Canadian Index of Well-Being

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Synonyms

Canada, quality of life; Canadian quality of life; Measuring quality of life in Canada; Measuring well-being in Canada; Well-being in Canada; Well-being index for Canada

Definition

The Canadian Index of Well-being (CIW) is a ▶composite index of eight interconnected domains that measures trends in the well-being of Canadians over time. Well-being is conceptualized as "The presence of the highest possible ▶quality of life in its full breadth of expression focused on but not necessarily exclusive to: good living standards, robust ▶health, a sustainable environment, vital communities, an educated populace, balanced time use, high levels of democratic participation, and access to and participation in ▶leisure and culture" (CIW, 2012). The CIW provides a companion measure of societal progress to gross domestic product (GDP), which is solely concerned with economic productivity (Statistics Canada, 2008; Stiglitz, Sen, & Fitoussi, 2009).

Description

The Canadian Index of Well-being is part of a global movement recognizing the importance of domains of life that contribute to well-being beyond economic activity. By monitoring well-being through a series of objective and ▶subjective indicators, both policy makers and the general public can advocate for change to promote the highest level of well-being for all citizens. The CIW follows a ▶social indicators of health perspective (Raphael, 2009), with the premise that multiple, interrelated social and environmental factors contribute to the well-being of Canadians. This perspective is shared by the Public Health Agency of Canada (PHAC, 2012).

Beyond providing a companion measure to GDP, one of the primary goals of the CIW is to identify interconnections among the multiple factors influencing the well-being of Canadians. The intent is to extend the understanding of well-being as a multidimensional construct, with the knowledge that policy decisions and programs can affect experiences, perceptions, and opportunities beyond the specific area for which they were intended. For example, a healthier population decreases the need for health-care treatment, which, in turn, means more resources are available to fund education. Similarly, a sustainable environment can help to protect exports and jobs, influence ▶public health, and create opportunities for leisure and ▶recreation. The challenge is to effectively use the CIW to influence policies and legislation in order to improve the well-being of all Canadians.

History and Development

The CIW is a citizen-driven initiative, rather than being directed by government—as is the more common practice in other countries (e.g., the UK, ▶Italy, France, ▶Germany, Bhutan). Consequently, the CIW is guided by essential Canadian values and is nonpartisan. This also means that in order for the CIW to be considered a credible, reliable, and valid measure, both the measures upon which it depends and the process through which it was developed had to be rigorous and constructed on the foundation of solid empirical evidence and research (Hagerty et al., 2001).

The impetus for the Canadian Index of Well-being began with the Atkinson Charitable Foundation (ACF) in Toronto, Ontario. In 1999, the ACF organized a workshop that brought together experts in ▶social indicators research to consider the question, "What would it take to create a tool to measure the well-being of Canadians?" The consensus was that such an

endeavor would require a management structure, adequate financial support for the length of the project, and importantly a base of rigorous research in order to ensure validity and credibility. Following these recommendations, the ACF instigated a comprehensive process for developing what would eventually become the Canadian Index of Well-being.

