

# Accounts of Psychological and Emotional Well-Being for Policy Purposes

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**Abstract:**

Diener (2000) proposed that indicators of subjective well-being should complement existing economic and social indicators that reflect the quality of life in nations. In this chapter, we review the reasons for including indicators of subjective well-being in national accounts, describe the policies that subjective well-being measures could influence, and summarize the progress nations have made in implementing national accounts of well-being. We also describe the characteristics of nations that are high in subjective well-being and respond to some common objections towards implementing indicators of subjective well-being in national accounts.

Policy-makers in government and business often guide their decisions by economic and social indicators. These indices are often referred to as national accounts because the indices are often collected using large-scale surveys from nationally representative samples and are thus often considered to accurately represent the nation as a whole (Smith & Mackie, 2015). Nations first started collecting official statistics on their economy, monitoring economic indicators related to the production, income, labor, and market expenditure of the nation. As nations grew wealthier, national accounts also started to include non-economic indicators that monitor physical well-being. Recently, spurred by increasing interest in subjective well-being among researchers, public policy makers, and the general public, national statistical offices have also begun collecting statistics on subjective well-being. Given the increasing prominence of national accounts of well-being, this paper attempts to summarize the types of policies that may be beneficial for subjective well-being, and review the initiatives various countries and organizations implemented to measure the subjective well-being of their constituents.

## What is Subjective Well-Being?

Subjective well-being (SWB) is defined as an individual's global evaluation across different aspects of life (Diener, 1984). SWB is often colloquially described as "happiness". However, scientists avoid the term "happiness" in the scientific literature because happiness is a term that encompasses various concepts. Happiness can represent a specific emotion that people feel in response to various life experiences (e.g., I am feeling happy), but happiness can also describe a broad judgment of a person's life (e.g., I have a happy life). Instead, we examine subjective well-being – the extent to which an individual believes that their life is going well.

Subjective well-being consists of two major dimensions – affect and life satisfaction (Diener, 1984). Affect is the term used by psychologists to describe a person's feelings and emotions and comprises of both positive and negative affect. Positive affect includes emotions like happiness, contentment, and joy, while negative affect includes emotions like sadness, anger and fear. Crucially, a person high in SWB often reports experiencing frequent positive affect and less frequent negative affect. On the other hand, life satisfaction involves a person's cognitive appraisal of his or her life. These appraisals could include either be broadly (global life satisfaction measures) or narrowly (satisfaction with specific life domains) defined. However, regardless of the scope of the appraisal, a person high in SWB often reports being satisfied with

his or her life.

## **Reasons for Including Subjective Well-Being in National Accounts**

Given that governments and businesses already compile social and economic indicators to track the well-being of their constituents, some critics question the need to include measures of subjective well-being in national accounts. In this section, we briefly review several important reasons for including SWB in national accounts of well-being.

### **People Believe SWB is Very Important**

The strong emphasis on the importance of SWB could be observed throughout history. Aristotle considered eudaimonia, which was often translated as happiness, as the final and sufficient goal for mankind (Aristotle, 1985), while utilitarians like John Stuart Mill and Jeremy Bentham focused their theories around achieving and maximizing subjective well-being (Mill, 1863).

Besides the deep philosophical roots of subjective well-being, lay persons too place great importance on SWB. For example, we would hardly rate a person who is depressed and dissatisfied with his or her life as a successful person, regardless of the person's economic or social status. The importance we place on SWB could also be inferred from our responses to Mill's classic rhetorical question asking whether it is better to be a dissatisfied human or a satisfied pig. Although the correct choice may not be evident to us, it is clear that most of us would prefer to be a satisfied human rather than an unsatisfied one, and a satisfied pig than an unsatisfied one (Diener, Lucas, Schimmack, & Helliwell, 2009).

The importance lay persons place on SWB was also demonstrated empirically. King and Napa (1998) found that happy people are judged more positively than unhappy people to the extent that happy people are thought to be more likely to ascend to heaven after they die. In addition, college students in 41 nations rated life satisfaction and happiness as extremely important concepts, with an average rating of 6.21 and 6.39 (out of 7) for life satisfaction and happiness respectively (Diener, Sapyta, & Suh, 1998). Crucially, the importance of SWB was reflected not only by Western, industrialized nations but also by less economically developed nations. For example, happiness was rated 6.63 in Indonesia, 6.62 in Brazil, and 6.27 in Ghana. Although subjective well-being may not be the most important value for everyone, it is likely to be a value that almost everyone, lay persons, and philosophers alike, endorses. Since governments in modern democracies are instituted to serve the interests of the populace they govern, governments should thus consider implementing SWB measures in their national accounts.

### **Current Indicators are Incomplete and Insufficient**

Economically developed nations typically monitor quality of life in their societies using both social and economic indicators (Smith & Mackie, 2015). Both measures provide important information about how nations are functioning. However, both types of indicators each have their limitations that can often be addressed by incorporating measures of subjective well-being in national accounts (Diener, Oishi, & Lucas, 2015).

