK survey, a comprehensive survey of the social, cultural, and economic wellbeing of Māori in New Zealand. This has allowed us to include most of the indicators proposed by the framework. The same modelling methodology has been used for modelling wellbeing from both te ao Māori and shared perspectives.

The Māori population of Aotearoa New Zealand is large, and it encompasses a diverse range of different social and cultural features. There is no single way of living as or being Māori. Our analysis also tests whether the relationship between subjective wellbeing and the indicators is different among different groups of the Māori population in relation to their connection with te ao Māori. This will be tested by introducing interaction terms in the te ao Māori model that relate to identity and cultural connection. We use the 'identity signatures' or 'clusters' as defined in Smith et al (2019) to define these population groups within the Māori population.

These clusters were identified using five summary dimensions of Māori cultural identity and connection:

- *Te Reo Māori* : fluency in te reo Māori as well as the use of te reo Māori in the home environment
- *Tūrangawaewae*: the strength of traditional Māori identity and a sense of "being" Māori.
- *Tikanga*: the degree to which the respondent engaged with traditional and modern Māori tikanga. This includes both basic activities such as using a Māori greeting or wearing a pounamu through to attending events such as kapa haka festivals or hui, and using Māori cultural media such as television, radio, or magazines.
- *Wairua*: the importance of traditional Māori spirituality as well as a set of beliefs revolving around engagement with conventional religion and church.
- *Mahi Marae*: the degree to which a person is engaged with and spends time on marae.

People in each of the six cluster tend to be similar to each other in terms of their cultural identity and connection to te ao Māori, although they may be very different in other ways. This provides a practical tool to understand the population further.

The clusters are summarised briefly as follows:

- **Cluster 1: Kahurangi** – This cluster identify strongly as Māori. They are more likely report that Māori culture is important to them, engage in iwi governance processes and/or live near ancestral marae. On average levels of te reo Māori are low to moderate but have strong engagement with marae.

- **Cluster 2: Karaka** – This group is an outlier compared to the other five clusters in that it is characterised by people who report essentially no identification with Māori culture beyond including Māori as one of several ethnic identities.

- **Cluster 3: Whero** – This cluster comprises people who have a moderately strong sense of being Māori but relatively little engagement with Māori culture more broadly.

- **Cluster 4: Kōwhai** – People in the Kōwhai group tend to have only a relatively weak sense of Māori identity. Overall, they have relatively very low levels of te reo, engagement with traditional and modern tikanga and very low levels of engagement with marae. However, this is group with very strong connection to church and religion – not necessarily one with strong links to traditional Māori culture.

- **Cluster 5: Waiporoporo** – This cluster is characterised by people with a moderate to strong sense of Māori identity. They have high subjective identification with Māori culture but with lower levels of connection to traditional marae and/or engagement with iwi governance. Overall levels of te reo Māori is relatively high compared to most other clusters. However, engagement with tikanga is much lower as is their connection to marae. Active engagement with a church is not uncommon for this group.

- **Cluster 6: Kākāriki** – This group is overall strong across all five dimensions of Māori cultural identity and connection. Individuals in this group tend to have strong subjective identification as Māori, active engagement with iwi governance, and strong links to their ancestral marae. Engagement with Māori culture is higher than for any other group with high levels of fluency in te reo Māori and engagement with tikanga. This group is also much more likely to engage with a marae than any other group. They are also relatively strongly engaged with church and spirituality more generally.

RESEARCH DATA

A core part of this research has been the generation of analytical datasets that include the indicators identified by He Ara Oranga, together with proxies for overall wellbeing, identifiers related to key populations of interest, and respondent's demographic characteristics.

The research would be most conclusive if all indicator, control and wellbeing measures were in the same data set so one regression model could be run that included all the information. Even better would be if there were several data sets with data from different sources including all the information so the results could be tested through triangulation. This is not the case.

The necessary information is available in a range of data sources which some can be linked and some not. When building the analysis datasets, we have whenever possible used the definition and data source indicated by He Ara Oranga. We have prioritised NZGSS and TK as data sources as after an initial assessment, we found that using these two surveys, with the addition of some Census and administrative information, we were able to cover most of the framework.

Data sources

We have created two main datasets. For the shared perspective analysis, we bring together data from 2014, 2016 and 2018 NZGSS surveys. The NZGSS was also undertaken in 2008, 2010 and 2012, but significant changes were made in the questionnaire design over these iterations and subsequently. These earlier surveys also used a measure of overall life satisfaction measure using a different scale. Using three survey years imposes some limitations as we exclude questions that were not asked in all of these years however the additional sample size allows conclusions to be drawn about specific sub-populations of interest.

For the te ao Māori perspective we have generated one dataset based on the 2018 TK survey. We have chosen to use only the most recent year as it provides a large enough sample for the study and avoids the complications of combining different surveys with different format and methods.

Indicator variables

We have worked with the most recent list of indicators, dated 7 July 2021. This list has a total of 50 unique indicators marked as 'yes' or 'maybe' in the overall assessment. We have reviewed these indicators to determine which measures will be able to be included in the analysis. We have used the following criteria to undertake the review:

1. Does the measure reflect the wellbeing of the individual or their whānau? And does this relationship apply similarly to all individuals of the population or subpopulation of interest?

2. Is the measure captured in a survey (or administrative data that can be linked with a survey) that also collects a measure of overall subjective wellbeing such as life satisfaction?

3. Is the measure relevant to most or all of the NZ adult population (or the adult Māori population)?

Twenty seven of the 50 indicators have been assessed as feasible for the study and have already been included in the analysis datasets. This initial report shows the results from the analysis of these initial indicators.

Of the 23 indicators not included in the findings of this report:

- 2 indicators are still in development and will be included in the final models. These are: contact with friends and participation in kura kaupapa Māori education.

- 5 indicators are only available in one or two of the 2014-2018 NZGSS surveys and could be included in separate models undertaken for these individual surveys for the overall population only. These indicators are: sense of belonging, participation in the arts, support available when feeling down and

the two indicators on the value te reo Māori.

- 3 are available in only the NZGSS surveys before 2014 and cannot be easily incorporated in our analysis. These are: work-related injury, leisure time and accessibility to green spaces.

- 3 indicators can only be developed at geographical level: access to drinking water, density of gambling machines and alcohol licenses. Access to drinking water and gambling machine density are available at territorial authority level, which is not fine enough level for this analysis. Alcohol license data is available at a finer geographical level. Analysing and constructing a dataset adequate for our modelling purpose would require considerable resource.

- 4 are only available in the Health Survey which currently has no link to wellbeing data, this could be included in future models once the data from the 2021/22 HS is available, however they will not be able to be analysed in a multivariate way alongside indicators collected in NZGSS.

- 2 are indicators not obviously appropriate to individual modelling of wellbeing. These are: the percentage of children living in households experiencing good material wellbeing and the growth of the Māori economy. It is possible that were geographic data available on the size of the Māori economy at a local level this could be included in analysis of Māori wellbeing outcomes in the future.

- 2 indicators we cannot find in the NZGSS or TK even these were the sources indicated in the table.

When the data source indicated in the He Ara Oranga outcomes framework was not NZGSS or TK we have, whenever possible, used data available in the NZGSS or TK datasets collected using an identical question. In some cases, we have had to make the definition of the indicator more specific so we could develop it.

Appendix 1 shows details of all the indicators in the He Ora Oranga He Ara Oranga wellbeing outcomes framework, including the source used for this study and the stage of development.

Identifying populations of interest

For the shared perspective, the research has focused on the New Zealand adult population aged 15 years or older, while for the te ao Māori perspective the population of analysis will be the adult Māori population (aged 15+), where Māori is defined as people who self-identify by ethnicity or descent. These are the populations that participates in the population surveys relevant to this study.

He Ara Oranga identifies two key populations: the first is Māori (as tangata whenua), and the second is people with lived experience of mental distress and addiction. Eleven other priority groups are identified.

Māori as tangata whenua

For the te ao Māori perspective model, the Māori population has been identified by the individual's reported ethnicity or descent. This is consistent with the TK definition.

People with lived experiences of mental distress and addiction

There is not a simple and robust way to identify people with lived experiences of mental distress and addiction in the IDI. Several issues have been identified in using IDI data for looking at mental health, including gaps in data on particular services, particularly community services such as lifeline, or primary care services, such as GPs and private psychologists, psychiatrists and counsellors. Supplementary data from medication dispensing, laboratory tests, and medical certificates help fill part of this gap, however. In addition, some pharmaceuticals may have an ambiguous use, being prescribed for mental health and other conditions. Care will need to be taken in the assessment of the feasibility of this work, its analysis and interpretation.

The Social Investment Agency (2019b) has undertaken work looking at the availability of mental health data

in the IDI, and has documented and published code3 which identifies mental health 'events' from a number of sources: hospital discharges from the National Minimum Dataset (NMDS); specialist services from the Project for the Integration of Mental Health Data (PRIMHD); laboratory test data from the Laboratory Claims Collection; medications dispensed from the Pharmaceutical Collection; and medical certificates from the (Social Investment Agency, 2019a) Ministry of Social Development for people receiving health-related benefits.

Although the approach outlined here will not identify all people who have lived experience of mental distress and addiction, it is likely to identify most people who have been diagnosed with a mental health condition in recent years. We use three time periods in our analysis, looking at people who have used services in the past year (prior to the survey date) or in the past five years.[4]

Other priority populations

In total, we create one or more population definitions for eight out of the eleven priority population groups, as outlined in Table 1.

Table 1 Definition used for the analysis of priority populations

Priority population	Definition
Pacific peoples	Any person reporting at least one Pacific ethnicity
Refugees and migrants	We define migrants and refugees as people who have arrived in New Zealand in either the last 5 years or in the last 10 years.
Rainbow communities	Only sexual orientation is available in our data, and this was only asked in the 2018 NZGSS. For 2018 only, we identify any person who reported their sexual orientation as anything other than heterosexual or straight.
Rural communities	We identify rural communities using the area in which NZGSS respondents live. We also produced results including people living in small settlements, however the results were almost unchanged, and the results aren't presented here.
Disabled people	We identify people with disabilities through a series of disability screening questions asked in both NZGSS and TK.
Veterans	We are unable to consistently identify veterans in our data, but we can identify people who are receiving or have received a Veteran's Pension. Not all Veteran's are likely to receive the pension however, and it is only available to people aged 65 and over. Veteran's Pension recipients also include spouses and widows of veterans and the number identified in our data is very small. We have excluded this group from the report for this reason.
Prisoners	Current prisoners are not surveyed by Statistics NZ and are not

---

[3] Based on code initially produced by Anna Davies and Craig Wright using internal Ministry data, and later adapted by Steven Johnston and Matthew Cronin for the IDI.

[4] We also tested a third classification, based on people who had accessed services in the past three years, however this showed results consistent with the other two groups and is excluded from this report.

	included in most official statistics. We are able to identify former prisoners, however. We identify people who have served a custodial sentence in the past 10 years.
Young people	We define young people as those aged 15 to 24.
Older people	We define older people as those aged 65 and over.
Children experiencing adverse childhood events	Children are not surveyed by Statistics NZ and are excluded from our analysis. Future work could potentially look at the subset of young people, as defined above, for whom there is evidence of adverse childhood events in the administrative data.
Children in state care	As above, children are not surveyed by Statistics NZ. While we could identify young adult survey respondents who have spent time in state care, the group is likely to be too small for meaningful analysis.

Demographic controls

In all models, we include age, age squared, ethnicity, presence of a partner or dependent child, and sex as control variables. We have not included income, as alternative measures of material wellbeing were selected in the He Ara Oranga wellbeing outcomes framework and are included. This means that any indicator correlated with lower incomes will tend to be significantly correlated with life satisfaction through this relationship even if it has not actual causal impact on life satisfaction.

FINDINGS

The shared perspective

All New Zealanders

Descriptive data

Table 2 shows descriptive data about the total adult population from the combined 2014, 2016, and 2018 New Zealand General Social Survey datasets. The table also presents reported mean life satisfaction and wellbeing indicator responses for the adult population.

Table 2 Descriptive characteristics and He Ara Oranga indicators, New Zealand population aged 15 and over, 2014-2018 NZGSS

	Measure	Estimate	Standard Error
Mean	Life satisfaction	7.77	0.01
	Age	45.27	0.04
Characteristics (percent)	Female	51.38	0.07
	Ethnic group		
	European only	65.36	0.42
	Maori only	6.85	0.16
	Pacific only	5.77	0.25
	Asian only	12.35	0.36
	MELAA only	0.97	0.10
	Other only	1.30	0.10
	Maori/European	5.08	0.16
	Other combinations of two or more ethnic groups	2.29	0.12
	Living with dependent children	37.35	0.32
	Living with a partner	60.75	0.29
Indicators (percent)	*DS1: Being safe and nurtured*		
	High trust in other people (7-10 out of 10)	67.35	0.42
	Never or only a little lonely in the last four weeks	84.17	0.28
	Has at least weekly face-to-face contact with friends outside household	76.02	0.41
	DS2: Having what is needed		
	Has enough or more than enough money to meet everyday needs	63.45	0.42
	Lives in a crowded house	7.43	0.25
	Gone without fresh fruit and vegetables in last 12 months	20.50	0.35
	Self-rated health status (Good, very good, excellent)	85.72	0.28
	DS3: Having one's rights and dignity fully realised		
	Experienced discrimination in the last 12 months	17.15	0.28
	Experienced racism in the last 12 months	8.09	0.23
	DS4: Healing, growth and being resilient		
	Positive mental wellbeing (SF-12>44 or WHO-5>48)	76.69	0.37
	DS5: Being connected and valued		
	Feels it easy or very easy to be themselves in NZ	85.80	0.29
	DS6: Having hope and purpose		
	Life is worthwhile (7-10 out of 10)	86.99	0.26
n	Sample	25,542	
N	Population (000s)	3,620	

When asked how satisfied they are with their life on a scale from 0 to 10, most people report levels of life satisfaction close to 10, with an average score of almost 7.8. Characteristics of the NZGSS sample are weighted to be representative of the New Zealand adult population, having an average age of 45, a little over a half being female, and around two-thirds reporting only European ethnicity. The next most common ethnic group was people reporting only an Asian ethnicity (12 percent), while seven percent reported only Māori ethnicity. Around five percent of people had a combination of Māori and European ethnicity, while almost six percent reported only being of Pacific ethnicity. A little over a third of people had dependent children, while three out of five were living had a partner.

He Ara Oranga wellbeing indicators are presented in the second half of the table. The indicators are a mixture of measures which are consistent with high wellbeing (e.g. having high trust in other people), and those which are consistent with low wellbeing (e.g. living in a crowded house). Indicators of low wellbeing are identified by a minus sign, while indicators of high wellbeing are identified by a plus. In general, the number of people reporting the indicators of low wellbeing are much lower than 50 percent, while the number of people reporting the indicators of high wellbeing are much higher than 50 percent. This is consistent with the overall high levels of life satisfaction reported by New Zealanders.

Indicator correlations

Before looking at the way the He Ara Oranga indicators relate to life satisfaction, it's useful to get a better understanding of the way the indicators relate to each other. If indicators are highly correlated with each other, one or more may be superfluous for the purpose of monitoring wellbeing, as they can be viewed as representing the same aspect of wellbeing. Highly correlated data is also a concern from a modelling perspective. This 'multi-collinearity' could result in standard errors which are artificially inflated and could make regression coefficients for correlated variables unreliable.

To better understand the connection between the indicators we construct a correlation matrix between the indicators, as shown in Table 3. Correlations can range from negative one to one, with the former indicating perfect negative correlation and the latter perfect positive correlation. In the table, stronger correlations are reflected in darker shading of the table cells.

In general, the indicators are only moderately correlated with each other, with most correlations having values between -0.2 and 0.2. The two discrimination variables are very highly correlated (0.62), however this is an artefact of the fact they are constructed from the same variable. There are a few other reasonably strong correlations, indicating areas of potential concern about multi-collinearity.

- Having enough money to meet everyday needs and having gone without fresh fruit and vegetables in the last 12 months were strongly negatively correlated (-0.38).

- Positive mental wellbeing, good general health and life being worthwhile were all correlated with each other (correlations between 0.2 and 0.31). This result is consistent with these measures all representing alternative subjective aspects of wellbeing.

- Positive mental wellbeing and not being lonely were also highly correlated (0.27), again consistent with the subjective nature of these measures.

- Feeling it easy to be yourself in New Zealand was negatively correlated with both measures of discrimination (-0.23 and -.2).

Living in a crowded house and having weekly face-to-face contact with friends were each only slightly correlated with other indicators.

Table 3 Correlations between He Ara Oranga indicators, New Zealand population aged 15 and over, 2014-2018 NZGSS

Indicator	DS1: Trust	DS1: Loneliness	DS1: Friends	DS2: Money	DS2: Fruit and Veges	DS2: Crowding	DS2: Health	DS3: Discrimination	DS3: Racism	DS4: Mental wellbeing	DS5: Being yourself	DS6: Life worthwhile
DS1: Being safe and nurtured												
High trust in other people (7-10 out of 10)	1.00	0.10	0.02	0.18	-0.18	-0.06	0.13	-0.11	-0.08	0.17	0.16	0.17
Never or only a little lonely in the last four weeks	0.10	1.00	0.05	0.15	-0.14	-0.02	0.13	-0.13	-0.07	0.27	0.16	0.19
Has at least weekly face-to-face contact with friends outside household	0.02	0.05	1.00	0.00	-0.01	0.01	0.02	-0.02	-0.01	0.06	0.05	0.03
DS2: Having what is needed												
Has enough or more than enough money to meet every-day needs	0.18	0.15	0.00	1.00	-0.38	-0.13	0.17	-0.12	-0.09	0.20	0.15	0.18
Gone without fresh fruit and vegetables in last 12 months	-0.18	-0.14	-0.01	-0.38	1.00	0.13	-0.15	0.15	0.12	-0.19	-0.17	-0.16
Lives in a crowded house	-0.06	-0.02	0.01	-0.13	0.13	1.00	0.00	0.04	0.06	-0.03	-0.04	-0.03
Self-rated health status (Good, very good, excellent)	0.13	0.13	0.02	0.17	-0.15	0.00	1.00	-0.07	-0.02	0.31	0.10	0.20
DS3: Having one's rights and dignity fully realised												
Experienced discrimination in the last 12 months	-0.11	-0.13	-0.02	-0.12	0.15	0.04	-0.07	1.00	0.62	-0.15	-0.23	-0.09
Experienced racism in the last 12 months	-0.08	-0.07	-0.01	-0.09	0.12	0.06	-0.02	0.62	1.00	-0.08	-0.20	-0.05
DS4: Healing, growth and being resilient												
Positive mental wellbeing (SF-12>54 or WHO-5>68)	0.17	0.27	0.06	0.20	-0.19	-0.03	0.31	-0.15	-0.08	1.00	0.19	0.29
DS5: Being connected and valued												
Feels it easy or very easy to be themselves in NZ	0.16	0.16	0.05	0.15	-0.17	-0.04	0.10	-0.23	-0.20	0.19	1.00	0.16
DS6: Having hope and purpose												
Life is worthwhile (7-10 out of 10)	0.17	0.19	0.03	0.18	-0.16	-0.03	0.20	-0.09	-0.05	0.29	0.16	1.00

Modelling results

Table 4 shows results from separate regression models of each He Ara Oranga wellbeing indicator against life satisfaction, and a full model with all indicators included. When modelled individually, the indicators that are most strongly predictive of high life satisfaction are having positive mental wellbeing, and reporting that life is worthwhile. Each of these are associated with a shift of over 2 points (on the 0-10 scale) in life satisfaction. These are both scalar measures of a person's subjective state and are thus likely to be positively correlated with life satisfaction due to method effects (OECD, 2013). Thus, although the correlation is very strong, it is important not to read too much into this. To some degree the strong correlation is because the measures are conceptually very similar.