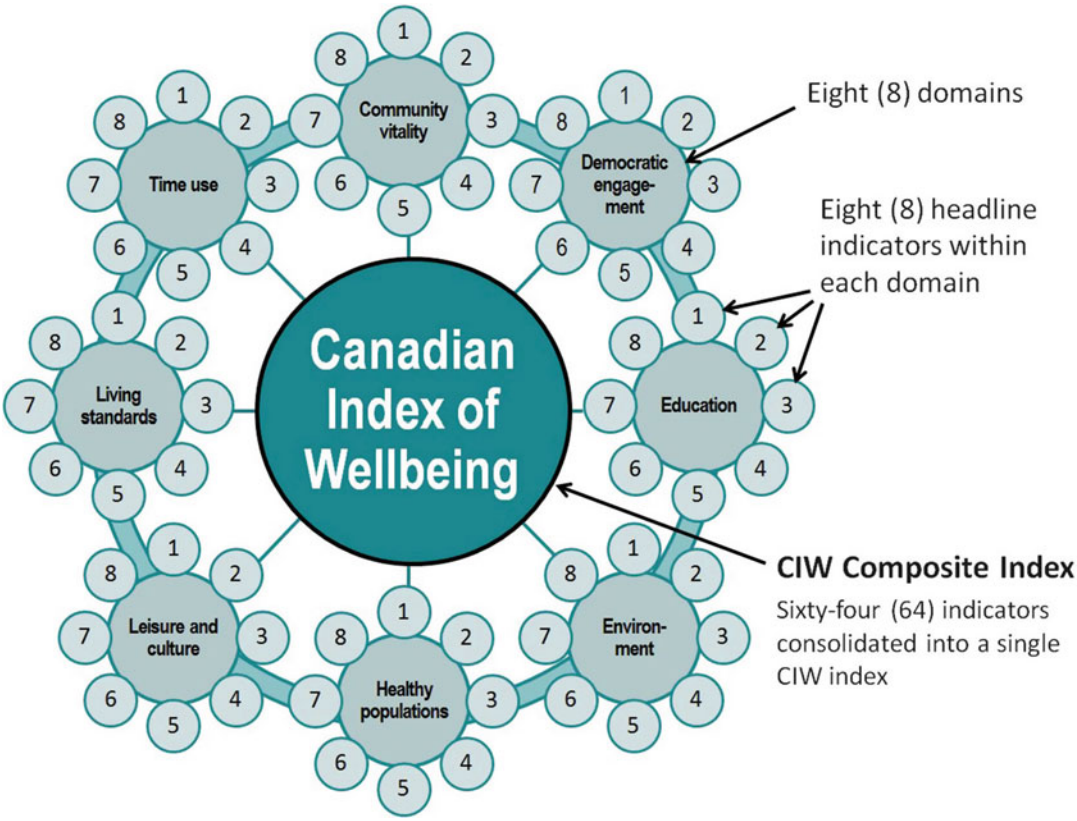
The following year, the Atkinson Charitable Foundation began the process of developing the CIW. This process included expert advice, broad public consultations, contributions of research teams from across Canada, and discussions with practitioners, government officials, and potential users. There were three overlapping stages between 2001 and 2010 in the evolution of the CIW: (1) the identification of the key domains associated with Canadians' quality of life, (2) the identification of indicators directly associated with well-being in each of the domains and compilation of relevant data, and (3) the consolidation of a ▶ composite index for each domain and for the CIW composite index, bringing together all of the domains and their specific indicators.

Several concurrent strategies for gathering information from Canadians were used to identify the domains of well-being that comprise the CIW. In 2000, in conjunction with the ▶ Canadian Policy Research Network (CPRN), public consultations were undertaken across Canada involving almost 350 participants in 40 discussion groups. During this process, Canadians described those aspects of life that they felt were directly related to their well-being and contributed most to their ▶ quality of life. This strategy resulted in a series of reports by the CPRN that began to identify prevalent thematic areas that Canadians believed were most influential (CPRN, 2001a). In addition, the reports outlined some of the specific areas and indicators of quality of life that were suggested by discussion group participants (CPRN, 2001b).

Next, in 2002 and in 2004, the ACF organized a roundtable discussion and workshop and invited more than 60 experts on social indicators and well-being. Participants' specializations included ▶ community development, economics, education, environmental studies, health promotion, political science, and recreation, arts, and culture. Practitioners and government officials – including those who were potential users of the index – also participated in these discussions and collectively began reviewing and assessing all of the information in order to narrow the focus to those domains regarded by Canadians as most essential to overall quality of life. The participants also helped to establish what would become the Canadian Research Advisory Group (CRAG), the members of which served as advisors on the validity and credibility of the strategy and the process to determine the final domains and indicators of the CIW. CRAG continues to serve in an ongoing capacity to provide advice on trends and developments within each domain, review regular updates of the CIW, and promote research and ▶ knowledge exchange to ensure that the CIW continues to reflect Canadians' perceptions and experiences of well-being.