Social indicators often provide relevant information for policy making. These indicators evaluate diverse areas ranging from health outcomes (e.g., obesity rates), education outcomes (e.g., percentage of college graduates), to environmental outcomes (e.g., PM2.5 levels). Governments track social indicators because these indicators were presumed to reflect characteristics of a good society. By tracking these indicators, nations and organizations should then be able to monitor these attributes and enact policies to address insufficiencies in certain areas.

Unfortunately, there is no obvious method to identify characteristics of a good society (Diener et al., 2009). Governments and organizations thus often rely on experts to identify these characteristics, which represent the first limitation of social indicators – that there is often no consensus, even among experts, on the indicators to be included (or excluded). For example, number of hobbies is included in the Living Conditions Index of the Netherlands (Boelhouwer & Stoop, 1999), but is its inclusion justified? What about people who do not have hobbies? Is it justifiable to infer that people without hobbies are not satisfied with their lives? What if people do not have hobbies because they are spending their time on other meaningful activities (e.g., taking care of their children, volunteering with charities)? Although there are certain items that almost everyone would agree should be included as social indicators of well-being, the number of such items is relatively small compared to the number of possible items that could be used as social indicators of well-being. If experts cannot agree on the indicators to be included, then it is highly likely that the social indicators selected to predict the well-being of a society are incomplete.

Even if we manage to accurately identify the characteristics of a good society, the use of social indicators as predictors of well-being still face another limitation: How do we integrate the information obtained? Few would argue that every indicator is equally important. For example, Maslow (1954) would argue that the indicators relating to our physical needs (need for food and water) are more important than the indicators relating to our need for safety (need for safe shelter) and thus should be weighed heavier. However, beyond this basic rule, coming to an agreement on the importance of other indicators will be difficult. As the list of indicators increases, the difficulty of weighing the indicators will also increase exponentially, making an already difficult task almost impossible (Diener et al., 2009). For example, Becker, Denby, McGill, and Wilks (1987) examined the quality of life in 329 metropolitan areas and found that 59 of the 329 regions could be ranked anywhere from first to last depending on how the indicators that make up the overall quality of life index are weighed. Thus, a metropolitan area's quality of life rating could differ drastically depending on a person's weighting of the indicators. Similarly, a nation's index of well-being could also differ drastically, depending on the weights we assign to each indicator. If so, then how can we be certain that the index of well-being is accurate and complete?

There is no doubt that social indicators provide useful information, but they also have limitations (see Diener et al., 2009 for a review). Social indicators reflect the values of the people compiling the list. In addition, it is often difficult to integrate and weigh the indicators objectively. Due to these limitations, indicators of subjective well-being such as life satisfaction are needed to complement social indicators to provide a more complete understanding of quality of life. Since subjective well-being indicators are often broad assessments of a person well-being, these indicators do not rely on the identification of a list of characteristics. In addition, subjective well-being indicators could provide a common metric that can be used to compare outcomes across domains. For example, a government might face trades-off when deciding whether to boost healthcare spending or to devote more resources to improve the environment. Although subjective well-being indicators cannot provide absolute answers, they can provide information about the relative effect of improvements in each domain, allowing the government to compare the two policy decisions.

Besides social indicators, nations also invest considerable resources to generate and monitor economic indicators. These indicators often measure a nation's labor and trade productivity with the assumption that a nation with strong economic performance is also a nation that is flourishing. Some common economic indicators include the Gross Domestic Product (GDP), inflation rates, unemployment rate, and tax rates.

Needless to say, economic indicators are important to societies. Since industrialization, governments have relied and continue to rely primarily on the information derived from economic indicators to inform their policies. However, economic indicators also suffer from a number of important limitations. Similar to social indicators, there is a concern about what economic indicators are to be included, and how to integrate the information derived from economic indicators. Furthermore, governments and organizations should recognize that economic indicators often have large blind spots, often omitting other aspects of life that are important to well-being (Diener & Seligman, 2004). For example, GDP is used as a measure of material well-being of a society because it is supposed to reflect the total goods and services produced and consumed in a society. However, GDP often underestimates the levels of well-being in a society because there often are other activities that may have economic value, but are still not included in GDP. Work (e.g., laundry, cooking), as well as child care that occurs in the home, are not included in GDP although such work contributes significantly to GDP when they are purchased as part of a service outside the home (Diener et al., 2009; Diener & Seligman, 2004).

Other than blind spots, economic indicators often inform policy makers that something is wrong, but they often do not reveal what is driving the problem (Diener, Kesebir, & Lucas, 2008). For example, economic indicators could inform policy makers on the number of lost workdays, or the productivity of the economy. However, economic indicators alone will not explain why workers are taking more days off. Workers may be taking more days off due to mental illnesses, physical illnesses, or even because they are working in a miserable environment. Without additional information, it will be tough for policy makers to identify and remedy the root cause.