Having not felt lonely in the past month and having good general health status also have a strong relationship with life satisfaction, being associated with a shift of more than 1 in life satisfaction. Again, method effects are likely to be important here.

As we would expect, many of the indicators are correlated with each other, and as a result jointly explain life satisfaction to some degree. Nevertheless, when we include all indicators in the model together, almost all of the indicators which were significant in the individual models are still significant. This indicates that each

indicator makes its own independent contribution to overall wellbeing, regardless of the overlap. Some indicators retain particularly strong associations, while for others the relationship is much weaker in the full model:

DS1: Being safe and nurtured

All three indicators are highly significant predictors of life satisfaction both individually and in a combined model. Having high trust was associated with 0.72 higher life satisfaction, absence of loneliness 1.1 higher, and having weekly contact with friends outside the household 0.24 higher. These associations each dropped by a half to three-quarters in the full model, with coefficients of 0.25, 0.44, and 0.07 respectively.

DS2: Having what is needed

Living in a crowded house only has a weak and non-significant association with life satisfaction in an individual model, and this relationship disappears completely once other indicators are included. It is possible that any association between crowding mediates the relationship between life satisfaction and poverty, hence becoming insignificant when poverty is included in the model. These more direct measures of poverty each have a strong relationship with wellbeing, ranging from drops of 0.76 in life satisfaction for people who reported going without fresh fruit and vegetables, to an increase of 0.87 associated with having enough or more than enough money to meet everyday needs. The latter coefficient only reduces by a little more than a half (to 0.42) in a full model, while the former reduces by around four-fifths to -0.16. The general income adequacy question seems to explain most of the relationship between income poverty and life satisfaction, although as shown above, these two measures are quite highly correlated.

The final indicator under the DS2 domain is self-rated health status. People who reported good or better health had 1.25 higher reported life satisfaction than other people. This reduced by two-thirds to 0.42 in the full regression but still had one of the strongest relationships with life satisfaction of any indicator.

DS3: Having one's rights and dignity fully realised

Having experienced discrimination was associated with a 0.55 drop in life satisfaction, while specifically experiencing discrimination on the basis of race or ethnicity had a similar coefficient. Given the latter indicator is a subset of the former, the full model essentially tests whether experience of racism had a different relationship with wellbeing than experiences of other discrimination. There was no evidence of this being the case, with the coefficient for racial or ethnic discrimination being small (-0.01) and not statistically significant, while experiences of discrimination in general were associated with a 0.10 drop in life satisfaction in the full model. This indicates that around three-quarters of the relationship between discrimination and life satisfaction can be explained by other indicators included in the model.

DS4: Healing, growth and being resilient

Positive mental wellbeing, as measured through the WHO-5 or SF-12 measures is shown to have a very strong relationship with life satisfaction. People with positive mental wellbeing[5] had 1.6 points higher life satisfaction than those with lower mental wellbeing. Even in the full model, the coefficient reduced by less than a half, indicating that, controlling for other indicators, having positive mental wellbeing was associated with a 0.85 increase in life satisfaction.

DS5: Being connected and valued

Feeling it easy to be yourself in New Zealand was associated with a 0.87 increase in life satisfaction, while this dropped to around 0.17 in the full model, indicating that around four-fifths of the effect can be

---

[5] Different mental wellbeing measures were derived in different NZGSS iterations, with SF-12 used in 2014 and 2016, and WHO-5 used in 2018. In our analysis, people were defined as having positive mental wellbeing if they had a WHO-5 score of greater than 48 or an SF-12 score of greater than 44. These cut-offs were derived to identify similar proportions of the population in each survey and are consistent with commonly used screening scores for clinical depression (see, for example, Vilagut et al. (2013) and Winther Topp et al. (2015)).

explained by other variables.

DS6: Having hope and purpose

Expressing a strong feeling that life is worthwhile (7 or higher out of 10) had the strongest relationship with life satisfaction of all indicators, with a coefficient of 2.3. The indicator was also the most robust to the inclusion of other indicators, only reducing by around a quarter to 1.7. This shows that, not only is hope and purpose very closely tied to a respondents' sense of life satisfaction but that it also measures something that is not picked up in by other indicators. However, it is important to note that the life worthwhile question is another direct measure of subjective wellbeing and, to a large degree, the strong correlation with life satisfaction is because the two indicators measure the same underlying construct.

The full model showed an R-squared of 0.36, suggesting that variation in the wellbeing indicators captured 36 percent of total variation in life satisfaction in the sample. This is a relatively high proportion for a cross-sectional survey, although much of this is driven by the inclusion of the life worthwhile measure.

Table 4 Individual and combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, total NZ population aged 15 and over, 2014-2018 NZGSS

	Individual measure regressions		R-squared	Total population all measures	
DS1: Being safe and nurtured					
High trust in other people (7-10 out of 10)	0.72	**	0.08	0.25	**
	[0.03]			[0.02]	
Seldom felt lonely in the last four weeks (a little of the time or never)	1.13	**	0.10	0.44	**
	[0.05]			[0.04]	
Has at least weekly face-to-face contact with friends outside household	0.24	**	0.05	0.07	*
	[0.03]			[0.03]	
DS2: Having what is needed					
Has enough or more than enough money to meet everyday needs	0.87	**	0.10	0.39	**
	[0.03]			[0.03]	
Lives in a crowded house (one of more bedrooms needed)	-0.10		0.04	0.05	
	[0.07]		0.36	[0.06]	
Gone without fresh fruit and vegetables in last 12 months	-0.76	**	0.07	-0.15	**
	[0.04]			[0.04]	
Self-rated health status (Good, very good or excellent)	1.25	**	0.11	0.42	**
	[0.05]			[0.04]	
DS3: Having one's rights and dignity fully realised					
Experienced discrimination in the last 12 months	-0.55	**	0.06	-0.10	*
	[0.04]			[0.04]	
Experienced racism in the last 12 months (discrimination due to skin colour or racial/ethnic group)	-0.46	**	0.05	-0.01	
	[0.05]			[0.06]	
DS4: Healing, growth and being resilient					
Positive mental wellbeing (SF-12>44 or WHO-5>48)	1.59	**	0.19	0.85	**
	[0.04]			[0.03]	
DS5: Being connected and valued					
Feels it easy or very easy to be themselves in NZ	0.87	**	0.07	0.17	**
	[0.05]			[0.04]	
DS6: Having hope and purpose					
Feels that life is worthwhile (7-10 out of 10)	2.33	**	0.24	1.67	**
	[0.04]			[0.04]	
n				25,542	
R-squared				0.36	

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Key population groups

Descriptive data

Table 5 presents data on the descriptive characteristics of the Māori and mental health service user populations, while Table 6 outlines responses to the He Ara Oranga wellbeing outcomes framework shared perspective indicators.

Table 5 Descriptive characteristics, key population groups aged 15 years and over, 2014-2018 NZGSS

Population group:		Maori		Mental health service users past year		Mental health service users past 5 years	
Measure		Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	7.61	0.05	7.16	0.04	7.33	0.03
	Age	39.10	0.21	48.57	0.35	47.98	0.23
Characteristics (percent)	Female	53.80	1.03	62.29	0.96	58.31	0.63
	Ethnic group						
	European only	0.00	0.00	77.54	0.93	73.67	0.69
	Maori only	53.80	1.27	6.14	0.49	7.57	0.39
	Pacific only	0.00	0.00	2.54	0.38	3.05	0.31
	Asian only	0.00	0.00	3.60	0.56	4.97	0.41
	MELAA only	0.00	0.00	0.64	0.23	0.79	0.16
	Other only	0.00	0.00	1.69	0.26	1.58	0.20
	Other only	39.91	1.20	5.72	0.48	5.76	0.37
	Other combinations of two or more ethnic groups	6.07	0.56	1.91	0.30	2.26	0.24
	Living with dependent children	44.03	0.93	36.23	1.06	36.50	0.71
	Living with a partner	47.94	1.03	54.66	1.00	56.50	0.68
n	Sample	3,453		3,786		7,005	
N	Population	461,000		472,000		885,000	
Estimated percent of total population		12.73		13.04		24.45	

Table 6 He Ara Oranga wellbeing indicators, key population groups, 2014-2018 NZGSS

Population group:	Maori		Mental health service users past year		Mental health service users past 5 years	
Measure	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10 out of 10)	51.63	1.15	61.02	0.88	61.36	0.73
Never or only a little lonely in the last four weeks	81.56	0.91	73.52	0.90	76.61	0.57
Has at least weekly face-to-face contact with friends outside household	75.70	0.95	73.31	1.02	74.12	0.66
DS2: Having what is needed						
Has enough or more than enough money to meet everyday needs	50.54	1.32	54.87	1.00	56.27	0.73
Lives in a crowded house	14.97	0.91	5.51	0.57	5.99	0.44
Gone without fresh fruit and vegetables in last 12 months	34.71	1.16	24.36	0.91	23.95	0.68
Self-rated health status (Good, very good, excellent)	80.04	0.85	70.76	0.93	74.69	0.72
DS3: Having one's rights and dignity fully realised						
Experienced discrimination in the last 12 months	24.51	1.14	21.82	0.93	20.68	0.63
Experienced racism in the last 12 months	15.40	0.88	7.42	0.62	7.80	0.41
DS4: Healing, growth and being resilient						
Positive mental wellbeing (SF-12>44 or WHO-5>48)	69.85	1.07	56.57	0.95	63.28	0.72
DS5: Being connected and valued						
Feels it easy or very easy to be themselves in NZ	83.95	0.84	82.84	0.75	83.95	0.58
DS6: Having hope and purpose						
Life is worthwhile (7-10 out of 10)	82.43	0.88	78.81	0.79	82.03	0.56

Māori

Māori report slightly lower levels of life satisfaction than the total adult population on average, with mean levels of 7.6, compared to a little under 7.8 overall. A little over half of Māori identify as only being of Māori ethnicity, with the remainder reporting at least one other ethnic group. Māori are slightly younger on average than the adult population as a whole and are more likely to be female. They are less likely to be living with a partner (48 percent compared to 61 percent) but are more likely to be living with a dependent child (44 percent compared to 37 percent).

Despite only having slightly lower wellbeing overall, Māori report lower levels of wellbeing on most indicators, being less likely to report high levels of trust in other people (52 percent compared to 67 percent), to have enough money to meet their needs (51 percent compared to 63 percent), to have positive mental wellbeing (70 percent compared to 77 percent). Māori are more likely to live in a crowded house (15 percent compared to 8 percent), to report going without fresh fruit and vegetables in the past year (35 percent compared to 20 percent), and to have experienced discrimination both overall and due to racism (25 and 15 percent respectively, compared to 17 and 8 percent).

Māori reported only slightly higher levels of loneliness and feeling that life is worthwhile, and similar levels of contact with friends outside of the household and feeling that it is easy to be themselves in New Zealand.

People with experience of poor mental health

People with experience of poor mental health and addiction are identified through administrative data showing the use of public mental health services or mental health-related prescriptions or laboratory tests. We identify two groups consisting of people who have accessed these services in the past year or past five years. These groups consist of approximately 13 and 24 percent of the adult population respectively. Both groups report levels of life satisfaction that are considerably lower than those of the general adult population. Reported levels of life satisfaction are progressively lower as the population is restricted to more recent service use, from around 7.3 for those accessing services in the past 5 years, to 7.16 for those accessing services in the past year.

Users of mental health services are on average 10 years older than the general adult population, and around three in five are female. They are also more likely to be of European ethnicity, with around three-quarters reporting no other ethnicity, and less likely to be only of Asian or Pacific ethnicity. These groups are similarly likely to live with dependent children, and only slightly less likely than the total population to be living with a partner.

Consistent with the low levels of life satisfaction, mental health service users reported poor wellbeing across several indicators. Across almost every indicator progressively lower levels of wellbeing coincided with more restricted timeframes in which services were accessed, with those accessing services in the past year experiencing particularly low levels of wellbeing. This group were less likely to report seldom being lonely (74 percent compared to 84 percent of the total population), were less likely to report general good health (71 percent compared to 86 percent), were considerably less likely to report positive mental wellbeing (57 percent compared to 77 percent) and were somewhat less likely to report that life is worthwhile or that it's easy to be themselves in New Zealand.

Modelling results

Results from combined regression models for Māori and our different populations of mental health service users are presented in Table 7, below. Models are run on the total population, with an indicator of sub-population membership, as well as interactions between sub-population membership and each of the included He Ara Oranga indicators. This allows us to establish whether people in the population of interest report higher or lower life satisfaction when we control for their demographic characteristics and to test whether the wellbeing indicators relate to life satisfaction in a different way for different groups. The models also include demographic controls and individual wellbeing indicator variables, but these parameters are not reported in the table.

Table 7 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, key population groups, 2014-2018 NZGSS

Measure	Maori	Mental health service users past year	Mental health service users past 5 years
In sub-population	0.43 *	-0.40 *	-0.39 **
	[0.17]	[0.15]	[0.13]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	-0.05	0.00	0.00
	[0.07]	[0.07]	[0.05]
Never or seldom felt lonely in the last four weeks	-0.05	0.22 *	0.24 **
	[0.10]	[0.09]	[0.06]
Has at least weekly face-to-face contact with friends outside household	-0.08	-0.13	-0.07
	[0.10]	[0.07]	[0.06]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	0.03	0.03	-0.06
	[0.08]	[0.07]	[0.06]
Lives in a crowded house	0.01	-0.07	-0.12
	[0.12]	[0.20]	[0.15]
Gone without fresh fruit and vegetables in last 12 months	-0.11	-0.11	-0.07
	[0.09]	[0.10]	[0.08]
Self-rated health status (Good, very good, excellent)	-0.07	-0.03	0.01
	[0.09]	[0.10]	[0.09]
DS3: Having one's rights and dignity fully realised			
Experienced discrimination in the last 12 months	-0.04	-0.04	-0.06
	[0.12]	[0.14]	[0.10]
Experiencing racism in the last 12 months	-0.14	0.35	0.26 *
	[0.16]	[0.19]	[0.12]
DS4: Healing, growth and being resilient			
Positive mental wellbeing (SF-12>44 or WHO-5>48)	-0.10	-0.12	-0.11
	[0.09]	[0.09]	[0.07]
DS5: Being connected and valued			
Feels it easy or very easy to be themselves in NZ	0.12	0.13	0.12
	[0.10]	[0.10]	[0.08]
DS6: Having hope and purpose			
Life is worthwhile (7-10 out of 10)	-0.06	0.23 *	0.15
	[0.12]	[0.10]	[0.10]
Sample - n	25,542	25,542	25,542
R-squared	0.35	0.36	0.36

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Māori

Once we control for their demographic characteristics and reported wellbeing across the He Ara Oranga shared wellbeing indicators, Māori report significantly higher life satisfaction than would be expected of the rest of the population, based on their wellbeing indicator responses (by around 0.4). There are no significant differences in the indicator interaction variables however, indicating that, for the most part, wellbeing in any particular domain has the same impact on life satisfaction of Māori as it does for the rest of the population.

The results in Table 7 indicate that we would have expected Māori average life satisfaction levels to be almost half a point lower than the rest of the total adult population, based only on their responses to the reported He Ara Oranga wellbeing indicators. In fact, Māori reported only slightly lower average life

satisfaction than the general population (by 0.16). This unexpectedly high wellbeing could be due to the existence of other factors which are not included in the model, such as those reflected by a Te Ao Māori perspective. Alternatively, life satisfaction may mean different things to Māori than the general population, resulting in differences in reporting, even taking into account the same set of objective circumstances and subjective responses to other questions.

People with experience of poor mental health

As identified in Table 5, users of mental health services reported much lower levels of life satisfaction than other New Zealanders. Once we control for the demographic characteristics and wellbeing indicator responses of mental health users, levels of life satisfaction are still considerably lower than expected (by about 0.4 points). This difference is of a similar magnitude to the observed differences in Table 5, especially in the case of those accessing services in the past 5 years. This indicates that these observed differences do not seem to be completely explained by differences in He Ara Oranga indicator responses.

When we look at the interaction between He Ara Oranga indicators and life satisfaction, there are positive significant results for seldom feeling lonely, experiencing racism, and life being worthwhile. It is unsurprising that the existence of social connections (i.e. not feeling lonely) and a positive outlook on life (feeling that life is worthwhile) function as protective factors for the population with mental ill health. On the other hand, the fact that experience of racism is associated with higher life satisfaction for the mental health service users is more surprising and is unlikely to be directly causal.

Priority population groups

In addition to the two key population groups, eleven priority population groups have also been identified. Many of these populations can be identified either through our survey data, or through linked administrative data.

Descriptive data

Descriptive characteristics of all the priority population groups are described in Table 15 to Table 17 in Appendix 2, while He Ara Oranga indicators are described in Table 18 to Table 20. There are substantial and statistically significant differences between the reported life satisfaction of priority sub-populations, as we saw with the key population groups above. Groups with the highest levels of life satisfaction are older people aged 65 and over (8.2), recent refugees and migrants, and people living in rural areas (8.0).

The lowest levels of life satisfaction were reported by the small sample of former prisoners who had left prison in the last 10 to 20 years and people who identified as having something other than heterosexual sexual orientation, with mean reported life satisfaction of around 7.0 to 7.2, considerably lower than the 7.8 reported by the general population and similar to levels reported by recent mental health service users, discussed above. People with disabilities had the lowest level of life satisfaction of any sub-population, a finding even more striking, considering that older people tend to report high levels of wellbeing, and this group had a high average age of almost 59 years.

Some key differences between He Ara Oranga indicators across sub-populations include the following:

- As with Māori, Pacific peoples reported lower levels of generalised trust than the total NZ population, with around half of people reporting trust levels of 7 out of 10 or higher, compared to over two-thirds of the total population. Similarly low levels of generalised trust were also reported by people identifying as not being heterosexual. The lowest levels of trust were reported by ex-prisoners, at 30 percent.