In 2006, the ACF contracted EKOS Research Associates to conduct a further series of 19 ▶ focus groups in 14 communities across Canada. Approximately 250 individuals participated, representing diverse populations including business leaders, government officials, Aboriginal peoples, members of the media, and representatives of a diverse range of nongovernmental organizations (NGOs). Subsequent to these focus groups, at a workshop hosted by the ACF, selected members of CRAG gave presentations about emerging domains and indicators of well-being to a group of representatives from various NGOs and levels of government. Following the advice of the participants, additional refinements to the CIW conceptual framework and to the approach for consolidating the CIW composite measure were undertaken. The ACF organized two more rounds of consultations in 2007 and 2008. The discussions allowed participants to be updated on the progress toward finalizing the CIW, provide feedback on the conceptual framework, and initiate local networks of advocates who would eventually communicate the CIW to the broader public.

Based on all of the consultations and discussions and on the various reports submitted for the



Canadian Index of Well-Being, Fig. 1 Canadian Index of Well-being conceptual framework

domains, along with an ongoing environmental scan that identified, monitored, and considered other initiatives undertaken internationally, in 2008 the ACF selected the final eight domains that would comprise the CIW's conceptual framework (see Fig. 1). From 2009 to the spring of 2011, the research teams for the eight selected domains completed their final reports. The domain reports provided comprehensive reviews of the literature supporting the direct contribution of each domain to well-being and recommended indicators to be considered for inclusion in the composite index of the domain, as well as the composite index that would eventually define the CIW.

The thorough, rigorous, and lengthy consultative process for identifying the eight domains comprising the CIW confirmed the validity and credibility of the final conceptual framework. It is informed by and reflects the contributions of the general public in Canada, as well as the advice of experts, researchers, policy makers, and practitioners. In 2011, coincident with the final determination of the CIW framework, the CIW project moved from the ACF to the University of Waterloo. The project is housed in the Faculty of Applied Health Sciences where the research, community outreach, and knowledge transfer activities supporting and arising from the CIW can be further developed.

Indicators Comprising the Eight Domains of Well-Being

The CIW is comprised of eight domains, each of which includes eight separate indicators. These are outlined in domain-specific reports of the CIW website (https://uwaterloo.ca/canadian-index-wellbeing/resources/reports). The separate research teams identified key indicators representing each domain following

a comprehensive review of literature in order to establish direct links between well-being and various components of their specific domain. The teams then identified indicators emerging from the literature review that were the most valid and relevant measures consistently related to well-being, including indicators that either contributed to or detracted from well-being. Following the selection of indicators, nationally representative sources of data that had been reliably gathered over a period of several years were identified.

Essentially, four main criteria were considered when deciding upon indicators. The first was validity, or the extent to which the indicator was directly related to well-being as evidenced in the literature. The second criterion was *quality* or whether an indicator could be derived from credible sources as well as ease of defining and understanding the concept. ▶ Reliability, or consistency in measurement of the indicator during the course of several years, was the third criterion. Fourth, *feasibility* was essential. This referred to the availability and accessibility of data. With these criteria in mind, each of the teams recommended 8–14 central indicators to represent their specific domain. Indicators could be either positive or negative. For a positive indicator, an increase in numerical value indicated an increase in that aspect of well-being; for a negative indicator, an increase in numerical value reflected a decrease in some aspect of well-being (Michalos et al., 2011). The number of indicators was ultimately limited to eight per domain, for a total of 64 indicators comprising the CIW.

With the indicators in place, data were compiled for the years from 1994 onward in order to establish trends for each indicator and to prepare for the consolidation of the eight indicators into a composite index for each domain. The baseline year of 1994 was selected as the starting point for tracking the well-being of Canadians because it coincided with the initiation of the National Population Health Surveys, from which most of the health statistics were drawn (Michalos et al., 2011). Moreover, this survey was planned to be regularly readministered to large, representative samples of Canadians in subsequent years. Although the first release of the CIW occurred in 2011, the choice of 2008 as the final review year for this release was based entirely on data availability for the greatest number of headline indicators. The subsequent update in 2012 used data to 2010 for the same reason.

