



HUMAN POTENTIAL CENTRE
AN AUT UNIVERSITY RESEARCH CENTRE

Progress in measuring wellbeing in New Zealand

Final Report

FHES Summer Research Awards 2015/2016

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Introduction

This report is the culmination of a Faculty of Health and Environmental Sciences postgraduate summer studentship project undertaken to review the progress made in monitoring wellbeing in New Zealand. The overarching aim of this project was to review and document the progress in assessment of population wellbeing in New Zealand over the last 15 years and to outline the steps required to move forward towards a robust understanding of wellbeing in New Zealand. The report outlines the background of wellbeing measurement, the aims, methods, results, findings of the review, and discusses future directions for wellbeing measurement in New Zealand; the report is arranged in two main sections. Section 1 contains the student reflections of the experience over the summer studentship, including critical reflection, challenges, future direction, and acknowledgements. Section 2 contains the main body of the report, which begins with a broad overview of the construct of wellbeing, why wellbeing needs to be measured and what the current progress has been made in wellbeing measurement globally and in New Zealand. The methods and procedures undertaken to review wellbeing monitoring in New Zealand are described, and results are presented in Table 1. Findings of the review are discussed in relation to the gaps in wellbeing measurement and the next steps towards understanding wellbeing in New Zealand are outlined.

Section 1: Student Reflections

Reflections

It has been a huge privilege to be able to take part in this studentship over the summer. As a recent entrant into the postgraduate world, I am still getting a handle on where my interests lie and what direction I would like to go in for the future. This studentship was an opportunity for me to explore an area that is new to me: wellbeing measurement. As part of that, I was able to learn more about positive psychology, health policy and understand from a global perspective the current progress in monitoring wellbeing. Looking back on three months ago when I started the studentship, I feel as though I have now expanded my knowledge base exponentially and am able to have an informed opinion about something I knew very little about prior to this summer.

Alongside new knowledge of wellbeing, I also feel that I have had opportunity to improve my writing and research skills as I have worked alongside my primary supervisor, Lisa Mackay. I now feel more confident even in small things such as planning and writing a literature review, paragraph structure and putting together a results table. Never having worked with survey data, I learnt a lot about good survey design and the methodological issues involved in implementing a nation-wide survey. I hope that through my research and input on the topic, I was also able to add some value back into the work the Human Potential Centre is doing in the area of wellbeing measurement through the Sovereign Wellbeing Index.

The studentship challenged me in a number of different ways. Before I began, I had absolutely no knowledge of the topic and was unsure even of where to start with my research. I had to read a large amount of literature in order to get a good handle on the different aspects of wellbeing measurement – particularly when it came to understanding the difference between concepts such as hedonia, eudaimonia and flourishing. However, I am thankful to have explored a new topic that I knew nothing about as it forced me to get out of my comfort zone and gave me insight into an area that I now find incredibly interesting.

Moving forward, the area of wellbeing and psychology has certainly sparked my interest enough that I would like to delve further into these areas in the future. I discovered that wellbeing is a huge construct with many sub-topics beneath it; two particular areas that captured my attention were that of the relationship between positive affect and prosocial behaviour, and the studies on affect and life satisfaction and the change these things can bring to physical health and longevity. Additionally, I have learned a lot about policy and economics and am intrigued to see how wellbeing measurement is incorporated into public policy in a greater way in the future.

Acknowledgements

I would like to thank my primary supervisor, Lisa Mackay, who gave me a tremendous amount of support throughout this summer. I learnt a lot from her and am very thankful to have had her invest so much into me. I would also like to thank Kate Prendergast who passed on her expertise at a number

of different stages during this studentship. Furthermore, I feel privileged to have been working with the wider team of the Human Potential Centre who are constantly teaching me new things and providing me with support. Finally, I would like to acknowledge the Faculty of Health and Environmental Sciences for the valuable opportunity and funding to undertake this research project.

Section 2: Final Report

Background

Wellbeing is a multi-dimensional construct encompassing on a broad level people's feelings about their lives and the way in which they are living, personally and socially (Michaelson, Abdallah, Steuer, Thompson, & Marks, 2009). Monitoring the wellbeing of a population is hugely important aspect to understanding the way different political, social, and economic climates may affect the feelings and functioning of citizens (Michaelson et al., 2009). Understanding of population wellbeing has typically focussed on the prevalence of mental ill-being (i.e., major depressive disorders), or on economic and social indicators of societal progress such as Gross Domestic Product (GDP), paid work, social connectedness, and knowledge and skills (e.g., Ministry of Social Development, 2010). Measures of mental ill-being are essential for prevention and management of disorders, and economic indicators play a crucial role in policy-making for resource allocation and improvement of living standards. However, there are a myriad of factors relevant for population wellbeing that these measures cannot show; furthermore, improvements in such metrics do not necessarily translate into gains in the overall wellbeing of the population (Muhajarine et al., 2012). Instead, this report focusses on population-wide measurement of wellbeing in terms of the extent to which citizens are *flourishing*. The concept of flourishing sits within a positive-health framework, where emphasis is placed on understanding and developing positive attributes and qualities that enable individuals, communities, and society to thrive (Seligman & Csikszentmihalyi, 2000). Such measures of flourishing should not replace measures of mental ill-being or economic and social progress, but should complement and explain the importance of different domains for people's quality of life (Diener, Lucas, Schimmack, & Helliwell, 2009).

