



Theoretical Foundations to outline Human Well-being: Metaanalytic Literature Review for defining Empowered Life Years

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Abstract

Aim: This paper reviews existing theories and current approaches to defining human well-being in order to propose the dimensions and properties of indicators appropriate for measuring human well-being. It is part of the ongoing project Empowered Life Years (ELY) as Sustainable Human Well-being Criterion which was recently approved as an Advanced Grant by the European Research Council (ERC).

Problem: Current studies on human well-being tend to emphasise quantitative indicators such as Gross Domestic Product (GDP), the Human Development Index (HDI), and most recently, the United Nations (UN) Sustainable Development Goals (SDGs), which consist of a set of 230 indicators to monitor the 169 targets specified. While this abundance of indicators may provide reasonable coverage of different aspects of long-term human well-being, a rationale for prioritization and suitable conversion mechanisms to capture the sustainability criterion remain elusive.

Approach: We use *narrative research synthesis* to analyse 1,050 academic articles published in 2017 on ‘*well-being indicators*’. We highlight seven theories and 10 indicators of well-being that emerged from the literature and provide a brief discussion of these theories and indicators. The theories of well-being identified include subjective well-being theory, psychological well-being theory, social well-being theory, self-determination theory, positive psychology, quality of life theory and welfare or economic well-being theory. The indicators of well-being include life satisfaction, health, education, financial, social capital, community, time use, government policy, ecology, and religion factors. We also discuss circumstances that affect well-being, including age, gender, culture, and technology development. Finally, we provide a brief overview of well-being around the world.

Limitation: The full reliance on literature is the primary weakness of the paper. An empirical study is needed to prove the applicability of the dimensions and influencing indicators being proposed.

Significance: The key findings of the literature review highlight the interdisciplinary approach needed to support the ELY.

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Theoretical Foundations to outline Human Well-being: Meta-analytic Literature Review for defining Empowered Life Years

Anastasia Aldelina Lijadi

1 Introduction

What is well-being? Definitions of well-being vary and many terms are used to determine well-being, such as welfare, individual well-being, subjective well-being, happiness, quality of life, life satisfaction, etc. Ed Diener, 30 years pioneer in well-being studies, defined well-being as a broad umbrella term that refers to all different forms of evaluating one's life or emotional experience, such as life satisfaction, positive affect, and low negative affect (Diener 1984a; Diener et al. 1999; Lyubomirsky et al. 2005). A contrasting view on well-being is that well-being refers to a quantitative assessment of an individual's daily living conditions in order to determine whether or not they have the capabilities and opportunities to live a good life in a particular community or country (Dasgupta 1993; Helliwell et al. 2009; Kahneman 2003; Kahneman & Krueger 2006; Layard 2010). Some recent views of well-being are more holistic and contextualised, reflecting meaningful and sustainable interactions between an individual and their social and physical environment (Knoop & Delle-Fave 2013).

Over the past 50 years, a number of institutions and researchers around the world have developed human well-being indices for the purposes of supporting governments on developing new policy to improve the life of the people, and instigating agreement in defining what is important for further quality of life development. The indices can further educate and advocate on differences of quality of life indicators for specific countries, and facilitate and expand further research on well-being (McLean 2017). Such indices include the Better Life Index by the Organisation for Economic Co-operation and Development (OECD), Ecological Footprint (EF), the Global Well-Being Index (GWI), the Happy Planet Index (HPI), the Human Development Index (HDI), the Sustainable Society Index (SSI), etc. (McLean 2017; Strezov et al. 2017). After heavy criticism of GDP as an indicator of human development and well-being (Stiglitz et al. 2009); the majority of indices today look beyond the measurement of GDP/national income and pay more attention to a range of social issues, such as social capital, governance and ecological issue (Döpke et al. 2017; Menegaki & Tugcu 2017; Michalos 2017).

Sirgy et al. (2017) explain that these indices tend to be linked in a system of inputs and outputs. Outputs conventionally are viewed as data that show outcomes—subjective as well as objective outcomes that represent both needs satisfaction and level of experienced personal happiness. Inputs, Sirgy et al. (2017) further explicate, reflect the efforts that are required to make specific outcomes possible for a given country, e.g., providing generous health care; improving national defence; inviting foreign investments, building technologies such as communications and transportation infrastructure; ensuring civil rights, justice, gender equalities, protecting environment, etc.