The domains comprising the CIW and examples of indicators defining each are as follows:

1. *Community Vitality* – This domain measures the strength, activity, and inclusiveness of relationships between residents, the public and private sectors, and civil society organizations that foster individual and collective well-being, ▶ perceptions of safety in one's community, and levels of trust in others and monitors increases and decreases in rates of property and violent ▶ crime.
2. *Democratic Engagement* – This measures the interest and participation of citizens in public life and in governance, the functioning of Canadian governments and citizens' confidence in the federal government, women's representation as members of parliament, and the role Canadians and their institutions play as global citizens.
3. *Education* – This domain is concerned with the ▶ literacy and skill levels of the population, including the ability of both children and adults to function in various contexts and plan for and adapt to future situations. It tracks the availability of regulated childcare spaces, children's competencies at different developmental stages, Canada's performance in international tests relative to other countries, and educational attainment among the general population.
4. *Environment* – This measures the wise use of our natural environment that involves the prevention of waste and damage while revitalizing the quality and ▶ sustainability of all of our resources. It monitors environmental markers such as greenhouse gas emissions, energy production, ▶ ground-level ozone, freshwater yield, and viable metal reserves. It also considers Canada's ▶ ecological footprint and population levels of select plant and animal species.

5. *Healthy Populations* – This domain is concerned with the physical, mental, and social well-being of the population; ▶ life expectancy and circumstances that influence health; and access to public health services. It tracks perceptions of personal health and the quality of public health-care services, follows the outcome of selected public health initiatives, and examines the prevalence of certain diseases within the Canadian population.
6. *Leisure and Culture* – This domain measures activity in the very broad area of leisure and culture that involves all forms of human expression, particularly in the more focused areas of the arts and leisure and recreational activities. It assesses participation in areas such as physically active leisure, social activities, arts and culture, and ▶ volunteering for recreation and culture organizations. This domain also draws attention to issues of importance to Canadians such as vacation time, visits to national parks, and the amount of money allocated by households to culture and recreation activities.
7. *Living Standards* – This domain is concerned with the level and distribution of income and wealth, with particular emphasis on ▶ poverty rates, income volatility, employment, economic security, and work-related issues and outcomes. It measures income levels, income inequality, and the affordability of home ownership for Canadians. With respect to paid work, it monitors employment rates, long-term ▶ unemployment, and ▶ job quality.
8. *Time Use* – This domain measures the use of time, how people experience time, what controls its use, and how it affects well-being. It is concerned not only with the length of time people spend in daily activities such as working for pay and ▶ commuting but also with conditions which contribute to the quality of time like perceptions of ▶ time pressure, ▶ work-life balance, and availability of employee-determined flexible work hours. On a broader level, it also monitors time spent encouraging ▶ literacy among children, providing unpaid care to seniors and regular participation in leisure and volunteer activities.

Data Sources and Challenges

Most of the data for each domain are drawn from surveys administered by Statistics Canada, the national statistical agency. Among the data sources recommended and used by the different research teams were various years and cycles of the General Social Surveys; the Canadian Community Health Surveys; the Labour Force Survey; the Canadian Survey of Giving, Volunteering, and Participating; the Canadian Election Surveys; and Environment Canada's Environmental Indicators. For those indicators for which Statistics Canada data are unavailable, other credible sources are used such as the World Wildlife Fund's Living Planet Index (as part of the Environment domain) and the Royal Bank of Canada's well-regarded Housing Affordability Index (included in the Living Standards domain).

The CIW depends on the availability of regularly updated, credible, and reliable data to ensure it accurately reflects trends in the well-being of Canadians. This presents an ongoing challenge since the regularity of data collection for indicators in different domains is sometimes inconsistent. For example, data used in the Living Standards and Healthy Populations domain are gathered and released on an annual or even monthly basis. Other domains such as Time Use, Democratic Engagement, and Leisure and Culture rely on data sources that are updated less frequently. Another challenge can occur when Statistics Canada or other organizations unexpectedly discontinue certain surveys, as has happened with the Survey of Labour and Income Dynamics, which provided data used in the Living Standards domain. In such cases, alternative data sources must be located which meet the overall criteria of reliability, credibility, feasibility, and regular updates; plus the new source must provide the closest match to the one used previously in order to provide valid measurements of the indicator.