Economic indicators are useful but do not provide governments and organizations with complete information. Economic indicators often do not value non-market goods and services, and often do not reveal the true cause of a problem. As a result, indicators of subjective well-being could complement economic indicators by addressing the insufficiencies of economic indicators. For example, subjective well-being measures could be used to help policy makers value the externalities incurred by economic activity (Diener et al., 2009). Negative externalities like air pollution could be measured by the decrease in SWB of the citizens within the area affected by air pollution, which in turn can help inform cost-benefit analyses involving the activity that led to the air pollution. Obviously, much more work is needed to

evaluate the validity and effectiveness of such a method. Nonetheless, the example demonstrates how policy makers could derive concrete values using indicators of SWB.

### **Subjective Well-being is Beneficial**

Besides being a very important value to most people, research conducted in the past decade demonstrates that subjective well-being is also associated with several positive outcomes at both the individual and societal level (Diener & Chan, 2011). People high in SWB are often healthier, more successful, and have better social relationships (De Neve, Diener, Tay, & Xuereb, 2013; Lyubomirsky, King, & Diener, 2005).

Pressman and Cohen (2005) wrote a comprehensive review of the beneficial effects of positive affect on health. In addition, several longitudinal and experimental studies demonstrated the beneficial effects of SWB on health. For example, Danner, Snowdon, and Friesen (2001) examined the diary entries of Catholic sisters written at age 22 and found that sisters who used more positive emotional words in their entries were more likely to live longer six decades later. A study examining a representative sample of older people living in England also found that people who report enjoying life more frequent lived longer, even after controlling for several health-related factors (Zaninotto, Wardle, & Steptoe, 2016). In addition, participants who were experimentally infected with the cold virus, and who reported experiencing high levels of positive affect were less likely to fall sick and even recovered faster compared to people who reported experiencing low levels of positive affect (Cohen, Doyle, Turner, Alper, & Skoner, 2003). A separate study also found that inducing a positive mood after a stressful experience led to a faster recovery of the cardiovascular system (Fredrickson & Levenson, 1998).

People high in SWB also tend to be more successful than their peers. Dotson and Allenby (2010) found that bank employees with higher job satisfaction produced more revenue on average, while customer service representatives in a bad mood completed fewer calls per hour (Rothbard & Wilk, 2011). Individuals higher in SWB were more likely to be re-employed after unemployment (Krause, 2013), and positive moods were also associated with better performance for both sales managers and subordinates in customer service (George, 1995). In addition, people high in SWB are more likely to earn higher incomes, more likely to secure a job, and report higher job satisfaction (Diener, Nickerson, Lucas, & Sandvik, 2002). People high in SWB are also beneficial to organizations, although the benefits of SWB on organizational performances are often small (Tenney, Poole, & Diener, 2016). Companies with higher employee satisfaction had higher rises in share prices (Edmans, 2011) while manufacturing plants with higher employee job satisfaction were more also productive (Böckerman & Ilmakunnas, 2012).

People high in SWB are not only more likely to be more successful than their peers; they are also more likely to have better social relationships than people low in SWB. A longitudinal study found that children who report low life satisfaction were more likely to be victimized later in life, and were less likely to be prosocial (Martin, Huebner, & Valois, 2008), while adolescents who reported high positive affect had fewer relationship conflicts ten years later (Kansky, Allen, & Diener, 2016). People high in SWB were also more likely to get married, remain married, and to report high marital satisfaction (Harker & Keltner, 2001; Lucas, Clark, Georgellis, & Diener, 2004). In addition, Cunningham (1988) found that inducing a positive mood led participants to become more talkative and more self-disclosing, while children induced with positive moods also displayed better social skills and higher self-confidence (Kazdin, Esveltd-Dawson, & Matson, 1982).

The bulk of the research has demonstrated that individuals high in SWB function better in various domains from health, to social relationships. Given the benefits of SWB on individuals and societies, subjective well-being is therefore not only a private affair involving the individual but should also be a public affair because it is in the best interests of governments and organizations to ensure that their constituents are doing well.

### **Indicators of Subjective Well-being are Easy and Inexpensive to Implement**

National statistics are often computed by government statistical agencies. As a result, national statistics often contain higher quality information since only governments and big organizations like Gallup could devote the resources needed to ensure large and representative sample sizes, high response rates, and the ability to collect the data over a long period of time. For example, in 2012, the Gallup opinion surveys cost the company \$10 million a year and generates little to no revenue (Boudway, 2012). At the national level, the 2010 Census in the United States cost taxpayers \$13 billion (The Economist, 2011), while the 2011 Census in Australia cost the nation \$440 million (Australian Bureau of Statistics, 2011). Obviously, a lot of resources has been and continues to be devoted to collecting national statistics. In addition, the cost of conducting the US Census has been increasing exponentially over the years, from \$12 million for the 1900 US Census to \$4.5 billion for the 2000 US Census (Gauthier, 2002). With the burgeoning cost of

collecting national statistics, critics may be concerned that incorporating indicators of SWB into national statistics will incur further cost that outweighs the benefits of including these indicators.