There is a large body of literature debating the issues of economic and social indicators as a measure of how well a society is doing; the consensus among wellbeing academics is that measuring broader aspects of wellbeing alongside these indicators will provide a more accurate understanding of how a population is faring. Assessing the wellbeing of a population provides important data to inform policy decisions and increase understanding of how people are faring within the present economic and political climate. It also enables identification of key population groups that require additional support and focussed attention to improve wellbeing. This understanding is particularly important amidst rampant economic difficulties and natural disasters (OECD, 2013). Furthermore, research shows that wellbeing of individuals and economic and social indicators of wellbeing are often interconnected with a change in one producing a change in the other, and vice versa (Diener, Oishi, & Lucas, 2015). High levels of wellbeing are desirable for the public, and measuring subjective wellbeing brings people's values and experiences to the government's attention, hopefully bringing more cohesion between the two (Diener, Oishi, & Lucas, 2015; Michaelson et al., 2009).

What is wellbeing?

Wellbeing is a broad term that is becoming more widely applied beyond health and psychology; there are varying definitions of wellbeing depending upon the context in which it is applied. From a public health perspective, it is important to make a distinction between individual wellbeing and the quality of national living standards. Economic and social indicators represent population wellbeing through standards of living and quality of life. Whereas, individual wellbeing refers to how people are feeling and functioning and includes concepts such as mental ill-being, subjective wellbeing, hedonia, eudaimonia, and flourishing. Each of these concepts represent important aspects of a broad definition of wellbeing.

Mental ill-being, emphasis being on the 'ill', focusses on pathology and fits within a deficit model of disease (Seligman & Csikszentmihalyi, 2000). Mental ill-being includes the major depressive disorders, such as anxiety, depression and personality disorders. While it is difficult for one to flourish in life whilst experiencing a degree of mental ill-being, wellbeing is more than simply the absence of disease, and there are other more positive reflections of how 'well' one is. Subjective wellbeing refers to one's own interpretation of how their life is going; this in particular is a diverse and growing area of research and interest in the academic world and beyond (Seligman & Csikszentmihalyi, 2000). Subjective wellbeing is often mistaken for happiness, however subjective wellbeing is a much broader evaluation of life, comprising of many different facets of one's personal state of being including life evaluations, emotions, and psychological function (OECD, 2013).

Beyond mental ill-being and subjective wellbeing are the concepts of Hedonia and Eudaimonia, which are key to a flourishing life. Hedonia is a subjective measure of happiness, positive affect and life satisfaction (Fowers, Mollica, & Procacci, 2010; Ryff & Singer, 2008; Keyes, 2002); put simply, it emphasises the maximisation of pleasurable feelings and minimisation of suffering (Peterson, Park, & Seligman, 2005). Eudaimonia, on the other hand, is discussed as living life to one's full potential and expression of self, living life with purpose and developing positive relationships (Fowers et al., 2010; Ryff & Singer, 2008; Keyes, 2002; Peterson et al., 2005); put simply, it is about functioning well in life. The concept of having optimal wellbeing as one who is flourishing is a combination of all of the above; if you are experiencing pleasurable feelings and living life to your full potential, are resilient in the face of adversity, and have good social relationships, then you can be said to be 'flourishing' in life (Huta & Waterman, 2013). It is this concept of flourishing that most accurately represents how *well* people are feeling and functioning in their lives. This model of flourishing is summarised in the New Economics Foundation (nef) dynamic model of wellbeing, as depicted in Figure 1 (Michaelson, Mahony, & Schifferes, 2012).