- People who identified as not being heterosexual were also more likely to report being lonely than other New Zealanders, as were refugees and migrants who had arrived in New Zealand in the past 5 or 10 years, with 70 to 78 percent reporting never being lonely or only being lonely a little of the time, compared to almost 85 percent in the general population.

- These groups were also much less likely to find it easy to be themselves in New Zealand, with around

70 percent, compared to over 85 percent overall. Those who found it easiest to be themselves in New Zealand were older people and people living in rural areas.

- Disabled people were the group that were least likely to have regular face-to-face contact with friends (68 percent compared to 76 percent overall) and also reported higher than average levels of loneliness. While young people reported the highest level of contact with friends, this did not translate to low levels of loneliness.

- Pacific peoples and ex-prisoners had by far the lowest levels of financial wellbeing, with only a fifth to a third reporting having enough money to meet their everyday needs (compared to almost two thirds overall), and around a half reporting having gone without fresh fruit and vegetables in the past year.

- Disabled people and people who identified as being of gay/bisexual/other sexual orientation also reported lower than average levels of financial wellbeing, with the former group also reporting the lowest levels of good health, at around a half, compared to 86 percent overall. Former prisoners, people who identified as non-heterosexual, and older people also reported relatively low levels of good health, while refugees and migrants and young people reported the highest levels of good health.

- The highest levels of discrimination were reported by people of gay/bisexual/other sexual orientation, with almost 40 percent reporting being discriminated against in the past year (compared to less than 20 percent overall). High levels of discrimination were also reported by ex-prisoners, while racial discrimination was most commonly reported by ex-prisoners, Pacific peoples and refugees and migrants, along with Māori, as discussed earlier.

- The lowest levels of mental wellbeing were reported by disabled people, with around half reporting positive mental wellbeing, similar to the group of people who had used mental health services in the past year. Refugees and migrants, older people, and people living in rural areas all had relatively high levels of positive wellbeing, with around 80 percent.

- There were three sub-population groups that reported low levels of wellbeing across every He Ara Oranga domain. These were disabled people, ex-prisoners, and people who identified as being of gay/bisexual/other sexual orientation. These groups were also the most likely to report that life was not worthwhile, with around a quarter reporting a level of 6 out of 10 or lower. As discussed above, these groups also had the lowest levels of reported life satisfaction.

- Sub-populations with high levels of wellbeing across almost all He Ara Oranga domains are older people and people living in rural areas. The former two groups reported relatively poor general health, while the latter group were less likely to report seeing friends on a weekly basis, but around 90 percent of each group reported that life was worthwhile (7 to 10 out of 10), and these groups reported the highest levels of life satisfaction, along with recent migrants.

Modelling results

Results from regression models for priority sub-populations are presented in Appendix 2 (Table 21 to Table 23). As discussed above, Māori reported higher than expected levels of life satisfaction, considering their responses to all shared perspective He Ara Oranga wellbeing indicators. When we look at priority populations, however, only people with disabilities had a statistically significant difference in overall wellbeing. Controlling for their characteristics and wellbeing indicator responses, people with disabilities have 0.56 lower life satisfaction than other New Zealanders.

There are also differences in life satisfaction across ages, however these are captured by the age and age squared control variables in our models. As a result, the coefficients for older people and young people in Table 23 only capture residual differences once the linear and quadratic age terms are included. Life satisfaction is known to have a u-shaped distribution across the life cycle, with higher levels at younger and older ages, controlling for other factors. We see this in our results, with 25-year-olds having 0.25 higher life

satisfaction than 45-year-olds once other demographic factors and wellbeing indicators are accounted for, and 75-year-olds having 0.50 higher life satisfaction.

When we look at interactions between wellbeing indicators and being in a priority population group, there are some statistically significant results. As with the earlier analysis for Māori and mental health service users, most interactions are not significant, however, confirming that, in general, indicators are of similar importance for all New Zealanders. Significant differences include the following.

- For **Pacific peoples**, feeling it is easy to be themselves in New Zealand is less related to life satisfaction than it is for other people (by 0.45). While finding it easy to be yourself in New Zealand is linked to higher life satisfaction for other New Zealanders, there is no statistically significant relationship for Pacific people.

- For **refugees and migrants** who arrived in New Zealand in the past ten years, there was a weaker relationship between loneliness and life satisfaction than for other New Zealanders – the relationship to life satisfaction reducing from about 0.47 to about 0.24.

- For **disabled people** positive mental wellbeing has an even stronger connection to life satisfaction than for the rest of the population (by 0.35).

- While reporting that life is worthwhile was associated with higher life satisfaction for all groups, it seemed to be less closely related for **young people** (by 0.29).

- People who identified as **gay, bisexual or other sexual orientation** also had a lower estimated positive relationship between having enough or more than enough money than for New Zealanders overall, as well as a stronger negative relationship between going without fresh fruit and vegetables and life satisfaction (each by almost 0.5).

Detailed indicator definitions

In the models presented above, the He Ara Oranga measures are binary indicators, (i.e., yes or no), consistent with the way the measures will be used to track population wellbeing. For example, we have transformed the indicator "percentage of adults reporting good or very good health" into an indicator, for each individual of whether they reported good or very good health. This allows us to understand whether the measures that are being tracked are related to life satisfaction or not at an individual level, but information is also lost, if, for example, the most important distinction for individual wellbeing is the difference between having poor health and fair health. The extent to which the chosen indicators as a complete set explain individual life satisfaction is also sacrificed to some degree by a shift to binary indicators. This is necessary to maintain simplicity and focus, however it is useful to understand the extent to which this explanatory power is sacrificed.

In creating simple population-level indicators for monitoring purposes, a choice needs to be made about the cut-off below which a person is included in the indicator. For example, in the case of health status, the measure could equally be framed as "percentage of adults reporting very good health" or even "percentage of adults reporting poor health". This choice has implications for policy, as a shift in a measure that does not relate well to life satisfaction, may not be of as great importance as a shift in a measure that has a close relationship.

To better understand how much explanatory power is lost through shifting to a binary set of indicators, and to better understand whether the choice of cut-off is optimal from an individual wellbeing perspective, we re-run the models presented in Table 4 using the more detailed questionnaire responses collected. The results of these regressions are presented in Table 8 along with the estimated percentage of the population in each category. Horizontal dotted lines are used to indicate where the cut-off is placed in our binary indicators presented through the report. In general, we see the expected progressive relationship between life satisfaction across the different response categories for each question:

- Trust in others, as for life satisfaction, is collected using an 11 point scale from 0 to 10. Very few people report the lowest levels of trust, with only around a third reporting levels less than 7, and most of these reporting 5 or 6. In general, we see consistent increases in life satisfaction across the trust responses when modelled individually, however only the 15 percent of people reporting trust of 9 or 10 out of 10 have significantly higher life satisfaction (when compared to those reporting zero) once all measures are included in the model.

- Only around one in 20 respondents reported feeling lonely all or most of the time in the past four weeks. Unusually, people who reported being lonely all of the time had higher life satisfaction than those who reported being lonely most or some of the time. Setting aside this unusual result, the largest increase in life satisfaction was between those reporting being lonely most of the time and those who were lonely some of the time.

- Income sufficiency was linked to increases in life satisfaction across every step, even with other indicators included in the model. The largest increases are between having not enough money and just enough money, and between having just enough money and having enough, the current cut-off point. Only smaller increases are evident in moving from having enough to more than enough money, regardless of whether other indicators are included in the model.

- Consistent with our finding that crowding has at best a weak relationship with life satisfaction, there is only a gradual and non-significant increase in life satisfaction across levels of crowding. Any increase is only evident in moving from no bedrooms required to one or two bedrooms spare, however this difference also disappears when other indicators are controlled for.

- Increasing levels of reported general health are associated with increasing life satisfaction across the spectrum of responses, however the largest difference is associated with the shift from poor health (reported by only around 3 percent of the population) to fair health (reported by 11 percent). Smaller increases were associated with the shift to good, very good, and excellent health.

- Mental wellbeing is a complex indicator as different scales were used in the 2014-2016 NZGSS than in the 2018 NZGSS and TK. The earlier surveys used the SF-12 scale, while the latter used the WHO-5. The two scales are used to screen for mental health conditions, and each includes a series of similar questions about people's state of psychological wellbeing.[6] Each of these scores has a fairly detailed scale, which we have aggregated into ten similarly sized categories for the purpose of this analysis, as described in the table. The largest gains in life satisfaction are associated with progressive increases in WHO-5 and SF-12 at the bottom end of the mental wellbeing scales.

- People who find it hard or very hard to be themselves in New Zealand have considerably lower life satisfaction than those who find it 'sometimes easy, sometimes hard', easy, or very easy, and the differences between the life satisfaction of those in the last three categories disappear when we control for other indicators. In terms of life satisfaction, it may be better to focus on the proportion of people who find it very hard or hard to be themselves in New Zealand, however this is a small group of the population, estimated at around 2 percent.

- As with trust and life satisfaction, life being worthwhile is measured on an 11-point scale from zero to 10. Increases in this scale are associated with large increases in life satisfaction across the entire scale, as might be expected of a similarly broad-level subjective measure. These differences largely remain when we control for other indicators.

Overall, the model with detailed indicator definitions explained almost half of the observed variation in life satisfaction (R-squared of 0.48), while the models with only binary indicators explained a little over a third (R-squared of 0.36). While there is some loss of information in moving from a more detailed classification to simple yes/no responses, most of the explanatory power is retained. This loss of information could be improved by either including additional binary indicators for some questions (for example, poor general health could be monitored as well as good health) or by reviewing the cut-off used to define some indicators.

Note that for both models it is the inclusion of life worthwhile in the model that accounts for the largest proportion of observed variation. If this measure is dropped the models perform much less well in terms of overall variance accounted for. This does not mean that life worthwhile is an important driver of life satisfaction, but simply reflects that the two measures are different ways of measuring slightly different aspects of essentially the same thing.

---

[6] The WHO-5, for example is based on responses to five statements: I have felt cheerful and in good spirits; I have felt calm and relaxed; I have felt active and vigorous; I woke up feeling fresh and rested; and My daily life has been filled with things that interest me.

Table 8 Individual and combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, total NZ population aged 15 and over, 2014-2018 NZGSS

Model type:		Individual measure models				All measures model		
Measures	%	Coefficient		Std. Error	R-squared	Coefficient		Std. Error
Trust in other people - 0	1.2							
Trust in other people - 1	0.6	-0.42		0.29	0.11	-0.15		0.20
Trust in other people - 2	1.5	-0.10		0.26		-0.19		0.18
Trust in other people - 3	2.4	0.06		0.19		-0.16		0.13
Trust in other people - 4	3.2	0.21		0.21		-0.12		0.11
Trust in other people - 5	12.8	0.66	**	0.18		0.06		0.11
Trust in other people - 6	10.9	0.77	**	0.18		0.02		0.11
Trust in other people - 7	24.6	1.02	**	0.18		0.10		0.11
Trust in other people - 8	27.7	1.22	**	0.18		0.16		0.11
Trust in other people - 9	10.8	1.58	**	0.18		0.29	*	0.11
Trust in other people - 10	4.3	1.94	**	0.20		0.45	**	0.12
Felt lonely in the last four weeks - All of the time	2.0							
Felt lonely in the last four weeks - Most of the time	2.5	-1.63	**	0.16	0.13	-0.52	**	0.13
Felt lonely in the last four weeks - Some of the time	11.4	-0.61	**	0.12		-0.34	**	0.10
Felt lonely in the last four weeks - A little of the time	22.5	0.05		0.11		-0.12		0.09
Felt lonely in the last four weeks - None of the time	61.7	0.61	**	0.11		0.01		0.09
Weekly face-to-face contact with friends outside household	76.0	0.24	**	0.03		0.04		0.02
Income to meet everyday needs - Not enough	11.1							
Income to meet everyday needs - Only just enough	25.5	0.62	**	0.06	0.11	0.23	**	0.05
Income to meet everyday needs - Enough	45.4	1.24	**	0.05		0.45	**	0.05
Income to meet everyday needs - More than enough	18.0	1.52	**	0.06		0.56	**	0.05
Crowding - Two or more extra bedrooms required	2.2							
Crowding - One extra bedroom required	5.3	-0.05		0.17	0.05	-0.03		0.11
Crowding - No extra bedrooms required	22.5	-0.04		0.14		-0.09		0.10
Crowding - One bedroom spare	31.5	0.08		0.15		-0.05		0.10
Crowding - Two or more bedrooms spare	38.6	0.23		0.15		-0.07		0.10
Gone without fresh fruit and vegetables in last 12 months	79.5	1.40	**	0.08	0.08	0.22	**	0.06
Self-rated health status - Poor	3.2							
Self-rated health status - Fair	11.1	1.12	**	0.14		0.40	**	0.10
Self-rated health status - Good	27.9	1.71	**	0.13		0.49	**	0.09
Self-rated health status - Very good	38.9	2.23	**	0.13		0.59	**	0.10
Self-rated health status - Excellent	18.9	2.63	**	0.14		0.66	**	0.10
Experienced discrimination in the last 12 months	82.9	0.55	**	0.04	0.06	0.06		0.04
Experiencing racism in the last 12 months	91.9	0.46	**	0.05	0.05	-0.02		0.05
Mental wellbeing - SF-12 0-18 or WHO-5 0-16	1.4							
Mental wellbeing - SF-12 19-30 or WHO-5 20-28	4.2	1.31	**	0.10	0.26	0.52	**	0.08
Mental wellbeing - SF-12 31-37 or WHO-5 32-40	7.0	2.00	**	0.09		0.80	**	0.08
Mental wellbeing - SF-12 38-44 or WHO-5 44-48	10.8	2.41	**	0.09		0.98	**	0.07
Mental wellbeing - SF-12 45-48 or WHO-5 52-56	11.3	2.64	**	0.09		1.13	**	0.08
Mental wellbeing - SF-12 49-52 or WHO-5 60-64	14.6	2.83	**	0.09		1.16	**	0.08
Mental wellbeing - SF-12 53-56 or WHO-5 68-72	23.2	3.01	**	0.09		1.27	**	0.08
Mental wellbeing - SF-12 57-59 or WHO-5 76-80	17.4	3.19	**	0.09		1.32	**	0.08
Mental wellbeing - SF-12 60-62 or WHO-5 84-88	6.4	3.30	**	0.10		1.35	**	0.08
Mental wellbeing - SF-12 63-73 or WHO-5 92-100	3.8	3.59	**	0.10		1.50	**	0.09

Table 8 contd. Individual and combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, total NZ population aged 15 and over, 2014-2018 NZGSS

Model type:		Individual measure models			All measures model		
Measures	%	Coefficient		Std. Error	R-squared	Coefficient		Std. Error
Being themselves in NZ - Very hard	0.4							
Being themselves in NZ - Hard	1.5	1.36	**	0.30	0.09	0.69	**	0.25
Being themselves in NZ - Sometimes easy, sometimes hard	12.3	2.11	**	0.26		0.84	**	0.23
Being themselves in NZ - Easy	34.3	2.59	**	0.27		0.84	**	0.23
Being themselves in NZ - Very easy	51.5	3.03	**	0.27		0.87	**	0.23
Life is worthwhile - 0	0.2							
Life is worthwhile - 1	0.1	-0.57		0.74	0.38	-0.45		0.75
Life is worthwhile - 2	0.4	-0.02		0.71		0.03		0.68
Life is worthwhile - 3	0.6	0.73		0.69		0.91		0.66
Life is worthwhile - 4	1.2	1.74	**	0.62		1.47	*	0.61
Life is worthwhile - 5	4.9	2.32	**	0.63		1.85	**	0.62
Life is worthwhile - 6	5.6	3.07	**	0.61		2.37	**	0.61
Life is worthwhile - 7	16.4	3.80	**	0.62		2.84	**	0.61
Life is worthwhile - 8	29.0	4.41	**	0.61		3.27	**	0.61
Life is worthwhile - 9	17.3	5.00	**	0.62		3.72	**	0.61
Life is worthwhile - 10	24.2	5.54	**	0.62		4.21	**	0.61
n		25,542				25,542		
R-squared						0.48		

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Wellbeing from a te ao Māori perspective

In order to assess the contributions of wellbeing indicators from both shared and te ao Māori perspectives on life satisfaction and whānau wellbeing we use data from the 2018 TK, the Māori social survey.

All people of Māori ethnicity or descent - Life satisfaction

Descriptive data

Table 9 presents descriptive characteristics of the Māori population from TK data. We would expect the results to be broadly consistent with those reported from the NZGSS for Māori in **Error! Reference source n ot found.**, however there are a number of potential sources of differences. The NZGSS results relate to a broader time period than the TK results, being derived from three surveys run between 2014 and 2018. The sample frame was also different in the two surveys, with the TK survey run using the Census as a frame. Thirdly, TK includes some people who do not identify as being of Māori ethnicity, but who are of Māori descent where many of these people will not be identified as Māori in the NZGSS. Finally, the context of a Māori-specific survey itself may elicit additional or different responses from respondents than a more general population survey does.

The estimated Māori population from TK reported considerably higher levels of life satisfaction than the NZGSS (almost 7.9, compared to 7.6), while a lower proportion reported living with dependent children, and a higher proportion reported living with a partner. As discussed above, the TK sample includes people of Māori descent who don't identify as having Māori ethnicity (an estimated 17 percent of the TK Māori population). This population may have different characteristics than those people who identify as being of Māori ethnicity, potentially explaining some of the differences we see between NZGSS and TK.

Table 9 Descriptive characteristics, Māori population aged 15 and over, 2018 Te Kupenga

	Measure	Mean/ Per-cent	Standard Er-ror
Mean	Life satisfaction	7.87	0.03
	Age	40.9	0.1
Characteristics (%)	Female	50.79	0.34
	Ethnic group		
	Māori only	28.29	0.74
	Māori/European	54.91	0.77
	Māori descent only	16.90	0.31
	Living with dependent children	41.75	0.66
	Living with a partner	54.72	0.79
n	Sample	6,441	
N	Population	509,000	

Table 10 shows the wellbeing reported by Māori across indicators in both the shared and te ao Māori perspectives. In some cases indicators are included in multiple domains. In these cases, indicators are only reported once, but it is noted in brackets which other domains they relate to. Overall, a little over half of the population reported knowing their iwi and hapū, more than two in five were registered with their iwi, and a little under one in five had voted in an iwi election. Around one in five Māori reported being able to speak Māori, while almost a third said they understood the language. A little under a half said that it was important or very important to be involved in Māori culture, while a similar percentage indicated that religion or spirituality were important in their life. Over 85 percent of Māori said their whānau got along with each other, three-quarters said their whānau were doing well (7 or more out of 1), while around a third said they thought things were getting better for their whānau.