Creating the Composite Index

To create comparable index values from the raw data, the baseline values of each of the 64 indicators are set at 100 for 1994 as the first step in standardizing the scores. To determine percentage change, raw scores for each indicator in subsequent years are divided by the raw score in 1994 and multiplied by 100. The percentage changes over the years readily indicate relative improvement or deterioration in the measure from the baseline year. A simple mean score is used to aggregate the standardized values for the eight indicators within each domain. The overall mean score for the domain allows changes over time to be easily compared to other domains, as well as monitoring the extent to which well-being in each domain may be improving or deteriorating relative to overall well-being and GDP.

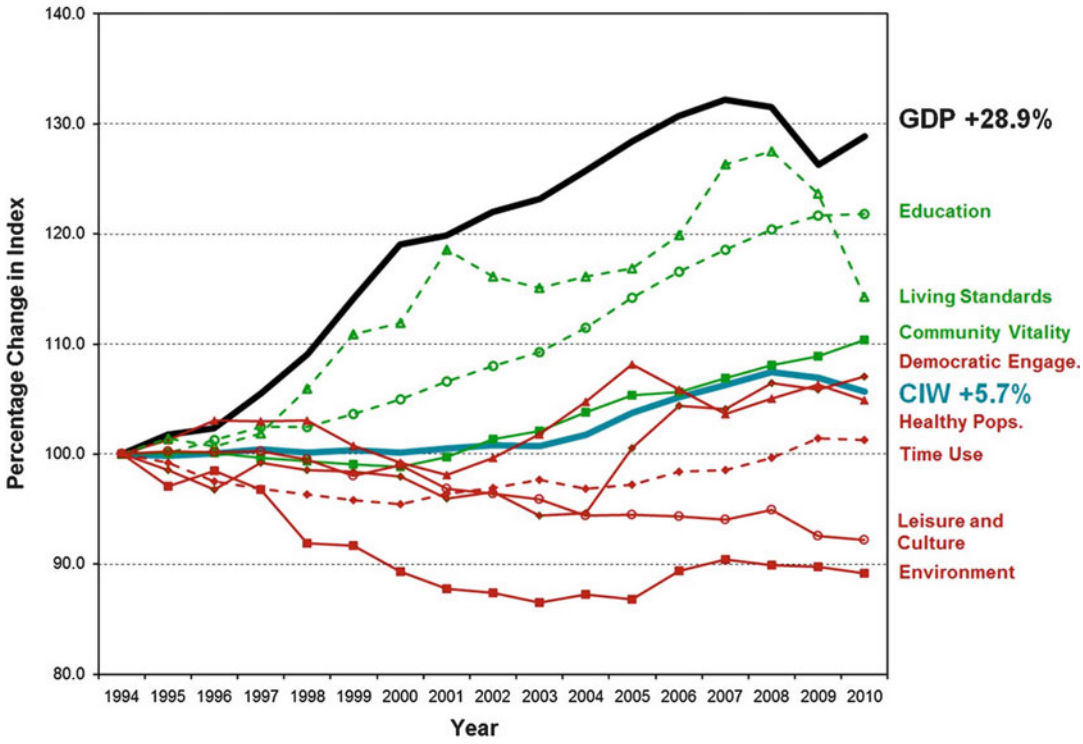
All of the indicators in each domain are assigned with an equal weight, following the assumption that without a sufficient reason for assigning greater importance to any one indicator, they should all be weighted equally. In the future, a compelling reason for assigning diverse weights might become apparent; at which point, changes in the weighting structure would be considered. At present, however, equal weighting remains preferential pending a more in-depth understanding of relationships between indicators (see Michalos et al., 2011 for further information about standardizing index values and equal weighting).

The CIW is a composite of the mean scores for each domain. Quite simply, for a given year, the mean composite scores for the eight domains are summed and then divided by eight. This produces an overall measure of well-being for Canadians. The various measures, from individual indicator to composite index, mean well-being can be described at three levels. First, the composite index provides a holistic measure, which is easily comparable to GDP. Second, the eight domain scores reflect a "dashboard" approach, which allows a snapshot of the relative status of diverse aspects of well-being. At the third level, the indicators contribute a more nuanced understanding of how specific aspects of well-being vary according to changes in ▶ social trends and policy over time.