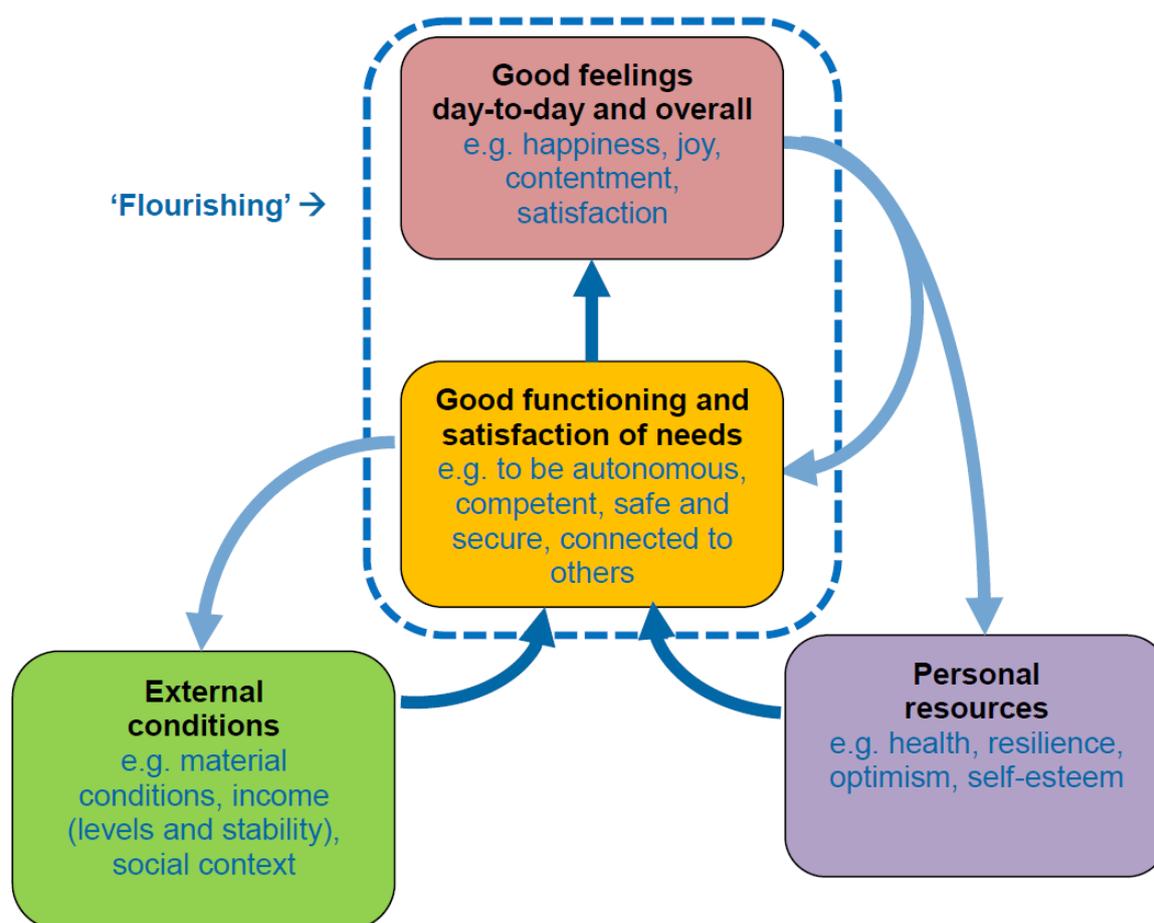


Figure 1. nef's dynamic model of wellbeing

Source: Michaelson et al. (2012)

The benefits of a flourishing society

Research has shown that people with higher wellbeing tend to have better health, are better equipped to cope with adversity, are more productive, and have stronger social relationships (Diener, 2000; Graham, 2009). In addition, wellbeing among individuals can have spill over benefits for larger social networks (Christakis & Fowler, 2009) and for society as a whole (Diener, 2006). It is therefore unsurprising that governments are increasingly becoming interested in how well its' citizens are faring, what factors are associated with high or low wellbeing, and what can be done to improve the wellbeing of its people. In particular, the benefits of wellbeing for health, social cohesion, and national economy are of great interest for health professionals, economists, and policy makers alike.

Although it has been known for a long time that psychological and physical health are linked, much of the previous research in this area has focussed on how states of ill-being, as opposed to flourishing, affect physical health (Boehm & Kubzansky, 2012; Cohen, Doyle, Turner, Alper, & Skoner, 2003). More recent research, however, has shown a link between positive affective states (i.e., happiness), and physiological health (Cohen & Pressman, 2006). Boehm and Kubzansky (2012) found that high

levels of hedonic wellbeing were associated with a lower likelihood of developing cardiovascular disease; similarly, Blanchflower & Oswald (2008) gathered evidence from 16 countries, concluding that countries who measure higher in happiness and life satisfaction have lower rates of hypertension. An interesting study on longevity was undertaken with a group of 180 nuns; the emotional content of autobiographies, which they had written in their twenties, were scored and compared with age of death between 75 and 95 years. Longer life was significantly associated with a high level of positive emotion in their young adult writings (Danner, Snowdon, & Friedman, 2001). On a smaller scale, Cohen et al (2003) tested and substantiated the theory that positive affect may be protective against the common cold. Participants who reported higher levels of positive emotion had increased resistance against infection, lower levels of stress hormones and less reported symptoms than those experiencing a higher level of negative emotions. Non-communicable diseases, particularly cardiovascular disease and mental illness, are responsible for vast economic burden across many countries (World Economic Forum, 2011). While measuring population wellbeing is not a simple fix, greater understanding of the association between citizens' affective and physical states could be a step towards a healthier and more economically stable future for a nation.

A high level of subjective wellbeing is also strongly indicative of positive social relationships and behaviour; this brings benefit at both an individual and a society level. Feeling happy has been shown to lead one to be more externally focussed, as energy does not need to be spent on self-protection (Green, Sedikides, Saltzberg, Wood, & Forzano, 2003). A direct observational study of 79 undergraduate students, found that those with higher levels of self-rated wellbeing spent less time alone, more time speaking with others, and more time in deep conversation rather than small talk (Mehl, Vazire, Holleran, & Clark, 2010). Happiness is also associated with a higher tendency to donate time and money (Aknin, Dunn, & Norton, 2012), and being a better neighbour, colleague and citizen (De Neve, Diener, Tay, Xuereb, 2013). Social cohesion is a hugely important determinant of a well-functioning society, it refers to a society having common goals and values, a sense of identity and working together towards further equality and harmony (Forrest & Kearns, 2001). It is argued that social cohesion is decreasing within many societies due to people living more independently (Forrest & Kearns, 2001). Within a flourishing society, it is likely that social cohesion would increase for the reasons discussed above; happy people are more externally focussed and more likely to exhibit prosocial behaviour. A larger focus on wellbeing and flourishing measurement may be a step in the right direction toward further social cohesion in New Zealand.