While it is not yet possible to evaluate the cost and benefits of including indicators of SWB into national statistics, it seems unlikely that it would be exorbitantly expensive for governments and organizations to include indicators of SWB in their survey. Indicators of SWB are often self-report measures where we ask participants to report their satisfaction using a one to seven scale (Diener et al., 2009; Smith & Mackie, 2015). Such measures are often easily administered verbally or on pen and paper, and can often be completed within a short period of time. Therefore, governments and organizations that opt to include such measures into their surveys should not experience much difficulty incorporating the measures into the survey and neither should they report a significant increase in time taken to administer the survey. Given the relatively low cost in collating indicators of SWB and the potentially valuable information that governments and organizations could derive, governments and organizations should thus consider implementing indicators of SWB in their surveys.

### **Summary**

There are multiple reasons for incorporating indicators of SWB into national accounts. First, people believe that SWB is important, and strongly value SWB (Diener et al., 1998). Second, current social and economic indicators omit important characteristics that are important to quality of life (Diener & Seligman, 2004). Third, SWB has beneficial outcomes for both individuals and societies (Diener et al., 2015). Fourth, it is easy to implement indicators of SWB in national outcomes with little cost (Diener et al., 2009).

Although we have highlighted the limitations of social and economic indicators, we do not believe that these indicators are problematic, or should be ignored. Neither are we suggesting that indicators of SWB are better than social and economic indicators. Social and economic indicators obviously provide governments and organizations with useful and important information about their constituents, and we do not believe that indicators of SWB are in competition with social and economic indicators. Instead, social, economic, and SWB indicators should be seen as complementary measures that work in tandem to provide us with a better understanding of a nation's well-being. When considered together, these indicators allow us to better predict a nation's well-being and enable policy makers to enact more effective policies that work for the better of society.

## **What Types of Policies Could**

### **Subjective Well-being Measures Influence?**

Indicators of SWB provide us with a broad understanding of the factors contributing to a person's or a society's well-being. However, national accounts are produced not only for descriptive purposes but more importantly, are used to meet the needs of policy makers in planning and assessing the impact of policy decisions. In this section, we review the type of policies that might be beneficial for well-being, and how indicators of SWB could assist policy makers with policy decisions. In many of these areas we review, there is only preliminary evidence, thus we are not suggesting that that policy makers should base their policy decisions on the research we present. Instead, these are just some of the policy recommendations that we could envision, and further research will be required to provide evidence for the effectiveness and validity of these policy alternatives.

#### **Economic**

Researchers have found a robust, albeit complicated, relationship between income and SWB. There is consistent evidence that rising income is often accompanied by rising SWB (Diener, Tay, & Oishi, 2013; Gardner & Oswald, 2007). However, researchers have also observed satiation points and a declining marginal utility of income on SWB, indicating that money is not everything (Diener, Sandvik, Seidlitz, & Diener, 1993; Jebb, Tay, Diener, & Oishi, 2016). These findings present alternative methods for measuring cost of living indexes and are useful for policy makers in policy areas relating to wage distributions. For example, when deciding upon an appropriate minimum wage, policy makers often rely solely on economic measures that take into account the cost of housing, transportation, and other services essential to survival. Instead of relying exclusively on economic measures, however, policy makers can also take into account the income satiation points of SWB – levels of income where SWB does not increase further and determine an appropriate minimum wage. Doing so will ensure that characteristics not captured by economic measures (e.g., child care, housework), will be taken into account, and given an appropriate weightage.

Unemployment is another area where SWB measures could influence policy. Lucas et al. (2004) found that unemployment is detrimental to SWB such that life satisfaction does not fully return to pre-

unemployment levels even after people were re-employed (Clark, Georgellis, & Sanfey, 2001). Furthermore, a longitudinal study examining a nationally representative sample in the United States between 2008 to 2011 found that unemployment rate was significantly associated with job dissatisfaction over time (Tay & Harter, 2013). Even though unemployment is detrimental to SWB, there is evidence that the negative effects of unemployment could be alleviated by welfare policies such as income security, employment programs, and regulations that protect workers (Easterlin & Switek, 2014; Radcliff, 2013). Besides providing policy makers with such information on which to base policies upon, policy makers could also derive value estimates using SWB measures, and weigh the trade-offs between two competing policies alternatives.

Besides governments, organizations and businesses could also use subjective well-being findings to design policies for workplaces. Research examining well-being in the workplace has found several features that are conducive to employee's well-being. For example, a workplace that has strong social support among employees is strongly associated with higher employee well-being (Humphrey, Nahrgang, & Morgeson, 2007), while having a supervisor who is friendly and communicates clearly is also associated with higher workplace well-being (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). These results suggest that organizations and businesses could have a direct influence on their employee's well-being. For example, by being more mindful in their hiring processes, organizations could foster a work environment that is conducive to employee's well-being, which in turn spurs job productivity and increases profits.