Table 10 Shared and te ao Māori wellbeing indicators, Māori population, 2018 Te Kupenga

Measure	Percent	Standard Error
DS1: Being safe and nurtured		
High trust in other people (7-10 out of 10)	43.81	0.83
Felt lonely in the last four weeks (none or a little of the time)	81.73	0.61
Face-to-face contact with whānau not in the household at least once a week	84.28	0.60
DS2: Having what is needed		
Has enough or more than enough money to meet everyday needs	66.50	0.74
Lives in a crowded house	12.87	0.49
Has gone without fresh fruit and vegetables in last 12 months	22.10	0.67
DS3: Having one's rights and dignity fully realised		
Has experienced discrimination in the last 12 months	28.78	0.59
Has experienced racism in the last 12 months	7.37	0.34
DS4: Healing, growth and being resilient		
Self-rated health status (Good, very good, excellent) [DS2, DT3]	52.65	0.87
Positive mental wellbeing (WHO-5>68)	77.21	0.69
DS5: Being connected and valued		
DS6: Having hope and purpose		
Has control of their lives (7-10 out of 10)	81.73	0.61
DT1: Tino rangatiratanga me te mana motuhake		
Registered with an Iwi	43.12	0.79
Eligible to vote in Iwi election and did so	17.39	0.53
DT2: Whakaora, whakatipu kia manawaroa		
Can speak Maori	18.27	0.61
Understands Maori	30.75	0.75
Has attended Te Kura	5.89	0.32
Thinks it is important or very important to be involved in Maori culture	45.78	0.72
Spirituality or religion is very important in their life	48.53	0.92
DT3: Whakapuāwaitanga me te pae ora		
Has achieved at least NCEA level 2 (and is aged 15-64)	43.52	0.66
DT4: Whanaungatanga me te arohatanga		
Whānau get along with each other	85.46	0.59
Finds it easy or very easy to find someone to support them in times of need	76.42	0.67
Whanau doing well (7-10 out of 10)	74.26	0.68
DT5: Wairuatanga me te manawaroa		
Involved in Iwi environmental planning or decision-making	7.27	0.38
Knowledge of own iwi and hapū	54.91	0.76
DT6: Tūmanako me te ngākaupai		
Thinks things are getting better for their whānau	33.89	0.69

Modelling results

Results from regressions of both shared and te ao Māori perspective indicators on life satisfaction for Māori, based on responses to 2018 TK are presented in Table 11. While there Is considerable overlap in the set of shared perspective questions included in the TK model and the NZGSS models reported earlier, there are some differences which make comparisons difficult. In particular, TK has an additional question about face-to-face contact with Whānau outside their household under domain DS1 (being safe and nurtured), has indicators about Māori language proficiency under domain DS5 (being connected and valued), and has an indicator about people feeling they have control over their lives under DS6 (having hope and purpose), but does not have a question about life being worthwhile under DS6.

Nevertheless, we see similar results to those reported earlier from NZGSS for measures which are common to both analyses. For most indicators, the general magnitude, direction and significance of results is the same in both analyses, as we would expect. Self-rated health status has a smaller coefficient in the TK model, as does high trust in other people, in the latter case being non-significant in the TK model. These differences could be due to multicollineaity in the data, whereby coefficients for variables that are highly correlated with each other may not be estimated accurately, or consistently across models. Alternatively, the inclusion of different variables, including the te ao Māori perspective indicators, could affect the relationships we see in the models.

Of the newly introduced TK shared perspective indicators, having control over their lives was highly associated with wellbeing for Māori, associated with a 1.06 increase in life satisfaction on the zero to ten scale in the full model. This is to be expeced as having a sense of control – like the life worthwhile measure – is a measure of the eudaimonic dimension of subjective wellbeing and is conceptually related to life satisfaction. While face-to-face contact with Whānau had a statistically significant association with life satisfaction when modelled individually, the effect disappears when we control for other wellbeing indicators.

The most significant change from the earlier NZGSS analysis was the introduction of indicators of life satisfaction from a te ao Māori perspective. We would not necessarily expect these to link to life satisfaction in the same way that shared perspective indicators do, as the measure of life satisfaction itself may not represent overall wellbeing well from a te ao Māori perspective. Nevertheless, many measures do have a clear statistical relationship.

A number of measures under domain DT2 (whakaora, whakatipu kia manawaroa) are statistically significant, with the ability to speak Māori being associated with higher life satisfaction, as is the belief that it is important to be involved in Māori culture. Only the latter is significant once we control for other indicators in the full model, however the loss of signficance in these variables could be due to multicollinearity, as these indicators are highly correlated with each other.

Several indicators in the domain DT4 (whanaungatanga me te arohatanga) are also important predictors of increased life satisfaction, with whānau getting along with each other, whānau doing well, and finding it easy to find someone to provide support in times of need all being statistically significant predictors of life satisfaction, although the first of these becomes non-significant in the full model. The latter two are associated with increases in life satisfaction of 0.41 and 0.14 respectively.

Table 11 Combined regression models of He Ara Oranga wellbeing indicators from shared and te ao Māori perspectives on life satisfaction, Māori population, 2018 Te Kupenga

	Individual measure regressions		R-squared	Total population all measures	
DS1: Being safe and nurtured					
High trust in other people (7-10 out of 10)	0.45	**	0.07	0.05	
	[0.05]			[0.04]	
Felt lonely in the last four weeks (none or a little of the time)	1.16	**	0.13	0.55	**
	[0.08]			[0.07]	
Face-to-face contact with whānau not in the household at least once a week	0.25	**	0.06	-0.01	
	[0.08]			[0.06]	
DS2: Having what is needed					
Has enough or more than enough money to meet everyday needs	0.88	**	0.12	0.33	**
	[0.06]			[0.06]	
Lives in a crowded house	-0.10		0.06	0.01	
	[0.08]			[0.07]	
Has gone without fresh fruit and vegetables in last 12 months	-0.76	**	0.09	-0.21	**
	[0.07]			[0.07]	
DS3: Having one's rights and dignity fully realised					
Has experienced discrimination in the last 12 months	-0.49	**	0.07	-0.16	**
	[0.06]			[0.05]	
Has experienced racism in the last 12 months	-0.34	**	0.06	-0.09	
	[0.08]			[0.08]	
DS4: Healing, growth and being resilient					
Self-rated health status (Good, very good, excellent) [DS2, DT3]	0.80	**	0.11	0.25	**
	[0.04]			[0.04]	
Positive mental wellbeing (WHO-5>68)	1.40	**	0.18	0.69	**
	[0.06]			[0.06]	
DS5: Being connected and valued					
DS6: Having hope and purpose					
Has control of their lives (7-10 out of 10)	1.62	**	0.20	1.05	**
	[0.07]			[0.07]	
DT1: Tino rangatiratanga me te mana motuhake					
Registered with an Iwi [DT4]	0.10	*	0.06	0.02	
	[0.05]			[0.06]	
Eligible to vote in Iwi election and did so	0.15	*	0.06	0.04	
	[0.07]			[0.07]	
DT2: Whakaora, whakatipu kia manawaroa					
Can speak Maori [DS5]	0.21	**	0.06	0.07	
	[0.06]			[0.06]	
Understands Maori [DS5]	0.15	**	0.06	0.10	
	[0.05]			[0.06]	
Has attended Te Kura	0.05		0.06	0.02	
	[0.10]			[0.09]	
Thinks it is important or very important to be involved in Maori culture	0.24	**	0.06	0.17	**
	[0.05]			[0.04]	
Spirituality or religion is very important in their life	0.05		0.06	0.07	
	[0.06]			[0.05]	
DT3: Whakapuāwaitanga me te pae ora					
Has achieved at least NCEA level 2 (and is aged 15-64)	0.08		0.06	-0.15	*
	[0.07]			[0.06]	

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 11 contd. Combined regression models of He Ara Oranga wellbeing indicators from shared and te ao Māori perspectives on life satisfaction, Māori population, 2018 Te Kupenga

DT4: Whanaungatanga me te arohatanga					
Whanau get along with each other	0.64	**	0.07	0.12	
	[0.09]			[0.07]	
Finds it easy or very easy to find someone to support them in times of need	0.65	**	0.08	0.14	**
	[0.06]			[0.05]	
Whanau doing well (7-10 out of 10) [DS1, DS4]	0.95	**	0.12	0.41	**
	[0.05]			[0.05]	
DT5: Wairuatanga me te manawaroa					
Involved in Iwi environmental planning or decision-making	0.19	*	0.06	0.07	
	[0.07]			[0.08]	
Knowledge of own iwi and hapū	0.03		0.06	-0.08	
	[0.06]			[0.05]	
DT6: Tūmanako me te ngākaupai					
Thinks things are getting better for their whānau	0.19	**	0.06	0.02	
	[0.05]			[0.05]	
N	6,441			6,441	
R-squared				0.34	

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Māori sub-populations and cultural clusters - Life satisfaction

As we did for the total population using NZGSS, we can identify some sub-populations within the Māori population using TK and administrative data in the IDI. As well as mental health service users, we can identify six of the nine sub-populations we identified in the shared perspective analysis. These are disabled people, former prisoners, Pacific peoples (who also have Māori ethnicity or descent), young people, older people and people living in rural communities.

Further to this, we also identify six cultural clusters relating to identity and cultural connection, as defined in Smith et al (2019) and discussed earlier.

Descriptive data

Characteristics of sub-populations and cultural clusters within the Māori population are presented in Table 24 to Table 28 in Appendix 2, while responses to He Ara Oranga shared and te ao Māori perspective indicators are shown in Table 29 to Table 33. As for the general population, users of mental health and addiction services report particularly low life satisfaction, ranging from an average of 7.2 out of 10 for people who had accessed services in the past year to 7.5 for people who had accessed services in the past five years. Disabled people also had very low reported life satisfaction (7.2). As in the general population older Māori and Māori living in rural areas reported particularly high levels of life satisfaction, with averages of 8.4 and 8.1 respectively.

Variation of life satisfaction by cultural cluster was much less evident, ranging from around 7.7 for the Whero (high tūrangawaewae but lower connection with other aspects of Māori culture) group up to a little over 8 for the Kōwhai (strong measured wairua but low levels of engagement with other aspects of Māori culture) and Kākāriki (strong across all dimensions of Māori cultural identity) groups.

As with the general population, Māori mental health service users, ex-prisoners, and especially disabled people reported poor wellbeing across multiple domains and indicators, with particularly low financial wellbeing, mental wellbeing and trust in others, and high levels of loneliness. Disabled people and ex-prisoners were also less likely to report that their whānau get along with each other or that their whānau is doing well. While disabled Māori were also less likely than other Māori to report that things are getting

better for their whānau, ex-prisoners were more likely than other Māori to report this.

As in the general population, older Māori reported high levels of wellbeing across most domains, although they were somewhat less like to report good general health. They reported higher than average levels of trust, were less likely to be lonely or to have experienced discrimination and had relatively high levels of financial wellbeing. Only 23 percent of older Māori said that things were getting better for their whānau however, compared to around a third of all Māori. Along with Māori living in rural areas, older Māori were also more likely to report knowing about their iwi and hapū, to be registered with an Iwi, to vote in Iwi elections and to be involved in environmental planning or decision making.

Māori people who also reported Pacific ethnicity were particularly likely to report that spirituality or religion is important in their life.

Māori cultural clusters were defined according to a set of responses to TK questions about cultural identity and connections, and as such we would expect the groups to be sharply delineated along the te ao Māori He Ara Oranga dimensions. This is reflected in very high levels of connection with Iwi among the the Kahurangi, Waiporoporo and Kākāriki clusters, and high levels of Māori language ability among the latter two of these groups. These two groups were also the most likely to report that things are getting better for their whānau. The Kākāriki cluster reported the highest level of involvement in planning and decision making. The Karaka group, on the other hand, reported low levels of cultural connection across almost all indicators, while the Kōwhai group were most likely to see spirituality and religion as being important.

Unsurprisingly, differences were much less stark for the shared perspective indicators, however the Karaka group, who were the most disconnected with Māori culture were also more likely to report having enough money to meet their needs and were less likely to report discrimination and racism. Groups that were more connected with Māori culture, particularly Waiporoporo or Kākāriki were the most likely to report these experiences. The Kahurangi and Kākāriki clusters were the most likely to have face-to-face contact with whānau not in the household at least once a week.

Modelling results

As in the earlier NZGSS analysis, we ran separate regression models which included interaction terms for each population group with all He Ara Oranga indicators. This allowed us to test whether there were any apparent differences in the things that were most important for life satisfaction for different groups. Results of models that include interactions between He Ara Oranga indicators and Māori sub-population groups are presented in Table 34 to Table 38. Unlike in the general population, there were no population groups which had significantly higher or lower life satisfaction than other Māori, once demographic characteristics and He Ara Oranga indicators were controlled for. Only a few interaction effects were significant, indicating that, as for the general population, the same things are generally important for all Māori.

There were a few significant differences however:

- There is some evidence that having high trust in others and control over their lives was even more important for mental health service users than it was for other Māori.
- While Māori people who also reported Pacific ethnicity were more likely to view religion or spiritual-ity as important, it was actually associated with lower levels of life satisfaction (by a little over 0.6 points). Whānau getting along was also associated with lower levels of life satisfaction for this group (by around 0.9 points).
- For young Māori, high trust in others appears to be particularly important for life satisfaction, as does the feeling that their whānau is doing well, however speaking Māori seems to be unrelated to life satisfaction for this group.
- Having enough or more than enough money seems to be more closely related to life satisfaction for people in the Karaka cultural cluster, and less related to life satisfaction for people in the Whero cluster than other Māori.
- High trust seems to be less closely related to life satisfaction for people in the Waiporoporo cluster than for other Māori.

Whānau wellbeing

As well as looking at the predictors of life satisfaction, we also looked at the degree to which different measures relates to reported levels of whānau wellbeing (see Table 12). Most of the indicators included in the model are indicators of specific individual wellbeing, and as a result may not directly connect with whānau wellbeing. Omitted variables will include the characteristics of individual family members. Nevertheless, several indicators do relate to the whānau as a whole, albeit from the respondent's perspective. Overall, the model explains a little over a fifth of variation in whānau wellbeing, around a third lower than for life satisfaction (r-squared of 0.21 compared to 0.34).

The most important indicators of whānau wellbeing are those related to the whānau as a whole, as we would expect, with whānau getting along with each other being associated with a 1.0 increase in reported whānau wellbeing and reporting that things are getting better for their whānau being associated with a 0.5 increase.

Financial wellbeing indicators are also important for whānau wellbeing, with having enough money or having gone without fresh fruit and vegetables both being associated with increases and decreases in whānau wellbeing respectively. These indicators could be viewed as representing wellbeing at a household level, however more individual wellbeing indicators are also associated with whānau wellbeing, with high trust, experience of discrimination, general health status, positive mental wellbeing, and having control over their lives all having a statistically significant relationship with whānau wellbeing, often more strongly than for individual life satisfaction. From the te ao Māori indicators, voting in Iwi elections is also associated with higher whānau wellbeing. Neither this indicator nor high trust were statistically significant in the individual life satisfaction TK model.

Only one indicator, representing the belief that it is important to be involved in Māori culture, was statistically significant in the life satisfaction model but not in the whānau wellbeing model.

Table 12 Combined regression models of He Ara Oranga wellbeing indicators from shared and te ao Māori perspectives on Whānau wellbeing, Māori population, 2018 Te Kupenga

Domain	Measure	Total population	
DS1: Being safe and nurtured	High trust in other people (7-10 out of 10)	0.29	**
		[0.05]	
	Felt lonely in the last four weeks (none or a little of the time)	0.09	
		[0.06]	
	Face-to-face contact with whānau not in the household at least once a week	0.10	
		[0.07]	
DS2: Having what is needed	Has enough or more than enough money to meet everyday needs	0.18	**
		[0.06]	
	Lives in a crowded house	-0.16	*
		[0.08]	
	Has gone without fresh fruit and vegetables in last 12 months	-0.25	**
		[0.06]	
DS3: Having one's rights and dignity fully realised	Has experienced discrimination in the last 12 months	-0.28	**
		[0.06]	
	Has experienced racism in the last 12 months	-0.13	
		[0.10]	
DS4: Healing, growth and being resilient	Self-rated health status (Good, very good, excellent) [DS2, DT3]	0.27	**
		[0.05]	
	Positive mental wellbeing (WHO-5>48)	0.31	**
		[0.06]	
DS6: Having hope and purpose	Has control of their lives (7-10 out of 10)	0.51	**
		[0.07]	
DT1: Tino rangatiratanga me te mana motuhake	Registered with an Iwi [DT4]	-0.11	
		[0.06]	
	Eligible to vote in Iwi election and did so	0.20	**
		[0.07]	
DT2: Whakaora, whakatipu kia manawaroa	Can speak Maori (from Te Kupenga) [DS5]	-0.07	
		[0.09]	
	Understands Maori (from Te Kupenga) [DS5]	-0.02	
		[0.07]	
	Has attended Te Kura	0.17	
		[0.10]	
	Thinks it is important or very important to be involved in Maori culture	0.09	
		[0.06]	
	Spirituality or religion is very important in their life	-0.06	
		[0.05]	
DT3: Whakapuāwaitanga me te pae ora	Has achieved at least NCEA level 2 (and is aged 15-64)	-0.12	*
		[0.06]	
DT4: Whanaungatanga me te arohatanga	Whanau get along with each other	1.00	**
		[0.08]	
	Finds it easy or very easy to find someone to support them in times of need	0.17	**
		[0.05]	
DT5: Wairuatanga me te manawaroa	Involved in Iwi environmental planning or decision-making	0.04	
		[0.09]	
	Knowledge of own iwi and hapū	0.07	
		[0.05]	
DT6: Tūmanako me te ngākaupai	Thinks things are getting better for their whānau	0.48	**
		[0.05]	
N		6,453	
R-squared		0.21	

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Discussion and implications

What do the findings say about the wellbeing of New Zealanders?

Most indicators are useful in understanding the wellbeing of New Zealanders

Almost all indicators show a strong statistical relationship with subjective wellbeing, although some have a stronger relationship than others. Measures of wellbeing from a shared perspective that have the strongest connection to life satisfaction are feeling that life is worthwhile, positive mental wellbeing, having good general health, and not feeling lonely. This is not unexpected, given each of these measures represent alternative subjective aspects of wellbeing. As such, we would expect them to relate more closely to life satisfaction than measures that could be considered more objective in nature.

Some indicators lose their significance once other indicators are included in the model, indicating that other indicators may be capturing the same relationship in a better way. For example, living in a crowded house is connected to lower life satisfaction, but there is no relationship once we control for other indicators of material wellbeing.