The association between money and happiness has long been of interest to individuals, academics, economists, and government. Much of the research relating happiness to income has been unidirectional, focussing on the effect of money earned on wellbeing outcomes. However, the literature suggests there may also be some reverse causation. Happy people tend to work harder (Oswald, Proto, & Sgroi, 2009), more creatively (Amabile, Barsade, Mueller, & Staw, 2005) and more cooperatively (Barsade, 2002). Positive feelings create motivation and perseverance, leading to productivity within the workplace (Luthans & church, 2002). George (1995) found that a positive leader brings better work performance among team members. De Neve & Oswald (2012) suggest a

causal relationship between wellbeing and income; in their longitudinal study they found that a decade after wellbeing measurement, those who had measured with higher life satisfaction at baseline were receiving higher incomes at follow-up than those who had reported lower life satisfaction. They propose at a broader level, that a population high in positive affect may naturally have more earning potential, leading to an economically healthy nation (De Neve & Oswald, 2012). Oswald et al (2009) agree with this, suggesting that the wellbeing-productivity link is in play at a macroeconomic level. Within a flourishing society, it is likely that citizens will have higher personal income potential, leading to benefits for companies, and economic benefits for the nation.

How population wellbeing is measured

Historically, national monitoring of individual wellbeing has largely focussed on ill-being or a single measure of life satisfaction. There is extensive research on the patterns, causes, and effects of mental ill-being (Seligman & Csikszentmihalyi, 2000). As discussed above, wellbeing is not as simple as being with or without ill-being. Even in the absence of mental illness, there are multiple factors that can affect the degree to which one is flourishing. It is positive that single-measure life satisfaction questions are widely used to measure wellbeing across surveys. However, one broad measure is not sufficient to represent the full breadth of a population's wellbeing (OECD, 2013). Advances in scientific measurement of wellbeing mean that population-wide studies can undertake meaningful assessment of wellbeing as a multi-dimensional construct. These advances led to the 2013 OECD publication of 'best practice' guidelines on the measurement of subjective wellbeing; these guidelines aim to bring further consistency and therefore comparability to wellbeing measurement across nations (OECD, 2013). The guidelines provide a framework for those working with national wellbeing data and are aimed specifically at National Statistics Offices. The guidelines include direction in terms of survey design, data collection, and dissemination of subjective wellbeing data. As well as improving national survey quality, the guidelines also aim to increase data comparability across countries. Not only are these the first international set of guidelines for wellbeing measurement targeted at national governments, but they also explicitly recommend a broad assessment of wellbeing that includes both hedonic and eudaimonic aspects of wellbeing.

The OECD guidelines present a detailed account of the current best practice for measuring population wellbeing for the purposes of guiding public policy and monitoring progress. The guidelines emphasise the importance of establishing clear objectives for the use of data, which should guide subsequent methodological decisions. The guidelines outline key recommendations for the methodological approach to measuring national wellbeing, these recommendations include: at least annual measurement of wellbeing; the enumeration period should cover a full year or at least equally cover each day of the week (to minimise seasonal or day of week effects); computer-assisted personal interviews (CAPI) are preferable, and telephone interviews are not recommended. The guidelines also outline a series of modules that contain sets of survey questions to assess individual wellbeing. There is particular reference to the wording and order of subjective wellbeing questions, and it is suggested that selected modules are included in their entirety. The core module, which the OECD recommends that all national statistical agencies include, consists of a basic measure of

overall life evaluation, three short affect questions and a single eudaimonic measure. Further, supplementary modules are also provided and encouraged to be utilised in more comprehensive questionnaires. These modules cover a broad range of wellbeing aspects including more in-depth life evaluation, recent emotional states, psychological functioning, evaluative judgements on how life is going, and emotional states during specific activities.

International progress in measuring and understanding national wellbeing

Over the last decade, a number of countries have devised national or multi-national surveys designed to measure wellbeing as a multi-dimensional construct. Currently these surveys are undertaken by both national statistics agencies and non-official sources, such as commercial research organisations and academic institutions. The European Social Survey (ESS) has been running every 2 years since 2001 and measures attitude, beliefs, and behaviour of citizens in over 30 countries (ESS, n.d.). The New Economics Foundation (NEF) is United Kingdom-based and is one example of a leading organisation in wellbeing measurement, since 2006 they have been publishing a 'Happy Planet Index' focusing on personal wellbeing, life expectancy and the ecological footprint of 151 countries (NEF, 2012). Gallup is an example of a commercial research organisation; their world poll of wellbeing regularly reports information on how more than 160 countries are doing in terms of both objective and subjective indicators of wellbeing (Gallup, 2016). The World Values Survey also assesses wellbeing and personal values globally, surveying around 100 countries (World Values Survey, n.d.). Since 2012, the United Nations have semi-regularly released a "World Happiness Report" in which they summarise data from the Gallup World Poll and discuss progress and future direction for the science of happiness and wellbeing worldwide (Helliwell, Layard, & Sachs, 2015). In Australia, Deakin University has been measuring the wellbeing of Australians since 2001 through the Australian Unity Wellbeing Index (Australian Unity, n.d.). Finally, statistical offices in many nations implement an ongoing general social survey, which covers varying degrees of wellbeing measurement, however in the past this has primarily been limited to measures of life satisfaction (OECD, 2013).