Interestingly, some corporations already seem to understand that insuring employee's well-being is the key to increased productivity and profit. In companies like Google, Facebook, and Airbnb, it is common to find workplaces equipped with gyms, a cafeteria with restaurant quality dishes, and amenities like a nap room, massage therapists, and even a playground equipped with slides and swings. Although it is commendable that companies are placing so much effort in insuring employee's well-being, we question if such initiatives are actually improving employee's well-being since there have been no studies examining the effectiveness of such initiatives. Companies looking to evaluate the effectiveness of their initiatives could consider incorporating indicators of SWB into employee's evaluations, allowing companies to determine the effectiveness of such initiatives.

### **Environmental**

People living in a clean and green environment often report higher SWB (Bird, 2007). For example, a survey involving 10,000 individuals found that individuals living in urban areas with more green space reported higher well-being and lower mental distress (White, Alcock, Wheeler, & Depledge, 2013). In another study, participants who were instructed to take a walk along a nature reserve experienced an increased in positive affect compared to participants who walked along an urban path (Hartig, Evans, Jamner, Davis, & Gärling, 2003), a finding that was replicated by MacKerron and Mourato (2013), who tracked participants using GPS locations to determine whether participants were in an and urban area, or in an area surrounded by nature. These studies have implications for a wide variety of public policies. For example, policy makers may want to consider providing more parks and green spaces within urban environments or even attempt to increase the amount of greenery found along streets. Wider implications include revising zoning laws and zoning areas to account for the benefits of green spaces.

Indicators of SWB could also be used to evaluate the negative effects of air pollution. When trying to evaluate the cost of air pollution on society, we currently depend almost exclusively on economic indicators, measuring the cost of medical care incurred as well as the cost to repair the damage that has been done. Alternatively, we could consider using indicators of SWB and quantify the extent of the damage done by referencing the drop in SWB reported by regions affected by the pollution. For example, Luechinger (2009) examined, over a period of time, people living upwind or downwind from power plants which were scheduled to have scrubbers (which removes a majority of the pollutants from the effluent) installed. He found that people living downwind from the power plants report higher life satisfaction after the installation of the scrubbers, whereas people living upwind from the power plants did not report a change in life satisfaction, demonstrating that efforts to remedy pollution can be effective in improving SWB. Indeed, we still cannot accurately quantify levels of SWB in monetary terms, however as indicators of SWB becomes widespread, improved methodologies will also develop in tandem such that such conversions may be possible.

An increase in urbanization around the world is associated with an increase in transportation and commuting concerns as more people flock towards the suburbs and must commute to work. A large amount of evidence now shows that long commutes tend to be detrimental to people's SWB. For example, Stutzer and Frey (2008) found that people with long commutes reported lower life satisfaction than people with short commutes. Schwarz, Kahneman, and Xu (2008) also found that among a variety of different activities, people reported lowest affect balance scores during commutes. Furthermore, the negative effects

of commuting do not appear to be limited to people who commute using private transport. Evans and Wener (2006) demonstrated that New York rail commuters who had long commutes also reported higher stress and had higher levels of cortisol on commuting days. Given that commuting is detrimental to well-being, policy makers may need to re-evaluate the premise of working in a physical office, and consider alternative work arrangements such as telecommuting, or flexible working hours such that employees could avoid long commutes. Policy makers may also need to consider policies that could reduce the length of commutes, or improve the experiences of commuting. Regardless of the policies being debated, indicators of SWB will be able to assist policy makers in making informed decisions.

## **Health**

As people live healthier and longer, health organizations have also shifted their focus away from prolonging life and towards improving quality of life (Kurth, 2005). Diseases and illnesses inflict misery and ill-being onto the patient. Therefore, modern nations often spend vast amounts of money on disease treatment and prevention, in hope that proper treatment could alleviate patients' ill-being. Unfortunately, nations rarely have enough resources to meet the demand for healthcare. Thus, nations often need to ration healthcare spending through various means (Dolan, 2007). For example, governments will need to decide which diseases and illnesses they should focus their attention on, which will inform their decision for the allocation of funds. Currently, policy makers often based their decisions on two criteria – the seriousness of the disease or the likelihood that treatment of the disease could ease suffering. However, policy makers could also use indicators of SWB as part of the evaluative process. For example, Dolan (2008) suggested examining the SWB of patients who are suffering the disease and use their reports to calculate Happiness Adjusted Life Years (HALY), a measure that is similar to the Quality Adjusted Life Years. Policy makers can then use this information to make an informed decision. As a further advantage, because measures like HALY are calculated independent of the disease symptoms that vary across illnesses, these measures could be used as a common metric, allowing policy makers to make comparisons across illnesses.