The things that are important to one group of New Zealanders appear to be equally important to others

Although there is some variability in the importance of different indicators for different populations, those that are important for the total population tend to be similarly important for all sub-population groups. There are few differences between sub-populations in terms of what is important for their wellbeing and these differences tend to be small. Those differences that do exist may be of policy interest, however.

Some groups of New Zealanders seem to be doing better than others but for different reasons

There are quite large differences in reported life satisfaction for different populations of interest identified in the He Ara Oranga report (Government Inquiry into Mental Health and Addiction, 2018). Users of mental health services,[7] disabled people, people who identify as not being heterosexual and ex-prisoners report particularly low levels of life satisfaction on average. These differences in life satisfaction can largely be explained by differences in responses to various He Ara Oranga indicators, however there are some differences in the indicators associated with this difference in overall wellbeing:

- These groups all reported poor mental wellbeing, as measured using an internationally recognised scale, and poor financial wellbeing, being more likely than other New Zealanders to say they did not have enough money to meet their everyday needs or that they had gone without fresh fruit and vegetables due to cost.

- Disabled people and mental health service users were both more likely than other New Zealanders to report poor general health.

- Former prisoners and people identifying as non-heterosexual were more likely to report discrimination than other New Zealanders, while the latter group were also more likely to report finding it hard to be themselves in New Zealand.

Pacific people reported low levels of financial wellbeing, and also reported lower levels of trust and higher levels of reported racial discrimination than other New Zealanders, however this did not translate into low levels of life satisfaction overall. Pacific people reported high levels of social connectedness and were seldom lonely, and reported good levels of general health, consistent with being a relatively young population on average.

Recent migrants to New Zealand also reported higher than average levels of racism, although the majority

---

[7] In our analysis, this group is our best proxy for people with lived experience of mental health and addiction problems, although people with low mental wellbeing in the WHO-5 or SF-12 screening tools could be used to form an alternative population.

did not report any discrimination in the past year. They also reported higher levels of loneliness than most other groups but reported high levels of both general and mental health, and average levels of financial wellbeing. Recent migrants reported higher life satisfaction than other New Zealanders, on average.

Older people and those living in rural areas also reported particularly high levels of life satisfaction on average, with both groups reporting good wellbeing across most He Ara Oranga outcomes framework indicators. Both groups reported good mental and financial wellbeing, low levels of discrimination, that it was easy to be themselves in New Zealand, and that life is worthwhile. Both groups did report lower than average levels of face-to-face contact with friends, but this was not reflected in higher-than-average levels of loneliness. Older people also reported relatively high levels of poor general health.

A te ao Māori perspective is important in understanding the wellbeing of Māori

Although Māori report lower levels of wellbeing across several He Ara Orange shared perspective framework indicators, this does not reflect in the low levels of life satisfaction that might be expected. Māori were more likely to report low levels of trust in others, poor financial wellbeing, high levels of racial discrimination, and relatively low levels of mental wellbeing, however average life satisfaction in the General Social Survey is only around 0.15 points (out of 10) lower than the general population.

One possible reason for this result could be that the shared perspective model excludes factors which are important to the wellbeing of the Māori population. Some of these may be captured by the He Ara Oranga outcomes framework te ao Māori perspective indicators. For Māori, indicators of wellbeing from a shared perspective are just as important for life satisfaction as they are for non-Māori, but many indicators of wellbeing from a te ao Māori perspective are also important for the life satisfaction of Māori. In particular, Māori who reported that it was important to them to be involved in Māori culture, those that reported their whānau doing well, and those that were able to find support in times of need had higher levels of life satisfaction.

Many of the te ao Māori indicators have significant overlap, and this makes it difficult to assess their relative importance. For example, speaking or understanding Māori, or different types of engagement with Iwi and hapū.

More work is needed to develop an understanding of what is important for the wellbeing of the whānau

He Ara Oranga wellbeing outcomes framework indicators only explain around a fifth of the variation in whānau wellbeing responses (r-squared of 0.22). Those that are significant tend to either relate specifically to the whānau or are subjective in nature and reflect relative optimism in responses. Further work would be necessary to better understand what is important for whānau wellbeing.

What do the findings say about the He Ara Oranga outcomes framework indicators?

The subset of indicators included in this report are useful in understanding the wellbeing of New Zealanders

It is challenging to develop a concise set of indicators that explain every important aspect of the wellbeing of New Zealanders. This report looks specifically at those indicators that can be measured in recent iterations of New Zealand's main social surveys, the General Social Survey, and TK. Because of this, several measures of relevance to individual wellbeing are excluded, as are measures that are primarily important at the population level. Nevertheless, the subset of measures included in this report are all significantly correlated with people's reported life satisfaction, suggesting that they capture valid information on peoples' overall wellbeing.

The shared perspective indicators have also been shown to be broadly relevant to the wellbeing of all identified priority populations, while the te ao Māori perspective indicators add additional value in understanding the life satisfaction of Māori in addition to their intrinsic value from a te ao Māori

perspective.

It would be helpful to have a better alignment between the He Ara Oranga wellbeing outcomes framework and the main social surveys

While the analysis included in this report provides useful information about the wellbeing of New Zealanders, a more comprehensive picture was not possible due to the exclusion of several indicators. Some indicators were excluded because they were useful at a population level, but either could not be used at an individual levels or did not have a strong conceptual connection to individual wellbeing. Other indicators could not be included, however, as they were asked in different surveys, such as the New Zealand Crime and Victim Survey, the New Zealand Health Survey, or in earlier iterations of the NZGSS.

In future revision of the He Ara Oranga outcomes framework indicators, it may be useful to give particular consideration to prioritising the inclusion of indicators collected as part of the current core set of NZGSS questions. This enables indicators to be considered both individually, for monitoring purposes, and also alongside other indicators, for purposes of research such as that covered by this report. Where indicators are collected in other surveys or in earlier NZGSS surveys, and are considered to be critical to measuring the wellbeing of New Zealanders, this gap should be brough to the attention of Statistics NZ for potential inclusion in future NZGSS or TK survey years.

Conclusive findings about the relative importance of different indicators requires more work

It is not possible to reach strong conclusions about the relative importance of different indicators until some of the conceptual and practical issues with the indicator list are sorted out. Many of the current conceptual framework indicators either overlap or capture similar aspects of wellbeing, particularly the more subjective measures. Significantly more thought needs to be put into the relationship between life satisfaction, subjective wellbeing more broadly, mental health, and wider individual, household, and environmental drivers of wellbeing and how these relate to each other. Of particular importance here will be developing a clearer conceptual model of the relationship between wellbeing as used in wider economic and policy frameworks such as the Treasury's Living Standards Framework or the OECD *How's Life* framework and wellbeing envisaged as positive mental health and wellness. Doing so is a prerequisite of developing a more meaningful indicator list.

Potential next steps

The results of the proposed research will open up several potential avenues for future research. Examples of future research includes work expanding our understanding of the whānau wellbeing measure, including the way in which the measure is indirectly impacted by events that directly affect an individual and their family or whānau, and research into the impact of specific services on wellbeing outcomes and overall subjective wellbeing.

A more challenging task would be to model the relationship between whānau outcome measures and individual or whānau wellbeing. This is because there is currently no way to identify whānau members in the IDI and there is no survey that collects outcome information for all whānau. However, the census identifies whānau within household and the parents of individuals can for some cohorts be found in the IDI. Using this information, we could test the relationship between whānau (within family) outcome measures on individual or whānau wellbeing for those indicators with information in the census or administrative data. Since TK is a post-censal survey the wellbeing of individuals will be able to be matched.

Finally, it would be possible to undertake work to give a more meaningful estimate of the relative weights of different outcomes associated with He Ara Oranga based on NZGSS and TK data. However, this would need to involve working from a clearer conceptual view of what the relevant outcomes were rather than starting from a list of pre-determined indicators. Such a work programme could build on some of the analysis in this report to identify a more meaningful set of indicators for He Ara Oranga.

REFERENCES

Benjamin, D., Guzman, J., Fleurbaey, M., Heffetz, O., & Kimball, M. (2021). What do happiness data mean? Theory and survey evidence. *NBER Working Paper 28438*.

Blanchflower, D. G., & Oswald, A. J. (2004). Money, Sex and Happiness: An Empirical Study. *Scandinavian Journal of Economics, 106(3)*, 393-415.

Boarini, R., Comola, M., Smith, C., Manchin, R., & de Keulenaer, F. (2012). *What Makes for a Better Life?: The Determinants of Subjective WellBeing in OECD Countries - Evidence from the Gallup World Poll.* Paris: OECD. Retrieved from https://doi.org/10.1787/5k9b9ltjm937-en

Brown, D., Woolf, J., & Smith, C. (2012, April 19). An empirical investigation into the determinants of life satisfaction in New Zealand. *New Zealand Economic Papers, 46*(3), pp. 239-251.

Dolan P., P. T. (2008). Do we really know what makes us happy? A review of the economic literature on te factors associated with subjective well-being. *Journal of Economic Psychogy, 29*, 94-122.

Government Inquiry into Mental Health and Addiction. (2018). *He Ara Oranga : Report of the Government Inquiry into Mental Health and Addiction.* Wellington.

Helliwell, J. F. (2008). *Life Satisfaction and the Quality of Development.* National Bureau of Economic Research. Cambridge: NBER.

Helliwell, J. F., Huang, H., & Wang, S. (2016). *New Evidence on Trust and Well-being.* Masachusett: National Bureau of Economics Research.

Jia, K., & Smith, C. (2016). *Subjective wellbeing in New Zealand: Some recent evidence.* Wellington: New Zealand Productivity Commission.

Kubiszewski I., Z. N. (2018). Objective and Subjective Indicators of Life Satisfaction in Australia: How Well Do People Percive What Supports a Good Life? *Ecological Economics, 154*, 361-372.

McLeod, K. (2018). *Our people - Multidimensional welbeing in New Zealand.* Wellington: NZ Treasury.

OECD. (2011). *Education at a Glance: OECD Indicators.* Paris: OECD.

OECD. (2013). *Guidelines on measuring subjective wellbeing.* Paris: OECD Publishing.

Smith, C. (2018). *Treasury Living Standards Dashboard: Monitoring Intergenerational Wellbeing.* Wellington: Kotata Insight.

Smith, C., & Davies, C. (2020). *Valuing Wellbeing Outcomes: Cost-wellbeing analysis of housing outcomes in the New Zealand General Social Survey.* Wellington: Kotata Insight.

Smith, C., Beltran-Castillon, L., & Tibble, A. (2019). *Ngā Tamariki o Te Kupenga.* Wellington: Kōtātā Insight.

Smith, C., Peach, E. K., & Cording, J. (2019). *The impact of multiple disadvantage on subjective wellbeing: New Zealand families.* Wellington: Kotata Insight.

Social Investment Agency. (2019a). *Measuring the impact of social houseing placement on wellbeing.* Wellington, New Zealand.

Stutzer, A., & Frey, B. (2004). Reported Subjective Wellbeing: A Challenge for Economic Theory and Economic Policy. *Journal of Applied Social Science Studies, 124*(2), 191-231.

Vilagut, G., Forero, C. G., Pinto-Meza, A., Haro, J. M., de Graaf, R., Bruffaerts, R., . . . Alonso, J. (2013). The Mental Component of the Short-Form 12 Health Survey (SF-12) as a Measure of Depressive Disorders in the General Population: Results with Three Alternative Scoring Methods. *Value in Health*, 564-573.

Winther Topp, C., Dinesen Østergaard, S., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. *Psychotherapy and Psychomatics*, 167–176.

APPENDIX 1

Table 13 Inclusion of shared perspective He Ara Oranga wellbeing indicators in research models

ID	Indicator	Data source indicated in He Ara Oranga	In te ao Māori model?	In shared perspective model?	Notes
DS1: Being safe and nurtured					
59	% of people reported feeling lonely **none / none or a little** of the time in the last four weeks	General Social Survey	Yes	Yes	
2	% of people reported high levels of trust in most other people	General Social Survey	Yes	Yes	
3	% of people where worrying about crime had **little to no** effect on their quality of life ["Some people worry about crime and this affects their quality of life. Where zero is no effect and ten is a large effect, what effect does worrying about crime have on your quality of life?"]	General Social Survey	No	Yes	Only available in NZGSS 2018. Potentially a separate individual shared perspective model (2018).
54	LSF Number of work-related injury claims per 1,000 full-time equivalent employees (FTEs)	Stats NZ from ACC	No	No	Only available in NZGSS 2008/10/12. Potentially administrative indicator
56	Percentage of adults who had face to face contact with friends who do not live with them at least once a week	General Social Survey	Yes	No	In te ao Māori model now but the question is about contact is with whānau outside the household. In development for the shared perspective but the question from 2014 is about contact not just face to face.
79	Sense of belonging (index measure)	Programme for International Student Assessment (PISA)	No	No	Not available in TK. Only available in NZGSS 2016. Potentially a separate individual shared perspective model (2016).
DS2: Having what is needed					
82	% of people who have gone 'a little' or 'a lot' without fresh fruit and vegetables in last 12 months to keep costs down	Household Economic Survey	Yes	Yes	
100	Participation in the arts [participation is defined as the 'active involvement' in the making or presentation of art in the last 12 months. The arts is split in to six different art forms: Visual arts, Craft and object art, Performing arts, Literature, Pacific arts, Māori arts]	Creative NZ - New Zealanders and the arts survey	No	No	Not available in TK, although other information about participation in Māori specific cultural activities is available. Only available in NZGSS 2008/10/12.

ID	Indicator	Data source indicated in He Ara Oranga	In te ao Māori model?	In shared perspective model?	Notes
123	% of households who felt their household income was enough or more than enough to meet their everyday needs	Household Economic Survey		Yes	
140	% of people living in a crowded household	HES, General Social Survey	Yes	Yes	
163	% of people enrolled in any study (formal, informal, non-formal)	Household Labour Force Survey	No	No	To include this indicator in a model of individual wellbeing, it would have to have a time period. Data is only available for formal study.
185	% of New Zealanders who have safe drinking water	Ministry of Health, Drinking Water	No	No	Not available in the IDI. Not found geographical data that could be added.
192	Alcohol licence density	Massey University	No	No	Not available in the IDI. A geographical dataset at small area units is available. Considerable work would have to be undertaken to test and create a dataset that could be included in the model.
193	Gambling machine density	Department of Internal Affairs	No	No	Not available in the IDI. Available at territorial authority level. This level is not fine enough for modelling.
345	Percentage of people with a score of 7/10 or higher for life satisfaction	General Social Survey	Yes	Yes	This is one of our independent variables. Assumed to be a proxy for wellbeing
208	Physical activity (did 2.5 + hours of physical activity per week)	NZ Health Survey	No	No	NZ Health Survey has introduced life satisfaction questions from this year. At the moment this question cannot be linked with wellbeing.
102	LSF Percentage of adults reporting good or very good health	NZ Health Survey	Yes	Yes	Available in TK and NZGSS
231	Unmet need for primary health care [Experienced one or more types of unmet need for primary health care]	NZ Health Survey	No	No	NZ Health Survey has introduced life satisfaction questions from this year. At the moment this question cannot be linked with wellbeing.
237	% of people who feel had enough leisure time	General Social Survey	No	No	Only 2008 NZGSS. NZGSS pre-2014 use a different life satisfaction scale and comparisons will be difficult.
280	LSF Percentage of people who said it was very easy to get to their nearest park or green space	General Social Survey	No	No	Not asked in 2014/2016/2018 NZGSS.
DS3: Having one's rights and dignity fully realised					

ID	Indicator	Data source indicated in He Ara Oranga	In te ao Māori model?	In shared perspective model?	Notes
243	Percentage of adults who experienced discrimination in the past 12 months in New Zealand	General Social Survey	Yes	Yes	
245	Experience of racism	NZ Health Survey	Yes	Yes	Available in TK and NZGSS
DS4: Healing, growth and being resilient					
120	WHO-5 mental wellbeing	General Social Survey	Yes	Yes	SF-12 was collected in 2014/16 and WHO-5 in 2018 NZGSS and TK.
63	Percentage of people with a score of 7/10 or higher for family wellbeing	General Social Survey	No	No	For te ao Māori perspective, Whānau wellbeing done as T4-362. Only available in NZGSS 2018. Potentially a separate individual shared perspective model (2018)
337	% of people who said it would be 'very easy' or 'easy' to talk to someone if they felt down or a bit depressed	General Social Survey	No	No	Only available in NZGSS 2014. Potentially a separate individual shared perspective model (2014).
342	% of hazardous drinkers (AUDIT score ≥8, among total population)	NZ Health Survey	No	No	NZ Health Survey has introduced life satisfaction question from this year. At the moment this question cannot be linked with wellbeing.
DS5: Being connected and valued					
274	% population who can speak the first language (excluding English) of their ethnic group	Census	Yes	No	Only available in NZGSS 2016. Potentially a separate individual shared perspective model (2016). For te ao Māori a different indicator for the same concept as T414.
291	% of people who reported that it was easy or very easy to be themselves in New Zealand	General Social Survey	No	Yes	Not available in TK
DS6: Having hope and purpose					
345	Percentage of people with a score of 7/10 or higher for life satisfaction	General Social Survey	No	No	Already done for S3-345
349	Percentage of people with a score of 7/10 or higher for feeling that life is worthwhile	General Social Survey	No	Yes	Not available in TK
343	% of people who feel they have control over their lives	General Social Survey	Yes	No	Not available in NZGSS

Table 14 Inclusion of te ao Māori perspective He Ara Oranga wellbeing indicators in research models

ID	Indicator	Data source indicated in He Ara Oranga	In te ao Māori model?	In shared perspective model?	Notes
DT1: Tino rangatiratanga me te mana motuhake					
380	% of Māori registered with an iwi	Te Kupenga	Yes	No	
381	% of Māori eligible to vote in iwi election who did so	Te Kupenga	Yes	No	
390	Growth in the Māori economy	NZIER	No	No	This is not an individual indicator and cannot be transformed as such.
DT2: Whakaora, whakatipu kia manawaroa					
402	% of Māori who think it is important to be involved in things to do with Māori culture	HPA, Health and Life-styles Survey	Yes	No	
411	% of Māori students enrolled in kura kaupapa Māori and kura teina	Ministry of Education, Schooling Statistics	No	No	In development. Using a question from TK about having participated in kura kaupapa Māori education.
414	Ability to speak te reo Māori	Te Kupenga	Yes	No	As S5-274
415	Ability to understand spoken te reo Māori	Te Kupenga	Yes	No	Not available in TK
394	% of people who agree or strongly agree that all people in New Zealand should understand te reo Māori and English [or Agree/Strongly agree 'It would be good if all people living in New Zealand spoke Māori and English']	General Social Survey	No	No	Not available in TK. Available only in NZGSS 2016 and 2018. Potentially a separate individual shared perspective model 2016/18.
395	% of people who agree or strongly agree that government should encourage and support the use of Māori in everyday situations	General Social Survey	No	No	Not available in TK. Available only in NZGSS 2016 and 2018. Potentially a separate individual shared perspective model 2016/18.
408	% of Māori who think it is very important or quite important to be involved in things to do with Māori culture	Te Kupenga	Yes	No	
409	Importance of spirituality / taha wairua ['How important is spirituality in your life? How important is religion in your life?']	Te Kupenga	Yes	No	
DT3: Whakapuāwaitanga me te pae ora					
428	Percentage of children living in households experiencing good material wellbeing	Household Economic Survey	No	No	Not an individual indicator.
102	LSF % of Māori who rate their own health as excellent or very good	NZ Health Survey	Yes	No	