Currently in New Zealand, there is no official population-wide study of wellbeing as a multi-dimensional construct. However, there are many surveys, which collect varying degrees of wellbeing data in New Zealand. For wellbeing to guide policy in an effective and meaningful way, systematic assessment using reliable, valid and responsive measurement tools, as well as representative population samples, is required (Diener et al., 2009). Working towards understanding and improving the levels of flourishing in New Zealand has the potential not only to improve individual health, relationships and personal finance, but also to reduce health care costs, improve social cohesion, and lead to economic benefits for New Zealand. The purpose of this report is to review and document the progress in assessment of population wellbeing in New Zealand over the last 15 years and to outline the steps required to move forward towards a robust understanding of wellbeing in New Zealand. Specific aims are to:

- Identify the institutions currently collecting wellbeing data in New Zealand;
- Identify the components of wellbeing that are currently being measured;

- Determine the gaps in current population-wide monitoring of wellbeing; and
- Compare current wellbeing measurement with the OECD guidelines for measuring national wellbeing.

Methods and procedures

Surveys containing assessment of wellbeing components were identified through manual searches of websites including Statistics New Zealand, Ministry of Health, academic institutions, as well as through the researcher's prior experience and networks within this field. In total, the initial search yielded twelve adult surveys and five youth surveys. Surveys conducted between 2000 and 2015 which measured at least one component of individual wellbeing in a sample of New Zealanders were eligible for inclusion in this review. Survey methodology and measurement properties were extracted from the relevant survey website, technical document, and available questionnaires. Where these details were not available, an email was sent to the government or academic institution for further information or a copy of the survey. Extracted methodology details include: sampling frame, sample design, survey period, response rate and sample size, ongoing study or one-off, survey population, and survey mode. Measurement properties of the survey content include: full list of survey topics and details of each item that assessed a component individual wellbeing (wording and response scales). During this process, three adult surveys were excluded from further analysis as they did not meet the inclusion criteria for individual wellbeing measurement. The content of each remaining survey was tabulated and then compared with the 2013 OECD guidelines for subjective wellbeing measurement.

Results

Data were extracted from surveys between the years 2000-2015; Table 1 presents the methodological properties of the most recent wave/collection of each included survey.

Adults

Data were extracted from nine surveys; seven of these were New Zealand-based surveys and two were international multi-country surveys with New Zealand as a country of inclusion. The most frequent survey mode applied was computer-assisted personal interview (CAPI) which is considered the best-practice survey mode according to the 2013 OECD guidelines. Other survey modes included computer-assisted telephone interviews (CATI), online surveys, postal surveys and self-complete surveys. Three surveys were conducted by Statistics New Zealand, the rest by academic institutions (n=2), commercial organisations (n=1), and other entities (n=3). Three surveys were conducted in sub populations: Maori citizens, New Zealand immigrants, and those residing in six New Zealand cities.

Survey sample sizes varied from 841 in the World Values Survey to 13,492 in the New Zealand Health Survey. Out of the nine adult surveys, eight employed a probability sampling strategy; the Sovereign Wellbeing Index was the only survey with a non-probability sample. Sampling frames of the

surveys included the entire New Zealand population (n=3), the electoral role (n=3), sub-populations (n=2), and a commercial research panel (n=1).

A single life-satisfaction question was the most common measure of wellbeing across surveys, included in six out of nine adult surveys. Other common questions included job satisfaction and measures of affect such as how calm, sad or lonely one felt during a specified period (e.g., past week). The life-satisfaction measure was the only OECD comparable question to be included in multiple surveys.

When compared with the OECD recommendations, three surveys included two to five of the recommended wellbeing questions, and no survey included the core OECD module in its entirety. The majority of wellbeing questions in all surveys were not directly aligned with the OECD recommendations. In particular, response scales, reference periods, and question wording varied from those recommended by the OECD, which limits valid comparisons between surveys and countries.

The New Zealand General Social Survey (NZGSS) was identified by the OECD as the most ideal survey vehicle for measuring subjective wellbeing in New Zealand. Undertaken every two-years by Statistics New Zealand, the 2014 NZGSS included two wellbeing measurement questions which directly aligned with the OECD guidelines as well as five additional questions which were similar but not directly comparable due to different reference periods (how did you feel yesterday versus two weeks ago). The Sovereign Wellbeing Index (SWI) most closely aligned with the OECD wellbeing measurement guidelines; however, this survey was based on the 2012 European Social Survey and many of the questions—while similar—have different measurement scales. While the SWI measured wellbeing in a large and diverse sample of New Zealand adults, the sampling frame may limit the generalisability of results to the New Zealand adult population. Despite these limitations, the 2014 SWI provides the most comprehensive profile of wellbeing in New Zealand to date.

Youth

There are currently no guidelines for the measurement of wellbeing in children and youth; it appears to be an emergent area of research. A number of youth surveys have included measures of wellbeing, although a larger focus has been on ill-being covering topics such as depression, alcohol abuse, violence and crime. Three surveys: Youth2000, the Youth Connectedness Survey, and the CERA Youth Wellbeing Survey, however, included wellbeing measures such as life satisfaction, positive and negative affect, purpose, and social connectedness. Academic institutions conducted most of these surveys, however the CERA Youth Wellbeing Survey was conducted in the aftermath of the Christchurch earthquakes to understand how young people in the Canterbury region were coping.