Besides physical health, indicators of SWB could also be used to monitor the mental health of societies, and in particular, of youth and children. Monitoring the mental health of the young is important because mental health problems have direct consequences for the well-being of children. Not only is suicide the third leading cause of death among youth in the United States (Spencer, 2006), anxiety disorders also predict dropping out of school (Kessler, Foster, Saunders, & Stang, 1995), while depression predicted a decrease in educational achievements like school performance (Asarnow et al., 2005). The goal of monitoring the mental health of young and old alike is to identify people who are suffering from ill-being and in need of professional help. If such programs were linked to treatments, then it is easy to imagine that such initiatives could prevent behavioral and psychological problems in the long run. To monitor the health of children, policy makers could, for example, evaluate the mental health and well-being of students as part of their health assessment in schools. Besides evaluating students' mental health, these reports of well-being could also be used as indicators of educational performance. Many governments spend large amounts of money assessing the academic progress of children through standardized testing. However, governments seldom assess whether students enjoy school, or whether they are actively engaged with the material. Indicators of SWB could fulfill this role. By asking students about their well-being in school, policy makers will be able to evaluate the effectiveness of the educational system and identify areas that need improvement.

## **Social**

Social capital, as a resource, is often defined as the quality of social networks within a community. Societies with strong social capital are characterized by high levels of civic participant, high levels of trust, and with strong norms for reciprocity (Putnam, 1993). Social capital is positively associated with SWB at both the individual and societal levels (Putnam, 2001). Individuals reported higher SWB not only when their own levels of social capital were higher, but also when the level of social capital of the community they were residing within was higher. The positive relationship between social capital and SWB was also replicated in a cross-national sample (Helliwell, 2006). Given the time and effort required to build social bonds, changes in social capital often do not occur immediately. Thus, policy makers interested in evaluating the short-term effectiveness of policies intended to increase social capital could use indicators of SWB as effective proxies. For example, social capital could be increased by initiatives to increase social interaction. Policy makers build communal areas (e.g., resident centers, parks) within neighborhoods; encourage residential architectural designs that allow greater neighbor interaction, or even organize frequent town meetings or events that bring residents together. In the long run, these initiatives could result in an increase in social capital, but indicators of SWB could be used in the interim to evaluate the effectiveness of such initiatives.

As the urban population continues to grow, indicators of SWB could also be used to assist city

planners in evaluating the aspects of a city that contributes to well-being. For example, Kansas City, Missouri, conducted a survey of its citizens in 2006, examining their well-being and satisfaction with city facilities and services. Results indicated that the residents of Kansas City did not report high levels of well-being and were not satisfied with the facilities and services provided by the city. More importantly, administrators in Kansas City were also able to determine which facilities or services Kansas City residents were most dissatisfied with, and could then take steps to improve the situation. While administrators would be able to infer that residents were generally not satisfied with the facilities and services provided by the city using economic or social indicators, they would have a harder time pinpointing the specific areas for improvement using economic or social indicators.

## **Characteristics of Nations High in Subjective Well-Being**

Nations high in subjective well-being often demonstrate several characteristics (see Oishi, 2012 for a review). First, nations high in SWB are often developed nations with relatively high wealth and national income (Diener, Kahneman, Tov, & Arora, 2010). Second, nations high in SWB are often low in corruption (Tay, Herian, & Diener, 2014), and have efficient, effective governments (Helliwell, Huang, Grover, & Wang, 2014) that emphasizes a strong rule of law (Diener, Diener, & Diener, 1995), a strong emphasis on protecting human rights, and are often low in corruption. Third, nations high in SWB have progressive tax structures (Oishi, Schimmack, & Diener, 2012) as well as income and employment security programs that protect the less privileged (Di Tella, MacCulloch, & Oswald, 2003; Easterlin & Switek, 2014; Radcliff, 2013). Initial evidence also suggest that places high in SWB are also healthier (Lawless & Lucas, 2011), have better healthcare coverage (Boarini, Comola, de Keulenaer, Manchin, & Smith, 2013), and are often greener (White et al., 2013), although further research is required to determine if the relationship holds at the national level.

A nation that exemplifies almost all of the characteristics of a society high in SWB is Denmark. Not only are Danes frequently ranked among the happiest people in the world (Helliwell & Sachs, 2017), Danes enjoy a high standard of living, and Denmark often rank among the highest in cross-national rankings of performances. For example, Denmark is ranked fifth in the Human Development Index, which takes into account indicators such as life expectancy, education attainment, and GDP per capita (United Nations Development Programme, 2016). Denmark also rank among the highest in the Democracy Index (Economist Intelligence Unit, 2016), an index that measures the state of democracy in a country by taking into account various important indicators of democracy such as the protection of civil liberties, whether the nation has democratic electoral processes, and the extent of political participation in a nation. Among the nations surveyed, Denmark also has one of the highest per capita income (World Bank, 2016a); the highest social mobility (Causa & Johansson, 2010), a high level of income equality (World Bank, 2016b), the lowest perceived levels of corruption (Transparency International, 2016), and one of the highest personal income tax rates (KPMG, 2016).