367	% of Māori secondary school leavers who left school with a qualification at NCEA level 2 or above	Ministry of Education, Schooling Statistics	Yes	No	
DT4: Whanaungatanga me te arohatanga					
358	Whānau relationships are positive, functional and uplifting of all members.	Te Kupenga	Yes	No	
360	% of Māori who find it very easy or easy to find someone to support them in times of need	Te Kupenga	Yes	No	
362	Whānau wellbeing	Te Kupenga	Yes	No	
363	Whānau support in times of need	Te Kupenga	No	No	Cannot find it in Te Kupenga
364	% of Māori registered with an iwi	Te Kupenga	Yes	No	
DT5: Wairuatanga me te manawaroa					
419	% of Māori involved in iwi/hapū environmental planning or decision-making	Te Kupenga	Yes	No	
421	Knowledge of own iwi and hapū	Te Kupenga	Yes	No	
DT6: Tūmanako me te ngākaupai					
422	% of Māori who think things are getting better for their whānau	Te Kupenga	Yes	No	

APPENDIX 2

Table 15 Descriptive characteristics, New Zealand population aged 15 and over, selected priority population groups, 2014-2018 NZGSS

Population group:		Pacific peoples		Refugees and migrants - 5 years		Refugees and migrants - 10 years	
Measure		Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	7.70	0.06	8.01	0.06	7.95	0.04
	Age	36.30	0.50	32.24	0.38	34.00	0.30
Characteristics (percent)	Female	53.21	1.59	46.32	1.89	48.77	1.31
	Ethnic group						
	European only	0.00	0.00	30.00	1.99	30.96	1.41
	Maori only	0.00	0.00	0.00	0.00	0.00	0.00
	Pacific only	78.87	1.38	7.89	1.20	8.49	0.87
	Asian only	0.00	0.00	54.74	2.30	52.60	1.69
	MELAA only	0.00	0.00	5.26	0.90	5.48	0.72
	Other only	0.00	0.00	0.00	0.00	0.00	0.00
	Maori/European	0.00	0.00	0.00	0.00	0.00	0.00
	Other combinations of two or more ethnic groups	21.13	1.38	1.58	0.51	1.92	0.41
	Living with dependent children	44.15	1.36	32.11	1.54	39.73	1.29
	Living with a partner	47.92	1.50	60.00	1.83	63.29	1.12
n	Sample	1,485		996		1,995	
N	Population	265,000		190,000		365,000	
Estimated percent of total population		7.30	7.32		5.25		10.08

Table 16 Descriptive characteristics, New Zealand population aged 15 and over, selected priority population groups, 2014-2018 NZGSS

Population group:		Disabled people		Former prisoners - 10 years		Rainbow community (Gay/Bisexual/Other)	
Measure		Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	6.94	0.07	7.13	0.18	7.12	0.11
	Age	58.54	0.60	37.79	1.21	37.07	1.14
Characteristics (percent)	Female	53.73	1.65	17.39	3.12	57.14	4.54
	Ethnic group						
	European only	68.66	1.29	39.13	4.05	59.52	3.68
	Maori only	10.45	0.89	34.78	4.43	14.29	2.57
	Pacific only	5.47	0.87	8.70	2.42	4.76	1.47
	Asian only	4.98	0.78	0.00	0.00	9.52	2.37
	MELAA only	0.50	0.23	0.00	2.71	0.00	0.00
	Other only	1.99	0.40	0.00	0.00	0.00	0.00
	Maori/European	5.47	0.71	8.70	2.96	9.52	2.21
	Other combinations of two or more ethnic groups	1.99	0.49	0.00	0.00	2.38	1.19
	Living with dependent children	26.37	1.28	43.48	4.55	23.81	2.91
	Living with a partner	53.23	1.48	39.13	4.49	33.33	3.17
n	Sample	1,737		186		297	
N	Population	201,000		23,000		126,000	
Estimated percent of total population		5.55		0.64		3.48	

Table 17 Descriptive characteristics, New Zealand population aged 15 and over, selected priority population groups, 2014-2018 NZGSS

Population group:		Young people (Aged 15-24)		Older people (Aged 65 and over)		Rural communities	
Measure		Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	7.70	0.03	8.20	0.04	8.03	0.04
	Age	19.72	0.04	73.60	0.06	47.95	0.45
Characteristics (percent)	Female	48.84	0.30	52.37	0.11	48.65	1.16
	Ethnic group						
	European only	50.66	1.09	84.84	0.61	81.08	1.27
	Maori only	8.44	0.61	4.29	0.32	6.98	0.89
	Pacific only	10.10	0.65	2.30	0.30	0.90	0.30
	Asian only	13.91	0.86	4.29	0.43	2.70	0.46
	MELAA only	0.99	0.31	0.15	0.08	0.23	0.08
	Other only	0.99	0.22	1.68	0.20	1.58	0.38
	Maori/European	9.77	0.59	1.99	0.21	5.63	0.52
	Other combinations of two or more ethnic groups	4.80	0.48	0.46	0.10	0.90	0.22
	Living with dependent children	7.45	0.63	9.04	0.54	39.19	1.16
	Living with a partner	15.56	0.95	63.71	0.65	72.75	0.98
n	Sample	2,571		6,120		2,511	
N	Population	604,000		653,000		444,000	
Estimated percent of total population		16.69		18.04		12.27	

Table 18 He Ara Oranga wellbeing indicators, New Zealand population aged 15 and over, selected priority population groups, 2014-2018 NZGSS

Population group:	Pacific peoples		Refugees and migrants - 5 years		Refugees and migrants - 10 years	
Measure	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10 out of 10)	49.43	1.64	81.58	1.50	77.53	1.28
Never or only a little lonely in the last four weeks	86.04	0.96	74.21	1.73	77.53	1.15
Has at least weekly face-to-face contact with friends outside household	83.02	1.09	75.79	2.01	77.53	1.40
DS2: Having what is needed						
Has enough or more than enough money to meet everyday needs	32.83	1.85	62.63	1.93	58.36	1.50
Lives in a crowded house	32.08	1.64	19.47	2.03	18.08	1.41
Gone without fresh fruit and vegetables in last 12 months	51.70	2.00	30.53	1.86	27.95	1.36
Self-rated health status (Good, very good, excellent)	83.77	1.16	95.79	0.81	93.42	0.63
DS3: Having one's rights and dignity fully realised						
Experienced discrimination in the last 12 months	18.11	1.18	21.58	1.60	22.74	1.13
Experienced racism in the last 12 months	13.58	1.09	14.21	1.21	15.34	0.96
DS4: Healing, growth and being resilient						
Positive mental wellbeing (SF-12>54 or WHO-5>68)	75.47	1.38	83.68	1.28	81.92	1.04
DS5: Being connected and valued						
Feels it easy or very easy to be themselves in NZ	81.51	1.67	72.11	1.91	72.33	1.47
DS6: Having hope and purpose						
Life is worthwhile (7-10 out of 10)	83.02	1.20	86.84	1.28	87.95	0.87

Table 19 He Ara Oranga wellbeing indicators, New Zealand population aged 15 and over, selected priority population groups, 2014-2018 NZGSS

Population group:	Disabled people		Former prisoners - 10 years		Rainbow community (Gay/Bi-sexual/Other)	
Measure	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10 out of 10)	53.73	1.49	30.43	3.90	52.38	4.24
Never or only a little lonely in the last four weeks	73.63	1.28	78.26	3.63	69.05	3.44
Has at least weekly face-to-face contact with friends outside household	68.16	1.41	78.26	3.83	76.19	3.26
DS2: Having what is needed						
Has enough or more than enough money to meet everyday needs	47.76	1.47	21.74	3.72	54.76	3.53
Lives in a crowded house	7.46	1.04	17.39	3.61	11.90	2.67
Gone without fresh fruit and vegetables in last 12 months	27.86	1.45	52.17	4.71	40.48	3.61
Self-rated health status (Good, very good, excellent)	50.25	1.58	82.61	3.50	76.19	3.73
DS3: Having one's rights and dignity fully realised						
Experienced discrimination in the last 12 months	21.89	1.32	30.43	4.18	38.10	3.98
Experienced racism in the last 12 months	9.45	0.95	17.39	3.13	9.52	2.42
DS4: Healing, growth and being resilient						
Positive mental wellbeing (SF-12>54 or WHO-5>68)	53.23	1.54	65.22	4.45	69.05	4.34
DS5: Being connected and valued						
Feels it easy or very easy to be themselves in NZ	77.61	1.27	86.96	3.20	69.05	3.77
DS6: Having hope and purpose						
Life is worthwhile (7-10 out of 10)	73.63	1.30	73.91	3.87	76.19	3.50

Table 20 He Ara Oranga wellbeing indicators, New Zealand population aged 15 and over, selected priority population groups, 2014-2018 NZGSS

Population group:	Young people (Aged 15-24)		Older people (Aged 65 and over)		Rural communities	
Measure	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10 out of 10)	62.25	1.12	72.74	0.70	69.59	1.26
Never or only a little lonely in the last four weeks	78.97	1.08	87.60	0.46	87.39	0.84
Has at least weekly face-to-face contact with friends outside household	85.43	0.85	75.96	0.73	73.20	1.45
DS2: Having what is needed						
Has enough or more than enough money to meet everyday needs	57.12	1.09	69.98	0.74	72.07	1.23
Lives in a crowded house	14.24	0.92	1.68	0.28	3.38	0.57
Gone without fresh fruit and vegetables in last 12 months	27.98	1.03	9.49	0.46	12.84	0.97
Self-rated health status (Good, very good, excellent)	89.90	0.67	77.49	0.69	87.39	0.80
DS3: Having one's rights and dignity fully realised						
Experienced discrimination in the last 12 months	22.68	1.00	7.04	0.45	15.32	0.83
Experienced racism in the last 12 months	10.60	0.73	2.60	0.27	6.08	0.66
DS4: Healing, growth and being resilient						
Positive mental wellbeing (SF-12>54 or WHO-5>68)	77.48	0.88	80.09	0.69	80.86	0.97
DS5: Being connected and valued						
Feels it easy or very easy to be themselves in NZ	84.77	0.86	91.27	0.48	90.54	0.67
DS6: Having hope and purpose						
Life is worthwhile (7-10 out of 10)	82.28	0.86	89.28	0.44	90.77	0.80

Table 21 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2014-2018 NZGSS

Measure	Pacific peoples	Refugees and migrants - 5 years	Refugees and migrants - 10 years
In sub-population	0.51	0.06	0.40
	[0.28]	[0.46]	[0.27]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	0.07	0.07	0.07
	[0.08]	[0.16]	[0.10]
Never or seldom felt lonely in the last four weeks	0.04	-0.08	-0.24 *
	[0.15]	[0.15]	[0.11]
Has at least weekly face-to-face contact with friends outside household	0.02	-0.08	-0.05
	[0.12]	[0.17]	[0.12]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	0.14	0.09	0.00
	[0.10]	[0.13]	[0.09]
Lives in a crowded house	-0.14	0.16	0.12
	[0.13]	[0.21]	[0.16]
Gone without fresh fruit and vegetables in last 12 months	-0.07	0.29 *	0.13
	[0.10]	[0.14]	[0.10]
Self-rated health status (Good, very good, excellent)	-0.13	0.33	-0.06
	[0.13]	[0.36]	[0.21]
DS3: Having one's rights and dignity fully realised			
Experienced discrimination in the last 12 months	0.38	-0.09	-0.05
	[0.20]	[0.19]	[0.15]
Experiencing racism in the last 12 months	-0.38	-0.38	-0.13
	[0.24]	[0.21]	[0.17]
DS4: Healing, growth and being resilient			
Positive mental wellbeing (SF-12 or WHO-5>57)	0.04	-0.26	-0.08
	[0.13]	[0.20]	[0.12]
DS5: Being connected and valued			
Feels it easy or very easy to be themselves in NZ	-0.45 **	0.13	0.06
	[0.14]	[0.14]	[0.11]
DS6: Having hope and purpose			
Life is worthwhile (7-10 out of 10)	0.09	-0.12	0.00
	[0.18]	[0.23]	[0.16]
Sample - n	25,542	25,542	25,542
R-squared	0.35	0.36	0.36

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 22 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2014-2018 NZGSS

Measure	Disabled people	Former prisoners - 10 years	Rainbow community (Gay/Bisexual/Other)
In sub-population	-0.56 *	0.36	0.77
	[0.21]	[0.72]	[0.50]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	-0.31 *	0.27	-0.38
	[0.15]	[0.35]	[0.28]
Never or seldom felt lonely in the last four weeks	0.03	-0.40	0.10
	[0.17]	[0.49]	[0.31]
Has at least weekly face-to-face contact with friends outside household	0.12	0.32	-0.14
	[0.11]	[0.37]	[0.22]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	-0.01	0.08	-0.50 *
	[0.12]	[0.33]	[0.21]
Lives in a crowded house	-0.26	0.13	0.49
	[0.40]	[0.49]	[0.40]
Gone without fresh fruit and vegetables in last 12 months	0.28	-0.43	-0.45 *
	[0.15]	[0.33]	[0.21]
Self-rated health status (Good, very good, excellent)	0.00	-0.18	0.03
	[0.14]	[0.56]	[0.34]
DS3: Having one's rights and dignity fully realised			
Experienced discrimination in the last 12 months	0.06	-0.42	0.10
	[0.19]	[0.51]	[0.23]
Experiencing racism in the last 12 months	0.17	1.20	0.18
	[0.28]	[0.63]	[0.46]
DS4: Healing, growth and being resilient			
Positive mental wellbeing (SF-12>54 or WHO-5>68)	0.35 *	-0.69	0.00
	[0.15]	[0.40]	[0.28]
DS5: Being connected and valued			
Feels it easy or very easy to be themselves in NZ	-0.06	0.10	0.26
	[0.18]	[0.49]	[0.29]
DS6: Having hope and purpose			
Life is worthwhile (7-10 out of 10)	0.24	0.34	-0.56
	[0.16]	[0.50]	[0.30]
Sample - n	25,542	25,542	25,542
R-squared	0.36	0.36	0.36

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 23 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2014-2018 NZGSS

Measure	Young people (Aged 15-24)	Older people (Aged 65 and over)	Rural communities
In sub-population	0.44	-0.02	0.00
	[0.24]	[0.18]	[0.19]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	0.06	-0.01	-0.10
	[0.07]	[0.07]	[0.08]
Never or seldom felt lonely in the last four weeks	0.01	-0.06	0.02
	[0.10]	[0.10]	[0.11]
Has at least weekly face-to-face contact with friends outside household	-0.10	0.00	0.07
	[0.12]	[0.07]	[0.07]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	-0.09	0.00	0.04
	[0.07]	[0.06]	[0.08]
Lives in a crowded house	-0.01	0.48	-0.14
	[0.15]	[0.34]	[0.18]
Gone without fresh fruit and vegetables in last 12 months	0.04	-0.01	0.13
	[0.08]	[0.11]	[0.12]
Self-rated health status (Good, very good, excellent)	-0.09	0.11	0.04
	[0.14]	[0.08]	[0.12]
DS3: Having one's rights and dignity fully realised			
Experienced discrimination in the last 12 months	0.09	-0.20	-0.06
	[0.13]	[0.11]	[0.13]
Experiencing racism in the last 12 months	-0.11	0.36	-0.17
	[0.17]	[0.25]	[0.18]
DS4: Healing, growth and being resilient			
Positive mental wellbeing (SF-12>54 or WHO-5>68)	-0.04	-0.06	0.04
	[0.11]	[0.09]	[0.11]
DS5: Being connected and valued			
Feels it easy or very easy to be themselves in NZ	-0.05	0.03	-0.10
	[0.11]	[0.10]	[0.12]
DS6: Having hope and purpose			
Life is worthwhile (7-10 out of 10)	-0.29 *	0.21	0.14
	[0.12]	[0.12]	[0.20]
Sample - n	25,542	25,542	25,542
R-squared	0.36	0.36	0.36

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 24 Descriptive characteristics, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group:		Mental health service users - 1 year		Mental health service users - 5 years		Maori/Pacific peoples	
Measure		Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	7.24	0.07	7.48	0.05	7.77	0.10
	Age	41.0	0.7	41.3	0.4	30.4	0.8
Characteristics (percent)	Female	58.82	1.96	56.46	1.26	50.82	3.28
	Ethnic group						
	Māori only	23.53	1.53	28.04	1.38	0.00	0.00
	Māori and other ethnicity	56.62	2.10	53.51	1.44	81.97	3.09
	Non-Māori ethnicity	19.85	1.74	18.45	1.11	18.03	3.09
	Living with dependent children	37.50	1.91	40.59	1.60	31.15	2.62
	Living with a partner	44.85	1.92	48.71	1.48	36.07	2.65
n	Sample	888		1,743		327	
N	Population	68,000		135,500		30,500	
Estimated percent of total population		13.36		26.62		5.99	

Table 25 Descriptive characteristics, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group:		Young people (Aged 15-24)		Older people (Aged 65 and over)		Rural communities	
Measure		Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	7.81	0.05	8.42	0.07	8.10	0.08
	Age	19.6	0.1	71.9	0.3	43.3	0.7
Characteristics (percent)	Female	47.30	1.12	50.91	1.26	48.30	2.21
	Ethnic group						
	Māori only	19.82	1.26	36.36	1.91	29.93	2.35
	Māori and other ethnicity	61.71	1.53	40.91	1.91	54.42	2.58
	Non-Māori ethnicity	18.47	1.09	22.73	1.48	15.65	1.91
	Living with dependent children	9.91	0.89	15.45	1.26	45.58	2.02
	Living with a partner	18.92	1.29	59.09	2.02	62.59	1.96
n	Sample	1,278		891		795	
N	Population	111,000		55,000		73,500	
Estimated percent of total population		21.81		10.81		14.44	