Table 1. Wellbeing measurement in surveys of New Zealanders

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
New Zealand General Social Survey 2014 <i>Statistics New Zealand</i> (Statistics New Zealand, 2014)	8,795; NZ resident adults; Probability sample; Entire NZ adult population	CAPI; Apr 2014-Mar 2015; conducted every 2 years	Material standard of living Health Safety and security Culture and identity Housing Social connectedness [†] Human rights Life satisfaction [†] Sense of purpose [†]	<ul style="list-style-type: none"> • Overall, how satisfied are you with life as a whole these days? [0-10] • Overall, to what extent do you feel things you do in your life are worthwhile? [0-10] • <i>§Job satisfaction</i> • <i>§Felt lonely?</i> • <i>§Had a lot of energy?</i> • <i>§Felt calm?</i> • <i>§Felt depressed?</i>
New Zealand Health Survey 2014/15 <i>Ministry of Health</i> (Ministry of Health, 2015)	13,497; NZ resident adults; Probability sample; Entire NZ adult population	CAPI; Jul 2014-Jun 2015; conducted annually	Long-term health conditions Health status Health behaviours Health service utilisation and patient experience Rheumatic fever Sociodemographic Household composition Anthropometry	<ul style="list-style-type: none"> • <i>§Had a lot of energy?</i> • <i>§Felt calm and peaceful?</i> • <i>§Felt depressed?</i>

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
Longitudinal Immigration Survey Wave 3 2009 <i>Statistics New Zealand</i> (Statistics New Zealand, 2010)	5,144; NZ migrant adults; Probability sample; Migrants approved for permanent residence	CAPI; Nov 2007-Nov 2009; longitudinal, conducted annually	Demographics Initial settlement and location Housing and living arrangements Settlement and satisfaction with life in New Zealand [†] Spouse Child Health Social and community networks [†] Use of government and non-government support services Employment Income and finances Education, qualifications, and skill levels English language proficiency	Questionnaire unavailable
The New Zealand Attitudes and Values Survey Wave 7 2015/16 <i>University of Auckland</i> (Sibley, 2014)	NZ adults; Probability sample; Electoral roll	Postal or online survey; current survey period unavailable; longitudinal, conducted annually	Self-evaluation [†] Satisfaction with life and New Zealand [†] Feelings toward different ethnic groups Life values and principles Policies and political issues Demographics Religion/spirituality	<ul style="list-style-type: none"> • How satisfied are you with your health? [0-10] • How satisfied are you with your personal relationships? [0-10] • How satisfied are you with your future security? [0-10] • I am satisfied with my life [1-7] • In most ways my life is close to ideal [1-7] • [§]<i>Felt depressed?</i> • [§]<i>Job satisfaction</i>

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
Quality of Life Survey 2014 <i>Auckland Council, Wellington, Porirua, Hutt, Christchurch and Dunedin City Councils</i> (Quality of Life, 2014)	5,295; resident adults from Auckland, Hutt City, Porirua, Wellington, Christchurch & Dunedin; Probability sample; Electoral roll	Online and hard-copy survey; Jun 2014-Jul 2014; conducted every 2 years	Quality of life [†] Health and wellbeing [†] Crime and safety Community, culture and social networks [†] Council decision making processes Environment Public and private transport Lifestyle – work and study [†]	<ul style="list-style-type: none"> • <i>§Overall happiness</i> • <i>§Life satisfaction</i> • <i>§Felt lonely?</i>
Te Kupenga (Maori Wellbeing Survey) 2013 <i>Statistics New Zealand</i> (Statistics New Zealand, 2013)	5,549; NZ resident Maori adults; Probability sample; Entire NZ adult Māori population	CAPI; Jun 2013-Aug 2013; one-off	Demographics Views and perceptions [†] Paid work Standard of living Housing Health Crime, discrimination and trust Civil participation Whanau [†] Unpaid work Tikanga Tūturu Te Reo Tikanga Hou	<ul style="list-style-type: none"> • Overall how satisfied are you with life as a whole these days? [0-10] • <i>§Job satisfaction</i> • <i>§Felt calm?</i> • <i>§Had a lot of energy?</i> • <i>§Felt depressed?</i>

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
Sovereign Wellbeing Index 2014 <i>AUT University</i> (Mackay, Prendergast, & Jarden, 2015)	10,012; NZ adults; Non-probability sample; Commercial research panel	Online survey; October 2014-November 2014; conducted every 2 years	Evaluations and emotions [†] Functioning [†] Psychological resources [†] Individual demographics Household and family demographics Socio-economic Employment Region/city size Health Body size Alcohol and smoking Sleep Nutrition behaviour Physical activity	<ul style="list-style-type: none"> • Overall, how satisfied are you with life as a whole these days? [0-10] • Taking all things together, how happy would you say you are? [0-10] • How satisfied are you with your personal relationships? [0-10] • How satisfied are you with feeling part of your community? [0-10] • How satisfied are you with the amount of time you have to do the things you like doing? [0-10] • <i>§Positive self-perception</i> • <i>§Future optimism</i> • <i>§Felt depressed?</i> • <i>§Enjoyed life?</i> • <i>§Calm?</i> • <i>§Sad?</i> • <i>§Happy?</i> • <i>§Worried?</i> • <i>§Free to decide how I live my life</i> • <i>§Sense of accomplishment</i> • <i>§Resilience</i> • <i>§Worthwhile life</i>