Denmark also ranks highest in the world for workers' rights and strong employment security programs (International Trade Union Confederation, 2014). Denmark also has a universal healthcare system, ensuring that almost all health care provision is free for Danes. In addition, Denmark is a very environmentally conscious nation, relying on wind power to provide 42% of the nation's electricity. Unsurprisingly, Denmark also ranks among the highest in the Environmental Performance Index, which measures how well individual countries implement the United Nations' Sustainable Development Goals (Yale University, 2016).

Costa Rica is another nation that reports high SWB despite its' poor GDP per capita earnings. Costa Ricans are also frequently ranked among the happiest people in the world (Helliwell & Sachs, 2017), despite being a developing country, with a 2015 GDP per capita of only US\$10,630 (World Bank, 2016a). In contrast, Denmark had a GDP per capital of US\$52,000 in 2015. In the 2017 World Happiness Report, Costa Rica was ranked 12<sup>th</sup> among the nations surveyed, the highest among the nations surveyed in the Americas (Helliwell & Sachs, 2017). The country has consistently performed well in the Human Development Index, ranking 66<sup>th</sup> among the nations surveyed in the 2016 Human Development Index, the highest among the Latin American nations (United Nations Development Programme, 2016). The United Nations Development Programme (UNDP) also found that Costa Rica attained higher human development standards compared to other countries at the same income levels (United Nations Development Programme, 2016).

Similar to Denmark, Costa Rica also employs a universal healthcare system and is also an environmentally progressive nation. In 2015, it is the only country to meet all criteria established by the UNDP to measure environmental sustainability (United Nations Development Programme, 2015). It was



also ranked 42<sup>nd</sup> in the 2016 Environmental Performance Index, only outranked by the USA and Canada among the Americas nations surveyed (Yale University, 2016). Despite a lagging economy, Costa Rica has a literacy rate of 96.3%, one of the highest in Latin America, and a high-quality education system, ranking 52<sup>nd</sup> in the 2016 Global Competitiveness Report, 3<sup>rd</sup> among the Latin American Countries (World Economic Forum, 2016).

Besides differences of SWB between nations, there are also significant differences in SWB within nation. The United States overall reports pretty high SWB. However, using data the Gallup-Healthways Daily Well-being Index, we also found significant differences in SWB between zip codes. For example, residents living in Delaplane, Virginia are mostly white, middle-aged, report a median household income of US\$124,141, and do not attend church regularly. They report experiencing high SWB. In contrast, residents living in Port Murray, New Jersey report similar demographic indicators, but often report experiencing low SWB. Meanwhile, residents living in Denmark, South Carolina are majority black, young adults earning a median household income of US\$21,026 who attend church regularly, yet they report experiencing high SWB. This example illustrates that although cross-national indicators are useful, we should also not assume that national accounts of well-being are adequate in describing the well-being of everyone living in the nation. Instead, the well-being of citizens living in different regions of a nation could differ drastically, and indicators of SWB should be used to identify within nations differences too.

## **Progress on National Accounts of SWB**

Diener (2000) first proposed that nations should adopt national accounts of well-being to complement economic and social indicators. Since then, there has been significant discussion and refinement of the idea among academics and scientists. For example, Diener and Seligman (2004) published the influential article “Beyond Money: Towards an Economy of Well-being”, also arguing that economic indicators are insufficient to reflect the quality of life in societies. Then, Diener (2005) published a set of broad guidelines for measuring and implementing national accounts of well-being. From 2005 to 2007, Diener coordinated a program at the University of Pennsylvania to discuss and further refine the ideas of national accounts of well-being with psychologists, philosophers, economists, and policymakers. Subsequently, Diener et al. (2009) authored a volume presenting the reasons for national accounts of well-being, and provided examples of policies that SWB measures could influence. Diener et al. (2015) then published a follow-up to Diener (2000), reviewing the significant progress that has occurred within the last fifteen years regarding the acceptance and implementation of national accounts of SWB by policymakers. Smith and Mackie (2015) also outlined how national statistical offices could measure SWB measures, and how SWB measures could guide policy.

As Diener et al. (2015) reviewed, there has been significant acceptance of the idea that national accounts of SWB are beneficial to nations and organizations. For example, Diener presented findings on SWB to the World Bank in 2003, to the United Nations Development Program in 2008, and again to the World Government Summit in 2016, a meeting that was attended by government representatives from 130 nations. In addition, the 2009 report of the Commission of the Measurement of Economic Performance and Social Progress (Stiglitz, Sen, & Fitoussi, 2009) recommended that government population surveys should measure people’s well-being.