Table 26 Descriptive characteristics, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group:		Disabled people		Former prisoners - 10 years	
Measure		Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	7.22	0.12	7.79	0.23
	Age	49.8	1.0	38.4	1.4
Characteristics (percent)	Female	53.52	2.43	14.29	3.57
	Ethnic group				
	Māori only	39.44	2.33	50.00	6.65
	Māori and other ethnicity	46.48	2.30	42.86	6.48
	Non-Māori ethnicity	14.08	2.34	0.00	4.83
	Living with dependent children	36.62	2.25	50.00	5.62
	Living with a partner	45.07	2.68	50.00	5.70
n	Sample	501		90	
N	Population	35,500		7,000	
Estimated percent of total population		6.97		1.38	

Table 27 Descriptive characteristics, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group:		Cluster 1: Kahurangi		Cluster 2: Karaka		Cluster 3: Whero	
Short description:		Strong in tūrangawaewae but relatively weak in te reo		Little to no engagement with Māori culture		Moderate sense tūrangawaewae but lower connection with other aspects of Māori culture	
Measure		Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	7.89	0.07	7.82	0.05	7.73	0.06
	Age	46.9	0.6	38.4	0.3	41.8	0.4
Characteristics (percent)	Female	57.14	2.03	44.42	1.00	50.00	1.58
	Ethnic group						
	Māori only	54.08	1.92	9.22	0.67	31.50	1.45
	Māori and other ethnicity	44.90	1.79	59.95	1.24	61.00	1.52
	Non-Māori ethnicity	0.00	0.00	30.58	0.98	7.50	1.13
	Living with dependent children	50.00	2.09	36.41	1.35	45.00	1.81
	Living with a partner	54.08	2.24	56.07	1.17	57.00	1.67
n	Sample	705		2,313		1,347	
N	Population	49,000		206,000		100,000	
Estimated percent of total population		9.63		40.47		19.65	

Table 28 Descriptive characteristics, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

	Population group:	Cluster 4: Kōwhai		Cluster 5: Waiporoporo		Cluster 6: Kākāriki	
	Short description:	Very strong measured wairua but low levels of engagement with other aspects of Māori culture.		Strong in tūrangawaewae and in te reo but only moderate to low levels of engagement elsewhere		Strong across all five dimensions of Māori cultural identity and connection.	
	Measure	Mean/ %	S.E.	Mean/ %	S.E.	Mean/ %	S.E.
Mean	Life satisfaction	8.06	0.06	7.96	0.07	8.05	0.07
	Age	41.4	0.8	40.1	0.8	44.4	0.7
Characteristics (percent)	Female	55.56	1.94	60.92	2.14	58.14	2.11
	Ethnic group						
	Māori only	22.96	1.62	51.72	2.23	67.44	2.27
	Māori and other ethnicity	57.78	2.12	47.13	2.15	30.23	2.31
	Non-Māori ethnicity	19.26	2.02	2.30	0.82	0.00	0.70
	Living with dependent children	37.78	2.06	45.98	2.21	52.33	1.98
	Living with a partner	51.85	2.05	49.43	1.94	53.49	1.94
n	Sample	840		630		606	
N	Population	67,500		43,500		43,000	
	Estimated percent of total population	13.26		8.55		8.45	

Table 29 He Ara Oranga wellbeing indicators, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group:	Mental health service users - 1 year		Mental health service users - 5 years		Maori/Pacific peoples	
Measure	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10 out of 10)	38.24	2.12	38.01	1.54	39.34	3.10
Felt lonely in the last four weeks (none or a little of the time)	70.59	1.79	73.43	1.11	75.41	3.28
Face-to-face contact with whānau not in the household at least once a week	83.09	1.46	83.76	1.02	85.25	2.14
DS2: Having what is needed						
Has enough or more than enough money to meet every-day needs	55.15	1.93	57.56	1.48	62.30	2.94
Lives in a crowded house	10.29	1.07	12.18	0.93	26.23	3.25
Has gone without fresh fruit and vegetables in last 12 months	27.94	1.71	26.94	1.25	22.95	2.97
DS3: Having one's rights and dignity fully realised						
Has experienced discrimination in the last 12 months	34.56	1.86	34.69	1.23	39.34	3.63
Has experienced racism in the last 12 months	7.35	0.82	7.75	0.65	9.84	2.01
DS4: Healing, growth and being resilient						
Self-rated health status (Good, very good, excellent) [DS2, DT3]	36.76	1.89	40.22	1.61	44.26	3.14
Positive mental wellbeing (WHO-5>57)	61.76	1.71	67.90	1.14	75.41	3.09
DS5: Being connected and valued						
DS6: Having hope and purpose						
Has control of their lives (7-10 out of 10)	74.26	1.83	76.38	1.14	78.69	2.68
DT1: Tino rangatiratanga me te mana motuhake						
Registered with an Iwi	37.50	1.89	39.11	1.48	36.07	2.90
Eligible to vote in Iwi election and did so	13.97	1.05	14.76	0.78	13.11	2.09
DT2: Whakaora, whakatipu kia manawaroa						
Can speak Maori	16.91	1.35	18.08	1.01	22.95	3.50
Understands Maori	29.41	1.72	31.00	1.40	37.70	3.54
Has attended Te Kura	5.15	0.78	6.27	0.61	9.84	2.02
Thinks it is important or very important to be involved in Maori culture	41.91	2.06	44.65	1.44	55.74	3.53
Spirituality or religion is very important in their life	52.21	1.94	50.55	1.47	63.93	3.57
DT3: Whakapuāwaitanga me te pae ora						
Has achieved at least NCEA level 2 (and is aged 15-64)	44.12	1.75	41.33	1.53	29.51	2.90
DT4: Whanaungatanga me te arohatanga						
Whanau get along with each other	80.15	1.32	81.18	1.10	85.25	2.06
Finds it easy or very easy to find someone to support them in times of need	71.32	1.91	71.96	1.33	70.49	2.84
Whanau doing well (7-10 out of 10)	69.85	1.88	70.11	1.37	75.41	2.94
DT5: Wairuatanga me te manawaroa						
Involved in Iwi environmental planning or decision-making	6.62	0.83	6.64	0.60	6.56	1.61
Knowledge of own iwi and hapū	49.26	1.90	51.66	1.31	60.66	3.52
DT6: Tūmanako me te ngākaupai						
Thinks things are getting better for their whānau	33.09	1.66	33.58	1.20	37.70	3.09

Table 30 He Ara Oranga wellbeing indicators, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group: Measure	Disabled people		Former prisoners - 10 years	
	%	S.E.	%	S.E.
DS1: Being safe and nurtured				
High trust in other people (7-10 out of 10)	36.62	2.48	28.57	6.32
Felt lonely in the last four weeks (none or a little of the time)	71.83	2.69	78.57	4.94
Face-to-face contact with whānau not in the household at least once a week	81.69	1.93	78.57	5.81
DS2: Having what is needed				
Has enough or more than enough money to meet everyday needs	47.89	2.67	35.71	5.14
Lives in a crowded house	16.90	1.91	35.71	5.55
Has gone without fresh fruit and vegetables in last 12 months	32.39	2.16	35.71	5.59
DS3: Having one's rights and dignity fully realised				
Has experienced discrimination in the last 12 months	28.17	2.63	50.00	5.94
Has experienced racism in the last 12 months	5.63	1.03	21.43	5.80
DS4: Healing, growth and being resilient				
Self-rated health status (Good, very good, excellent) [DS2, DT3]	28.17	2.45	42.86	4.91
Positive mental wellbeing (WHO-5>57)	60.56	2.92	78.57	4.82
DS5: Being connected and valued				
DS6: Having hope and purpose				
Has control of their lives (7-10 out of 10)	70.42	2.69	78.57	6.13
DT1: Tino rangatiratanga me te mana motuhake				
Registered with an Iwi	47.89	2.42	35.71	5.70
Eligible to vote in Iwi election and did so	23.94	2.13	14.29	4.96
DT2: Whakaora, whakatipu kia manawaroa				
Can speak Maori	21.13	2.10	28.57	5.50
Understands Maori	33.80	2.31	42.86	6.64
Has attended Te Kura	4.23	0.83	7.14	3.29
Thinks it is important or very important to be involved in Maori culture	52.11	2.47	50.00	5.56
Spirituality or religion is very important in their life	60.56	2.56	57.14	5.90
DT3: Whakapuāwaitanga me te pae ora				
Has achieved at least NCEA level 2 (and is aged 15-64)	32.39	2.46	28.57	5.19
DT4: Whanaungatanga me te arohatanga				
Whanau get along with each other	78.87	2.05	78.57	6.43
Finds it easy or very easy to find someone to support them in times of need	64.79	2.28	64.29	4.84
Whanau doing well (7-10 out of 10)	64.79	2.67	71.43	5.09
DT5: Wairuatanga me te manawaroa				
Involved in Iwi environmental planning or decision-making	9.86	1.48	0.00	2.41
Knowledge of own iwi and hapū	56.34	2.82	71.43	5.13
DT6: Tūmanako me te ngākaupai				
Thinks things are getting better for their whānau	28.17	2.16	57.14	6.22

Table 31 He Ara Oranga wellbeing indicators, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group:	Young people (Aged 15-24)		Older people (Aged 65 and over)		Rural communities	
Measure	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10)	42.79	1.57	47.27	1.92	43.54	2.75
Felt lonely in the last four weeks (none or a little of the time)	77.03	1.39	83.64	1.51	86.39	1.40
Face-to-face contact with whānau not in the household at least once a week	82.43	1.32	82.73	2.15	86.39	1.43
DS2: Having what is needed						
Has enough or more than enough money to meet everyday needs	66.67	1.54	68.18	2.07	68.71	2.24
Lives in a crowded house	20.72	1.41	4.55	0.74	10.88	1.67
Has gone without fresh fruit and vegetables in last 12 months	21.17	1.44	11.82	1.24	18.37	1.62
DS3: Having one's rights and dignity fully realised						
Has experienced discrimination in the last 12 months	33.78	1.71	10.00	1.28	21.09	1.77
Has experienced racism in the last 12 months	6.76	0.65	1.82	0.38	4.76	0.72
DS4: Healing, growth and being resilient						
Self-rated health status (Good, very good, excellent) [DS2, DT3]	59.91	1.66	43.64	2.13	57.14	2.36
Positive mental wellbeing (WHO-5>57)	78.83	1.26	82.73	1.62	84.35	1.70
DS5: Being connected and valued						
DS6: Having hope and purpose						
Has control of their lives (7-10 out of 10)	79.28	1.29	85.45	1.55	82.31	1.63
DT1: Tino rangatiratanga me te mana motuhake						
Registered with an Iwi	32.43	1.50	50.91	2.34	47.62	2.19
Eligible to vote in Iwi election and did so	4.95	0.63	27.27	1.80	21.77	1.74
DT2: Whakaora, whakatipu kia manawaroa						
Can speak Maori	18.92	1.22	20.91	1.56	19.73	1.90
Understands Maori	28.38	1.46	31.82	1.97	31.29	2.44
Has attended Te Kura	10.36	0.97	2.73	0.58	4.76	0.83
Thinks it is important or very important to be involved in Maori culture	42.79	1.72	45.45	2.10	45.58	2.05
Spirituality or religion is very important in their life	43.24	1.54	55.45	2.22	48.30	2.76
DT3: Whakapuāwaitanga me te pae ora						
Has achieved at least NCEA level 2 (and is aged 25-64)	n/a	n/a	n/a	n/a	43.54	2.21
DT4: Whanaungatanga me te arohatanga						
Whanau get along with each other	84.68	1.05	88.18	1.23	87.76	1.59
Finds it easy or very easy to find someone to support them in times of need	77.93	1.35	80.91	1.73	75.51	1.74
Whanau doing well (7-10 out of 10)	76.58	1.41	80.00	1.51	78.91	1.93
DT5: Wairuatanga me te manawaroa						
Involved in Iwi environmental planning or decision-making	2.70	0.46	11.82	1.14	11.56	1.65
Knowledge of own iwi and hapū	41.89	1.63	61.82	2.41	56.46	2.64
DT6: Tūmanako me te ngākaupai						
Thinks things are getting better for their whānau	37.84	1.41	22.73	1.85	29.93	2.20

Table 32 He Ara Oranga wellbeing indicators, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group: Measure	Cluster 1: Kahurangi		Cluster 2: Karaka		Cluster 3: Whero	
	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10 out of Yes)	38.78	1.84	47.09	1.52	43.50	1.76
Felt lonely in the last four weeks (none or a little of the time)	82.65	1.63	82.77	0.97	83.00	1.14
Face-to-face contact with whānau not in the house-hold at least once a week	93.88	1.15	81.55	1.04	84.50	1.02
DS2: Having what is needed						
Has enough or more than enough money to meet everyday needs	57.14	2.14	72.09	1.18	64.00	1.50
Lives in a crowded house	17.35	1.53	7.28	0.61	13.50	1.15
Has gone without fresh fruit and vegetables in last 12 months	27.55	1.73	16.99	0.98	23.50	1.38
DS3: Having one's rights and dignity fully realised						
Has experienced discrimination in the last 12 months	32.65	2.00	21.12	0.97	32.00	1.57
Has experienced racism in the last 12 months	9.18	1.10	3.64	0.50	8.50	0.95
DS4: Healing, growth and being resilient						
Self-rated health status (Good, very good, excellent) [DS2, DT3]	50.00	2.16	55.83	1.47	50.50	1.73
Positive mental wellbeing (WHO-5>57)	77.55	1.61	77.67	1.27	74.50	1.44
DS5: Being connected and valued						
DS6: Having hope and purpose						
Has control of their lives (7-10 out of 10)	83.67	1.58	81.07	1.14	81.00	1.19
DT1: Tino rangatiratanga me te mana motuhake						
Registered with an Iwi	72.45	1.54	21.12	1.02	51.50	1.68
Eligible to vote in Iwi election and did so	38.78	2.00	3.88	0.47	19.00	1.21
DT2: Whakaora, whakatipu kia manawaroa						
Can speak Maori	8.16	1.14	1.70	0.31	8.50	0.73
Understands Maori	42.86	2.03	6.55	0.67	27.00	1.44
Has attended Te Kura	5.10	0.91	1.46	0.27	3.50	0.58
Thinks it is important or very important to be in-volved in Maori culture	76.53	1.72	19.66	1.04	49.00	1.63
Spirituality or religion is very important in their life	73.47	1.97	21.36	1.19	42.50	1.65
DT3: Whakapuāwaitanga me te pae ora						
Has achieved at least NCEA level 2 (and is aged 15-64)	43.88	1.96	43.20	1.31	46.50	1.45
DT4: Whanaungatanga me te arohatanga						
Whanau get along with each other	87.76	1.16	85.44	1.00	82.50	1.16
Finds it easy or very easy to find someone to support them in times of need	79.59	1.69	76.94	1.06	75.00	1.49
Whanau doing well (7-10 out of 10)	70.41	1.70	77.91	1.11	69.50	1.40
DT5: Wairuatanga me te manawaroa						
Involved in Iwi environmental planning or decision-making	17.35	1.61	0.97	0.25	4.00	0.51
Knowledge of own iwi and hapū	93.88	0.86	19.17	1.11	80.50	1.25
DT6: Tūmanako me te ngākaupai						
Thinks things are getting better for their whānau	35.71	1.99	30.58	1.04	33.50	1.48

Table 33 He Ara Oranga wellbeing indicators, Māori population aged 15 and over, selected priority population groups, 2018 Te Kupenga

Population group:	Cluster 4: Kōwhai		Cluster 5: Waipo-roporo		Cluster 6: Kākāriki	
Measure	%	S.E.	%	S.E.	%	S.E.
DS1: Being safe and nurtured						
High trust in other people (7-10 out of Yes)	43.70	2.09	39.08	2.30	40.70	2.17
Felt lonely in the last four weeks (none or a little of the time)	80.74	1.79	77.01	1.99	79.07	1.65
Face-to-face contact with whānau not in the house-hold at least once a week	81.48	1.80	83.91	1.50	90.70	1.55
DS2: Having what is needed						
Has enough or more than enough money to meet everyday needs	64.44	2.10	63.22	2.14	62.79	2.36
Lives in a crowded house	15.56	1.41	17.24	1.77	23.26	1.98
Has gone without fresh fruit and vegetables in last 12 months	25.19	2.03	27.59	1.99	26.74	1.59
DS3: Having one's rights and dignity fully realised						
Has experienced discrimination in the last 12 months	28.89	1.79	39.08	2.20	43.02	2.05
Has experienced racism in the last 12 months	5.93	1.00	13.79	1.48	15.12	1.58
DS4: Healing, growth and being resilient						
Self-rated health status (Good, very good, excellent) [DS2, DT3]	52.59	2.10	51.72	2.11	45.35	2.65
Positive mental wellbeing (WHO-5>57)	78.52	1.79	78.16	1.78	77.91	1.67
DS5: Being connected and valued						
DS6: Having hope and purpose						
Has control of their lives (7-10 out of 10)	81.48	1.68	83.91	1.84	82.56	1.80
DT1: Tino rangatiratanga me te mana motuhake						
Registered with an Iwi	34.07	2.19	68.97	2.34	83.72	1.71
Eligible to vote in Iwi election and did so	10.37	1.04	29.89	1.92	53.49	2.28
DT2: Whakaora, whakatipu kia manawaroa						
Can speak Maori	8.15	1.09	77.01	1.87	88.37	1.44
Understands Maori	19.26	1.69	93.10	1.36	96.51	0.85
Has attended Te Kura	3.70	0.66	20.69	1.83	23.26	2.01
Thinks it is important or very important to be involved in Maori culture	45.93	1.91	81.61	1.59	91.86	1.29
Spirituality or religion is very important in their life	84.44	1.41	73.56	2.32	82.56	1.80
DT3: Whakapuāwaitanga me te pae ora						
Has achieved at least NCEA level 2 (and is aged 15-64)	35.56	1.67	41.38	2.18	51.16	2.29
DT4: Whanaungatanga me te arohatanga						
Whanau get along with each other	86.67	1.23	85.06	1.80	87.21	1.59
Finds it easy or very easy to find someone to support them in times of need	74.07	1.89	77.01	1.67	77.91	1.64
Whanau doing well (7-10 out of 10)	74.81	1.78	73.56	2.07	72.09	2.16
DT5: Wairuatanga me te manawaroa						
Involved in Iwi environmental planning or decision-making	2.96	0.63	11.49	1.71	37.21	2.43
Knowledge of own iwi and hapū	45.19	2.04	95.40	0.99	98.84	0.45
DT6: Tūmanako me te ngākaupai						
Thinks things are getting better for their whānau	33.33	1.98	42.53	2.15	41.86	2.35