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
World Values Study (NZ) 2011 <i>World Values Survey Association</i> (World Values Survey, 2011)	841; NZ adults; Probability sample; Electoral roll	Postal survey; Aug 2011- Feb 2012; conducted every 5-6 years	Community [†] Environment People and work [†] Families [†] People, society and politics Religion and morality People of different ages National identity Demographics	<ul style="list-style-type: none"> • Overall how satisfied are you with life as a whole these days? [0-10] • I am free to decide for myself how to live my life [0-10] • [§]<i>Overall happiness</i>
Gallup World Poll (NZ) 2015 <i>Gallup-Healthways Inc.</i> (Gallup, 2014)	1,007; NZ resident adults; Probability sample; Entire NZ adult population	CATI; May 2015-Jul 2015; conducted annually	Business and economics Citizen engagement Communications and technology Education and families Environment and energy Food and shelter Government and policies Health Law and order Religion and ethics Social issues Wellbeing [†] Work	<ul style="list-style-type: none"> • Please imagine a ladder with steps number from zero at the bottom to ten at the top. The top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally stand at this time? [0-10] • [§]<i>Life in five years time</i> • [§]<i>Satisfaction with standard of living</i> • [§]<i>Smile or laugh a lot yesterday?</i> • [§]<i>Enjoyment?</i> • [§]<i>Worry?</i> • [§]<i>Sadness?</i> • [§]<i>Stress?</i> • [§]<i>Anger?</i> • [§]<i>Freedom to decide how to live my life</i>

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
Youth2000 2012 <i>University of Auckland</i> (Clark et al., 2013)	8,500; NZ secondary school students; Probability sample; New Zealand secondary schools	Self-complete; April- September 2012; conducted every six years (funding dependant)	Demographics Ethnicity Home School Driving behaviours Violence and anti-social behaviours Health Food and activities Sexual health Cigarettes, alcohol and drugs Gambling Friends and neighbourhood [†]	
Growing up in New Zealand 2010 <i>University of Auckland</i> (Morton et al., 2014)	6,327; all expected births in the Auckland, Counties- Manukau, and Waikato District Health Board regions between 25 April 2009 and 25 March 2010; Cohort sample; All expected births in the Auckland, Counties- Manukau, and Waikato District Health Board regions between 25 April 2009 and 25 March 2010	CAPI & CATI; longitudinal	-	

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
Christchurch Health and Development Study <i>University of Otago</i> (Fergusson & Horwood, 2001)	1,011; Children born in Christchurch urban region during mid 1977; Cohort sample; Children born in Christchurch urban region during mid 1977	Face-to-face interviews; 1995-1998 (approximately); 21-year longitudinal	Prenatal and perinatal history Family social background Parental characteristics Family change and stability Exposure to child abuse and family dysfunction Child health and healthcare utilisation Educational achievement Behavioural adjustment at school Peer affiliations and relationships [†] Mental health and psychosocial adjustment [†] Participation in tertiary education and workforce	
Youth Connectedness Survey 2013 <i>Victoria University</i> (Crespo, Pryor, Kleeb, & Jose, 2007; P. Jose, personal communication, Feb 23, 2016)	950; NZ students 10-15 years old; Non-probability; 78 North Island Schools	Self-complete; 2013 (unspecified); longitudinal	Demographics Support Wellbeing [†] Coping and stress Family dynamics School achievements and relationships Bullying Peer relationships [†] Technology Spirituality Ethnic identity Community connections [†]	

Survey	Sample (n; survey population; sample design; sampling frame)	Method (survey mode; survey period; ongoing or one- off)	Survey topics	OECD question comparison
CERA Youth Wellbeing Survey 2013 <i>Canterbury Earthquake Recovery Authority</i> (Canterbury Earthquake Recovery Authority, 2014)	3,341; Christchurch young people 12-24 years; Non-probability sample; Public advertisement	Online survey; Sep 2013- Dec 2013; one-off (repeat survey under review)	Demographics Quality of Life [†] Health and Wellbeing [†] Social connectedness [†] Impact of the earthquakes Future plans	

CAPI = Computer assisted personal interview; CATI = Computer assisted telephone interview

[†] Survey topics that contained items measuring individual wellbeing; [§] Additional wellbeing survey item not directly comparable with OECD items.

Findings

The purpose of this report was to bring further understanding to the quality and scope of wellbeing measurement within New Zealand. By identifying the gaps and issues in measurement, we hope that there can be greater direction for those working in this field moving forward.

What are we doing well?

On a broad level, findings from this study show that although there is a lack of direct alignment between surveys in New Zealand and the OECD wellbeing measurement guidelines, there are multiple sources of wellbeing data in New Zealand. The entire OECD core module is included across different surveys (albeit with varying scales and reference periods) and the 2014 GSS replicates the first two core module questions in a directly comparable way. In addition to this, the 2014 SWI comes close to covering the full OECD core module but extends measurement of wellbeing to include multiple measures of hedonia and eudaimonia, which provide a fuller picture of flourishing levels among participants. Statistics New Zealand also conduct two sub-population wellbeing surveys investigating wellbeing among Māori citizens and immigrants to New Zealand. Full details of the Longitudinal Immigration Survey could not be accessed, however the published list of topics suggest it covers life satisfaction and social connectedness; Te Kupenga (Māori wellbeing survey) included life satisfaction, job satisfaction and some measures of affect. Overall, the results show that wellbeing is being widely measured across New Zealand surveys, but data is limited by the consistency and comparability of measurements.