Figure 2 illustrates the change in well-being from 1994 to 2010 for each domain relative to the composite CIW score and GDP. It shows that GDP per capita increased by 28.9 % during this time period, whereas the composite CIW grew by just 5.7 %. It also shows that only two domains, Living Standards and Education, approached the growth rate of GDP, but since the global economic recession in 2008, these domains have stalled or are dropping. Community Vitality and Democratic Engagements have generally kept pace with CIW growth, but other domains, including Healthy Populations, Time Use, and especially the Environment and Leisure and Culture, are showing either limited growth or signs of decline.

Adaptations of the CIW Framework

The conceptual framework of the CIW, organized around the eight key domains of well-being, provides a platform for policy considerations and initiatives that can be used to facilitate well-being at various levels of government or within other organizations. The multi-domain, holistic approach to well-being allows for an effective means of identifying areas where further efforts might be needed to enhance well-being. For example, the data comprising the CIW can be disaggregated to reflect changes in the well-being of subpopulations, especially those that are marginalized, and at different geographic scales, from provincial to regional and community. This allows researchers, policy makers, and citizens greater insight into the ways in which subpopulations differ with respect to well-being and to what extent. It also provides information about the domains in which some population groups or geographic locations appear to enjoy a higher quality of life and areas in which they are falling behind. Such comparisons can potentially facilitate greater collaboration among different groups and regions and the sharing of strategies and policy responses in order to address shortfalls in certain domains.



Canadian Index of Well-Being, Fig. 2 Percentage change in GDP, CIW, and composite domains from 1994 to 2010

Challenges and Summary

There are numerous methodological considerations that have arisen throughout the development of the CIW and will continue to be addressed as the CIW evolves. Some have already been mentioned (e.g., data limitations, weighting concerns). Through ongoing environmental scans and in communication with other organizations at the national and international level, a goal of the CIW is to ensure that it adopts the most effective approach to creating a solid foundation for assessing, reporting on, and promoting well-being among Canadians. Another challenge faced by the CIW is continuous validation. As Canada changes, new issues become important, new knowledge becomes available, and what is most relevant to the well-being of Canadians may change accordingly (Michalos et al., 2011). Therefore, it is essential to carefully consider the validity of each indicator during regular updates and continue to seek input and advice from a broad-based alliance of domain experts, research leaders, and government agencies.

In summary, the CIW is a citizen-driven initiative that was developed through a lengthy and collaborative consultation process to produce a measure of quality of life for Canadians. It draws upon an array of credible, regularly gathered, accessible data sources, primarily from Statistics Canada, and tracks 64 indicators, equally distributed and weighted within eight interconnected domains: Community Vitality, Democratic Engagement, Education, Environment, Healthy Populations, Leisure and Culture, Living Standards, and Time Use. The scores for each of these are combined into a composite index to produce a single figure that can be tracked over time to provide an indication of how the well-being of Canadians changes over time. Beyond assessing well-being at the national level, the CIW allows comparisons between interconnected domains to foster a greater understanding of how policies and legislation

affect well-being and which areas require more attention. It also provides an easily understandable comparison measure to GDP, in order promote perceptions of well-being beyond a purely economic perspective.

Cross-References

- ▶ Arts and Quality of Life
- ▶ Better Life Index
- ▶ Community
- ▶ Composite Index Construction
- ▶ Cultural Indicators
- ▶ Data Quality
- ▶ Gross Domestic Product (GDP) and Happiness
- ▶ Income Distribution
- ▶ Knowledge Transfer and Exchange
- ▶ Ozone
- ▶ Poverty
- ▶ Survey Research
- ▶ Time Needed to Travel to Work
- ▶ Work, Alternative/Flexible Arrangements

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Canadian Quality of Life

- ▶ Canadian Index of Well-Being

Canadian Research Data Centre Network

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Synonyms

Data repositories

Definition

The Canadian Research Data Centre Network (CRDCN), the largest of its kind in the world, links 26 university sites across Canada with three major goals: (1) to provide social science and health researchers with access to data collected by Statistics Canada as well as administrative data from Statistics Canada and some provinces, (2) to train the next generation of graduate students in the methodology and statistical procedures necessary for the analysis of secondary data, and (3) to strengthen the weak links between