Table 34 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Mental health service users - 1 year	Mental health service users - 5 years	Maori/Pacific peoples
In sub-population	v	0.02	0.06
	[0.04]	[0.05]	[0.04]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	0.27 *	0.14	-0.03
	[0.11]	[0.09]	[0.16]
Felt lonely in the last four weeks (none or a little of the time)	0.09	-0.10	-0.47 *
	[0.15]	[0.13]	[0.23]
Face-to-face contact with whānau not in the household at least once a week	0.10	0.17	-0.21
	[0.18]	[0.12]	[0.28]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	-0.28	-0.07	-0.28
	[0.14]	[0.11]	[0.20]
Lives in a crowded house	-0.11	-0.13	-0.11
	[0.21]	[0.17]	[0.26]
Has gone without fresh fruit and vegetables in last 12 months	-0.13	-0.05	-0.33
	[0.18]	[0.13]	[0.20]
DS3: Having one's rights and dignity fully realised			
Has experienced discrimination in the last 12 months	0.16	-0.02	0.35
	[0.14]	[0.11]	[0.23]
Has experienced racism in the last 12 months	-0.01	-0.09	-0.37
	[0.29]	[0.20]	[0.42]
DS4: Healing, growth and being resilient			
Self-rated health status (Good, very good, excellent) [DS2, DT3]	0.12	0.08	0.05
	[0.14]	[0.09]	[0.18]
Positive mental wellbeing (WHO-5>57)	-0.04	0.02	-0.15
	[0.15]	[0.12]	[0.15]
DS5: Being connected and valued			
DS6: Having hope and purpose			
Has control of their lives (7-10 out of 10)	0.26	0.34 *	0.28
	[0.18]	[0.15]	[0.28]
DT1: Tino rangatiratanga me te mana motuhake			
Registered with an Iwi [DT4]	0.05	-0.05	0.09
	[0.19]	[0.15]	[0.31]
Eligible to vote in Iwi election and did so	-0.02	0.05	0.20
	[0.18]	[0.15]	[0.29]
DT2: Whakaora, whakatipu kia manawaroa			
Can speak Maori [DS5]	0.15	0.09	-0.17
	[0.22]	[0.17]	[0.31]
Understands Maori [DS5]	0.05	-0.01	-0.16
	[0.19]	[0.15]	[0.24]
Has attended Te Kura	0.02	0.20	0.29
	[0.28]	[0.24]	[0.25]
Thinks it is important or very important to be involved in Maori culture	0.31 *	-0.01	0.11
	[0.14]	[0.13]	[0.21]
Spirituality or religion is very important in their life	0.06	0.09	-0.55 **
	[0.13]	[0.11]	[0.21]
DT3: Whakapuāwaitanga me te pae ora			
Has achieved at least NCEA level 2 (and is aged 15-64)	-0.26	-0.08	0.15
	[0.17]	[0.12]	[0.28]

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 34 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga contd

Population group:	Mental health service users - 1 year	Mental health service users - 5 years	Maori/Pacific peoples	
DT4: Whanaungatanga me te arohatanga				
Whanau get along with each other	0.14	-0.01	-0.87	**
	[0.15]	[0.12]	[0.27]	
Finds it easy or very easy to find someone to support them in times of need	0.17	-0.10	0.03	
	[0.13]	[0.11]	[0.22]	
Whanau doing well (7-10 out of 10) [DS1, DS4]	0.15	0.00	0.21	
	[0.16]	[0.12]	[0.22]	
DT5: Wairuatanga me te manawaroa				
Involved in Iwi environmental planning or decision-making	-0.47	-0.19	0.14	
	[0.24]	[0.18]	[0.45]	
Knowledge of own iwi and hapū	0.22	0.26 *	0.09	
	[0.16]	[0.11]	[0.23]	
DT6: Tūmanako me te ngākaupai				
Thinks things are getting better for their whānau	-0.16	0.03	0.07	
	[0.13]	[0.11]	[0.20]	
N	6,441	6,441	6,441	
R-squared	0.34	0.34	0.34	

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 35 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Young people (Aged 15-24)	Older people (Aged 65 and over)	Rural communities
In sub-population	0.01	0.06	0.03
	[0.05]	[0.04]	[0.04]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	0.22 *	-0.06	0.14
	[0.10]	[0.13]	[0.10]
Felt lonely in the last four weeks (none or a little of the time)	-0.18	-0.06	-0.02
	[0.15]	[0.18]	[0.17]
Face-to-face contact with whānau not in the household at least once a week	0.11	0.04	-0.23
	[0.13]	[0.23]	[0.16]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	0.05	-0.09	-0.05
	[0.11]	[0.18]	[0.13]
Lives in a crowded house	-0.09	0.17	-0.25
	[0.14]	[0.26]	[0.18]
Has gone without fresh fruit and vegetables in last 12 months	0.14	-0.34	0.19
	[0.13]	[0.27]	[0.16]
DS3: Having one's rights and dignity fully realised			
Has experienced discrimination in the last 12 months	0.11	-0.04	-0.24
	[0.12]	[0.28]	[0.18]
Has experienced racism in the last 12 months	0.25	-0.98	0.37
	[0.19]	[0.69]	[0.27]
DS4: Healing, growth and being resilient			
Self-rated health status (Good, very good, excellent) [DS2, DT3]	0.04	0.19	0.01
	[0.10]	[0.14]	[0.10]
Positive mental wellbeing (WHO-5>57)	0.01	0.26	-0.29
	[0.18]	[0.23]	[0.19]
DS5: Being connected and valued			
DS6: Having hope and purpose			
Has control of their lives (7-10 out of 10)	-0.11	0.13	-0.13
	[0.14]	[0.33]	[0.17]
DT1: Tino rangatiratanga me te mana motuhake			
Registered with an Iwi [DT4]	0.26	-0.51 **	-0.03
	[0.20]	[0.19]	[0.16]
Eligible to vote in Iwi election and did so	0.26	-0.34	0.01
	[0.22]	[0.18]	[0.19]
DT2: Whakaora, whakatipu kia manawaroa			
Can speak Maori [DS5]	0.01	-0.20	0.04
	[0.19]	[0.23]	[0.17]
Understands Maori [DS5]	-0.46 **	0.20	0.05
	[0.14]	[0.21]	[0.15]
Has attended Te Kura	0.13	0.00	-0.16
	[0.21]	[0.30]	[0.18]
Thinks it is important or very important to be involved in Maori culture	0.07	0.13	-0.01
	[0.12]	[0.16]	[0.12]
Spirituality or religion is very important in their life	-0.05	0.11	-0.16
	[0.10]	[0.15]	[0.13]

Table 35 contd Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Young people (Aged 15-24)		Older people (Aged 65 and over)		Rural communities
DT3: Whakapuāwaitanga me te pae ora					
Has achieved at least NCEA level 2 (and is aged 15-64)	n/a	n/a	n/a	n/a	0.16
	n/a		n/a		[0.12]
DT4: Whanaungatanga me te arohatanga					
Whanau get along with each other	-0.02		0.03		-0.10
	[0.15]		[0.23]		[0.17]
Finds it easy or very easy to find someone to support them in times of need	0.13		0.19		0.00
	[0.12]		[0.18]		[0.11]
Whanau doing well (7-10 out of 10) [DS1, DS4]	0.24	*	-0.12		0.18
	[0.11]		[0.18]		[0.17]
DT5: Wairuatanga me te manawaroa					
Involved in Iwi environmental planning or decision-making	-0.11		-0.28		-0.03
	[0.32]		[0.25]		[0.17]
Knowledge of own iwi and hapū	0.07		0.12		0.01
	[0.12]		[0.19]		[0.13]
DT6: Tūmanako me te ngākaupai					
Thinks things are getting better for their whānau	0.00		-0.06		-0.10
	[0.10]		[0.20]		[0.12]
N	6,441		6,441		6,441
R-squared	0.34		0.34		0.34

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 36 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Disabled people	Former prisoners - 10 years
In sub-population	0.05	0.06
	[0.04]	[0.04]
DS1: Being safe and nurtured		
High trust in other people (7-10 out of 10)	0.22	-0.25
	[0.19]	[0.57]
Felt lonely in the last four weeks (none or a little of the time)	0.31	-0.78
	[0.20]	[0.80]
Face-to-face contact with whānau not in the household at least once a week	0.34	0.51
	[0.22]	[0.82]
DS2: Having what is needed		
Has enough or more than enough money to meet everyday needs	-0.23	-0.20
	[0.22]	[0.54]
Lives in a crowded house	0.07	-0.03
	[0.25]	[0.53]
Has gone without fresh fruit and vegetables in last 12 months	0.08	-0.47
	[0.23]	[0.74]
DS3: Having one's rights and dignity fully realised		
Has experienced discrimination in the last 12 months	-0.36	-0.14
	[0.23]	[0.55]
Has experienced racism in the last 12 months	0.07	-0.78
	[0.42]	[0.93]
DS4: Healing, growth and being resilient		
Self-rated health status (Good, very good, excellent) [DS2, DT3]	0.19	-0.51
	[0.20]	[0.51]
Positive mental wellbeing (WHO-5>57)	0.10	-0.23
	[0.26]	[0.97]
DS5: Being connected and valued		
DS6: Having hope and purpose		
Has control of their lives (7-10 out of 10)	0.43	0.06
	[0.27]	[0.88]
DT1: Tino rangatiratanga me te mana motuhake		
Registered with an Iwi [DT4]	-0.14	-0.55
	[0.29]	[1.03]
Eligible to vote in Iwi election and did so	0.08	0.48
	[0.31]	[1.03]
DT2: Whakaora, whakatipu kia manawaroa		
Can speak Maori [DS5]	-0.25	-0.09
	[0.23]	[0.87]
Understands Maori [DS5]	-0.02	0.11
	[0.25]	[0.89]
Has attended Te Kura	-0.05	0.25
	[0.49]	[1.68]
Thinks it is important or very important to be involved in Maori culture	0.19	0.37
	[0.23]	[0.78]
Spirituality or religion is very important in their life	-0.05	-0.06
	[0.21]	[0.77]

Table 36 contd Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Disabled people	Former prisoners - 10 years
DT3: Whakapuāwaitanga me te pae ora Has achieved at least NCEA level 2 (and is aged 15-64)	-0.30	-0.13
	[0.26]	[0.68]
DT4: Whanaungatanga me te arohatanga Whanau get along with each other	0.47 *	0.54
	[0.22]	[0.78]
Finds it easy or very easy to find someone to support them in times of need	-0.21	-0.08
	[0.21]	[0.51]
Whanau doing well (7-10 out of 10) [DS1, DS4]	-0.09	-0.63
	[0.25]	[0.64]
DT5: Wairuatanga me te manawaroa Involved in Iwi environmental planning or decision-making	-0.51	-0.04
	[0.35]	[0.88]
Knowledge of own iwi and hapū	0.30	0.79
	[0.23]	[0.61]
DT6: Tūmanako me te ngākaupai Thinks things are getting better for their whānau	0.05	-0.22
	[0.20]	[0.56]
N	6,441	6,441
R-squared	0.34	0.34

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 37 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Cluster 1: Kahurangi	Cluster 2: Karaka	Cluster 3: Whero
In sub-population	0.07	0.04	0.05
	[0.04]	[0.05]	[0.04]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	-0.13	0.03	0.00
	[0.13]	[0.08]	[0.09]
Felt lonely in the last four weeks (none or a little of the time)	0.22	0.20	-0.04
	[0.21]	[0.16]	[0.15]
Face-to-face contact with whānau not in the house-hold at least once a week	-0.17	0.15	-0.06
	[0.30]	[0.12]	[0.14]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	0.10	0.26 *	-0.24 *
	[0.16]	[0.12]	[0.12]
Lives in a crowded house	0.14	0.07	0.06
	[0.19]	[0.17]	[0.16]
Has gone without fresh fruit and vegetables in last 12 months	-0.11	0.07	-0.13
	[0.20]	[0.13]	[0.12]
DS3: Having one's rights and dignity fully realised			
Has experienced discrimination in the last 12 months	0.03	-0.01	0.13
	[0.17]	[0.12]	[0.14]
Has experienced racism in the last 12 months	0.08	0.26	-0.19
	[0.27]	[0.22]	[0.21]
DS4: Healing, growth and being resilient			
Self-rated health status (Good, very good, excel-lent) [DS2, DT3]	0.01	-0.16	0.12
	[0.13]	[0.09]	[0.11]
Positive mental wellbeing (WHO-5>57)	-0.32	-0.10	0.00
	[0.21]	[0.11]	[0.13]
DS5: Being connected and valued			
DS6: Having hope and purpose			
Has control of their lives (7-10 out of 10)	-0.08	-0.08	0.24
	[0.25]	[0.13]	[0.16]
DT1: Tino rangatiratanga me te mana motuhake			
Registered with an Iwi [DT4]	-0.23	0.01	-0.12
	[0.17]	[0.22]	[0.14]
Eligible to vote in Iwi election and did so	-0.14	-0.28	0.12
	[0.17]	[0.24]	[0.14]
DT2: Whakaora, whakatipu kia manawaroa			
Can speak Maori [DS5]	0.20	-0.06	-0.06
	[0.21]	[0.24]	[0.20]
Understands Maori [DS5]	-0.06	0.13	0.00
	[0.16]	[0.15]	[0.12]
Has attended Te Kura	-0.11	0.46	0.47
	[0.26]	[0.31]	[0.33]
Thinks it is important or very important to be in-volved in Maori culture	0.31	-0.04	-0.08
	[0.16]	[0.10]	[0.11]
Spirituality or religion is very important in their life	0.02	-0.18	-0.10
	[0.14]	[0.11]	[0.11]

Table 37 contd Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Cluster 1: Kahurangi	Cluster 2: Karaka	Cluster 3: Whero
DT3: Whakapuāwaitanga me te pae ora Has achieved at least NCEA level 2 (and is aged 15-64)	0.08 [0.17]	0.01 [0.12]	0.07 [0.12]
DT4: Whanaungatanga me te arohatanga Whanau get along with each other	-0.28 [0.25]	0.17 [0.15]	0.05 [0.14]
Finds it easy or very easy to find someone to support them in times of need	-0.09 [0.18]	0.11 [0.10]	-0.04 [0.12]
Whanau doing well (7-10 out of 10) [DS1, DS4]	0.28 [0.16]	0.07 [0.12]	-0.01 [0.12]
DT5: Wairuatanga me te manawaroa Involved in Iwi environmental planning or decision-making	-0.07 [0.17]	-0.33 [0.25]	-0.20 [0.25]
Knowledge of own iwi and hapū	-0.38 [0.23]	0.05 [0.11]	-0.05 [0.12]
DT6: Tūmanako me te ngākaupai Thinks things are getting better for their whānau	-0.02 [0.15]	-0.06 [0.09]	-0.01 [0.11]
N	6,441	6,441	6,441
R-squared	0.34	0.34	0.34

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.

Table 38 Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Cluster 4: Kōwhai	Cluster 5: Waipo-roporo	Cluster 6: Kākāriki
In sub-population	0.04	0.07	0.04
	[0.04]	[0.04]	[0.04]
DS1: Being safe and nurtured			
High trust in other people (7-10 out of 10)	0.07	-0.28	0.20
	[0.11]	[0.14]	[0.15]
Felt lonely in the last four weeks (none or a little of the time)	-0.12	-0.24	-0.24
	[0.17]	[0.19]	[0.21]
Face-to-face contact with whānau not in the household at least once a week	-0.15	0.30	-0.31
	[0.17]	[0.23]	[0.27]
DS2: Having what is needed			
Has enough or more than enough money to meet everyday needs	-0.09	-0.10	-0.08
	[0.16]	[0.18]	[0.17]
Lives in a crowded house	-0.01	-0.14	-0.22
	[0.17]	[0.23]	[0.16]
Has gone without fresh fruit and vegetables in last 12 months	0.02	0.07	0.00
	[0.17]	[0.19]	[0.19]
DS3: Having one's rights and dignity fully realised			
Has experienced discrimination in the last 12 months	-0.14	0.11	-0.17
	[0.15]	[0.19]	[0.19]
Has experienced racism in the last 12 months	0.02	-0.03	-0.20
	[0.30]	[0.27]	[0.25]
DS4: Healing, growth and being resilient			
Self-rated health status (Good, very good, excellent) [DS2, DT3]	0.08	0.29 *	-0.18
	[0.13]	[0.14]	[0.15]
Positive mental wellbeing (WHO-5>57)	0.30	-0.06	0.22
	[0.20]	[0.19]	[0.21]
DS5: Being connected and valued			
DS6: Having hope and purpose			
Has control of their lives (7-10 out of 10)	0.00	-0.04	-0.18
	[0.18]	[0.24]	[0.26]
DT1: Tino rangatiratanga me te mana motuhake			
Registered with an Iwi [DT4]	0.16	-0.13	0.14
	[0.18]	[0.24]	[0.23]
Eligible to vote in Iwi election and did so	0.07	0.02	0.30
	[0.22]	[0.24]	[0.21]
DT2: Whakaora, whakatipu kia manawaroa			
Can speak Maori [DS5]	-0.41	0.25	-0.05
	[0.31]	[0.23]	[0.27]
Understands Maori [DS5]	0.06	-0.46	-0.27
	[0.17]	[0.36]	[0.41]
Has attended Te Kura	0.34	-0.26	-0.22
	[0.31]	[0.20]	[0.19]
Thinks it is important or very important to be involved in Maori culture	-0.03	-0.36	0.31
	[0.13]	[0.24]	[0.37]
Spirituality or religion is very important in their life	-0.10	0.25	0.21
	[0.17]	[0.20]	[0.22]

Table 38 contd Combined regression models of He Ara Oranga wellbeing indicators on life satisfaction, selected priority population groups, 2018 Te Kupenga

Population group:	Cluster 4: Kōwhai	Cluster 5: Waipo-roporo	Cluster 6: Kākāriki
DT3: Whakapuāwaitanga me te pae ora			
Has achieved at least NCEA level 2 (and is aged 15-64)	-0.17	-0.05	-0.07
	[0.16]	[0.20]	[0.20]
DT4: Whanaungatanga me te arohatanga			
Whanau get along with each other	-0.16	-0.28	0.01
	[0.22]	[0.22]	[0.25]
Finds it easy or very easy to find someone to support them in times of need	-0.11	0.04	-0.13
	[0.15]	[0.20]	[0.18]
Whanau doing well (7-10 out of 10) [DS1, DS4]	-0.30	0.03	-0.06
	[0.16]	[0.19]	[0.21]
DT5: Wairuatanga me te manawaroa			
Involved in Iwi environmental planning or decision-making	0.19	0.40	-0.10
	[0.41]	[0.23]	[0.19]
Knowledge of own iwi and hapū	0.07	-0.07	0.44
	[0.15]	[0.42]	[0.52]
DT6: Tūmanako me te ngākaupai			
Thinks things are getting better for their whānau	0.18	0.03	0.03
	[0.14]	[0.16]	[0.15]
N	6,441	6,441	6,441
R-squared	0.34	0.34	0.34

Note: All models include the following demographic controls: age, age squared, sex, ethnicity, living with a partner, living with dependent children.