What are the gaps?

Data were extracted from three surveys conducted by Statistics New Zealand, which showed very little comparability with the OECD wellbeing measures. The 2014 New Zealand General Social Survey included two questions parallel to the guidelines but the survey focus is directed more toward indicators of quality of life and standards of living. Also, the New Zealand Health Survey (NZHS) which monitors population health in New Zealand only contains very basic, non-OECD comparable measures of wellbeing (energy, calm, depressed). Although non-official statistical sources (i.e., non-government agencies) measure wellbeing more comprehensively, there are a number of methodological issues with these such as non-representative sampling frames, less reliable survey modes, and smaller sample sizes. In their guidelines, the OECD (2013) discuss the place of non-official sources of wellbeing data versus the role of national statistics agencies. Internationally, non-official sources, rather than national statistics offices, provide most of the information currently available on subjective wellbeing; the Gallup World Poll and the World Values Survey are the two largest surveys worldwide covering wellbeing measurement. In identifying this issue, the OECD guidelines were written specifically for national statistics offices to improve usefulness, consistency, and comparability of the data collected.

Youth wellbeing

Findings from the child and youth wellbeing surveys demonstrate that there is some valuable work undertaken in this area. The Youth2000 survey (most recently conducted in 2012) has reasonable coverage of wellbeing measures including life satisfaction, social/community connectedness, and measures of affect and eudaimonia. The Youth Connectedness Survey 2013 also appears to be a comprehensive measure of youth wellbeing (despite no available questionnaire). The CERA Youth Wellbeing Survey 2013 measures wellbeing in the important sub-population of Canterbury youth affected by the 2011 earthquake; amongst earthquake and rebuild-related questions, the survey includes measures of quality of life, social support, and eudaimonia. Conversely, although youth wellbeing is measured in some New Zealand surveys, overall this area is greatly lacking in measurement consistency and validation. At present, there are no youth wellbeing surveys conducted by Statistics New Zealand; the surveys in which data were extracted came principally from academic institutions. Despite some wellbeing measurement, the majority of youth surveys tend to focus on ill-being and negative objective indicators, such as alcohol consumption, crime, bullying and depression. The future direction for youth wellbeing measurement should first focus on validation of individual wellbeing measures specifically for youth, and secondly, measurement of flourishing in youth at a population level.

Towards an understanding of wellbeing in New Zealand

The results of this study show that there is much work to do in progressing towards a broader understanding of wellbeing in New Zealand. In particular, there needs to be much greater consistency of measures in order to enable comparability within New Zealand as well as internationally. To advance in the direction of this goal, the roles of those measuring wellbeing in New Zealand need to be properly defined.

Role of government agencies

Government agencies responsible for collecting and presenting official statistics are best suited to take the lead in population wellbeing measurement in New Zealand. Statistics New Zealand are the principal producer of statistics within New Zealand, therefore they are equipped with the capacity, resources, and expertise necessary to employ the OECD recommendations within their surveys. The NZGSS is well suited for the implementation of these measures due to its multi-dimensional nature and broad scope, which is to “give an overall picture of the social wellbeing of New Zealanders” (Statistics New Zealand, 2013). Further measurement of subjective wellbeing alongside the already collected objective indicators of economic and social progress would give a fuller picture of the relationship between various social determinants and wellbeing. Despite having very little wellbeing measurement at present, the NZHS conducted by the Ministry of Health could also be an ideal survey to include further OECD-endorsed questions in order to bring an understanding of the associations between health determinants and wellbeing. These sources have the capability to inform decisions

affecting the health, economic and social development of New Zealand, provide consistent and internationally comparable data, and enable benchmarking for other surveys.

Role of academic institutions and other entities

Although the information received from non-official data sources is greatly valuable, often these entities are not able to achieve high response rates from nationally representative sampling frames in the same way that government agencies can. With government agencies taking the role of collecting high quality population-level prevalence data of wellbeing, academic institutions and other bodies are able to direct their attention to understanding wellbeing in sub-populations and to more in-depth study of specific wellbeing constructs. It is also the role of those in academia to validate measures, test theories, develop and test interventions, and add to the literature base in this growing area of research. Such research should apply consistent and comparable measures of wellbeing so that estimates can be compared with national benchmarks (such as the NZGSS and NZHS data). They should also follow good survey design principles, sample design and data collection procedures as recommended by Statistics New Zealand (2015).

Conclusion

There are many different entities measuring wellbeing within in New Zealand. Although there is examples of some good measurement within surveys, consistency and comparability across surveys is not currently present. If all who are conducting wellbeing surveys could work from the same framework and benchmark measures, the data produced would be of considerably greater value. Government agencies have the capability and resources to produce high quality, population-level data, which can inform and influence the decisions of policy makers within New Zealand. Regular and consistent measures will lead to a greater understanding of population wellbeing in order that we can make progress toward a happier, healthier, flourishing nation.

Project outcomes and dissemination

This review will provide vital information to inform the development of a research funding application for the continuation of the Sovereign Wellbeing Index. In particular, the findings of this review will help determine changes to ensure appropriate content and methodology for population wellbeing assessment. This review will also contribute towards the preparation of a manuscript for submission to an academic journal. Dr Lisa Mackay, Professor Grant Schofield, and Dr Aaron Jarden will continue with work on this project.

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