In 2012, the UN General Assembly adopted resolution 65/309, affirming that economic measures alone do not adequately reflect the well-being of people, and broader measures of well-being should be considered. In 2013, the National Academy of Sciences of the USA issued a positive review of well-being measures. In the same year, the Organization for Economic Cooperation and Development (OECD), which assist in the coordination and collection of statistics across nations, also published a positive discussion of SWB measures and their uses in policymaking.

Not only has there been significant acceptance of the idea that national accounts of well-being are beneficial, there has also been significant implementation of national accounts of well-being across different nations. For example, in 2010, the prime minister of the United Kingdom announced that the UK would measure SWB to assist policy decisions. In addition, Bhutan also conducted the first measurement of the Gross National Happiness Index (GNH) the same year. The GNH is an index used to measure the collective happiness of a nation. Furthermore, the United Nations Development Program also published a report of SWB in nations around the world in 2010. To date, over forty nations have assessed SWB in surveys conducted by the government or international organizations. Australia, Germany, Switzerland, and the UK also have large ongoing longitudinal panel studies that examine well-being (Diener et al., 2009). International organizations like Gallup also assess well-being through the Gallup World Poll as well as the Gallup-Healthways Index of Well-being.

Besides implementing national accounts of well-being, several nations have also appointed government officials to monitor and enhance the well-being of their citizens. For example, the United Arab Emirates (UAE) has a Minister of State for Happiness, whose main role is to institute programs that enhance the well-being of people living in the UAE. Ecuador also has a Minister of Good Living, who occupies a post similar to that of UAE's Minister of Happiness. As part of her goal to enhance the well-being of people living in the UAE, Her Excellency Ohood Al Roumi has recently implemented a 100-day program of positivity in schools, where children learn about and practice positive interactions with others. In addition, the UAE also collaborated with the University of Pennsylvania's Positive Psychology Center to create the Happiness & Positivity Program for the Private Sector, which aims to equip UAE private sector employees with intuitive and practical skills to become the drivers of happiness and positivity in their respective organizations.

## **Some Objections Answered**

Some skeptics have argued that well-being is an individual's affair, and governments should not interfere with such a personal issue by telling people how they should live. This objection disregards the fact that governments already intervene in numerous aspects of their citizens' lives through taxes, laws and other policies. Furthermore, there are legitimate consequences of well-being beyond the individual level that allow us to question whether well-being is only an individual concern. Besides the societal benefits of well-being that we reviewed earlier, there is also evidence that an individual's well-being (or ill-being) can influence the well-being of people around them. For example, caregivers who were caring for family members suffering from medical illnesses often report low levels of well-being and are often found to have a higher risk for depression (Hooley, Butler, & Howlett, 2005; Visser-Meily et al., 2005). Moreover, what has been perceived as private and beyond the interference of governments has varied over the years. For example, the choice to smoke was once thought to be an individuals' affair as well. However, as increasing evidence suggests that smoking is detrimental not only to the individual, but to society as well, the perception that smoking is an individual choice also begun to fade, and governments now often institute policies to discourage smoking.

Another common objection raised against accounts of well-being has been that well-being is nothing more than hedonism, the pursuit of pleasure and self-indulgence. Thus, striving for high well-being is a luxury and not a basic need. This criticism is a misconception because a plethora of research has demonstrated that high SWB is associated with positive outcomes. For example, SWB is substantially increased when basic needs of citizens are met (Tay & Diener, 2011) and when gains in economic resources are allocated to meeting the basic needs of people (Diener et al., 2013). Other than the outcomes observed for health, social relationships, and other achievement-related outcomes that we previously reviewed, high SWB is also beneficial for being prosocial, organizational citizenship, work performance and business productivity (Tenney et al., 2016). For example, higher SWB is associated with volunteering more (Oishi, Diener, & Lucas, 2007), more frequent blood donations (Priller & Schupp, 2011). People high in positive affect also reported being more creative (Johnson, Waugh, & Fredrickson, 2010), and lower job turnover (Griffeth, Hom, & Gaertner, 2000).

## **Conclusions**

Economic and social indicators have long dominated national accounts. However, these indicators have limitations and large blind spots, often omitting important characteristics that contribute to quality of life. Therefore, indicators of SWB should be incorporated into national accounts, not to replace existing economic and social indicators, but to complement them. By including indicators of SWB into national accounts, we broaden the information available to policy makers and enable them to design more effective policies that improve the lives of their constituents.

Since Diener (2000) first proposed the use of national accounts of SWB, there has been significant acceptance and implementation of the idea by governments, organizations, and behavioral scientists alike. Several nations now have parliamentary members overseeing initiatives to ensure the well-being of their citizens. Over forty nations have assessed SWB in the surveys they conduct, and behavioral scientists have also begun to analyze these data to determine the policy implications of specific research findings. Going forward, we hope to convince more nations of the benefits in measuring SWB in national statistics and for more collaboration between policy makers and scientists to examine the implications of research findings on public policy. In particular, more evidence is required to confirm the hypothesis that adoption of national accounts of SWB is beneficial for citizens' well-being both in the short and long term.

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