While each of these indices cover different aspects that matter for human well-being, Veneri & Edzes (2017) from OECD urge scientists worldwide to improve the measurement of well-being:

‘to focus on people (i.e. individuals and households), rather than on the wide economic system; to acknowledge the multidimensional nature of well-being, which requires coverage of many aspects that are important for people's lives; to account for the distribution of well-being outcomes across all social groups, rather than focusing on simple averages; and to reconcile the objective measures of well-being with those based on individual perceptions, which reflect how people actually experience and assess their life circumstances.’ (Veneri & Edzes 2017))

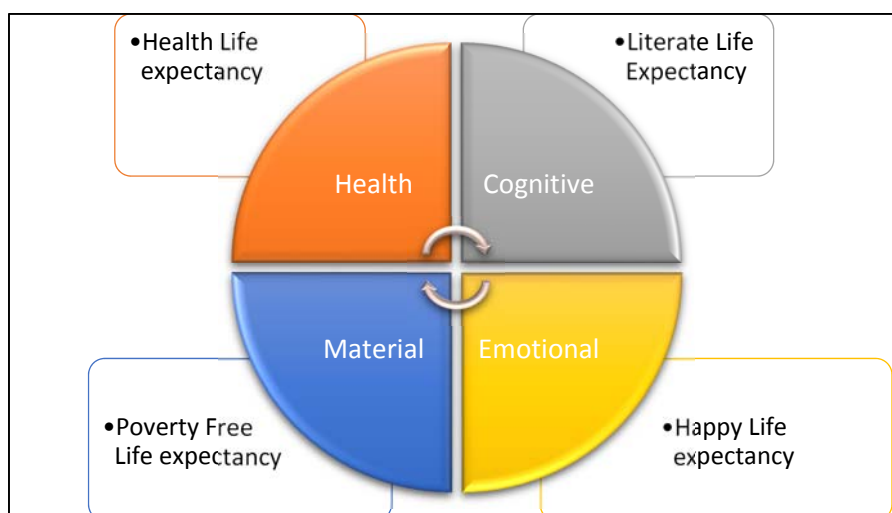
Böhringer & Jochem (2007) scrutinized 11 indices, including HDI and Ecological Footprint (EF), and found that – although most of the indices are imputed to be concise and transparent – they fail to meet fundamental scientific requirements, in particular, scientific rules for aggregation of indicators towards composite indices are not taken into account. Cautions are to be taken into account as some indices oversimplify a very complex reality that cannot be captured in a single index. Moreover, the methodologies used to construct these indices and assessments are not always transparent (Strezov et al. 2017). Critiques range from the choice of indicators used, to the issue of collinearity amongst indicators, the weights assigned to different categories and the quality of data used to construct the index (Holden et al. 2017). Moreover, whether it is appropriate and desirable to use the same methodology for industrial and developing countries, when both groups of countries have distinct characteristics and place different weights on specific issues, is still up for debate (Holden et al. 2017; McLean 2017; Rodríguez-Rosa et al. 2017). The Research Group in Community Psychology, Brazil (Sarriera & Bedin 2017) pointed out that well-being should include the dimensions of subjective, psychological, psychosocial and socio-community well-being; and ideally also capture the differences in age, gender, sub-population in different city or region.

The current project, the Empowered Life Years (ELY) as Sustainable Human Well-being Criterion Project, aims to define comprehensive indicators that can be measured directly for individuals and, when measured over time, can be used as the criterion for determining whether or not development is sustainable. The Empowered Life Years indicators are constructed on the view that being alive is a prerequisite for any quality of life, but also that mere survival is not enough. Hence, individual years in a life table will only be counted as ‘empowered’ if the individual is above a threshold in four dimensions: being in good health (being physically well), being out of poverty (having one’s basic material needs met), being able to read and write (being cognitively fit), and being in the upper categories of subjective well-being. The indicators will be assessed with respect to the following properties: (1) they should be based on characteristics of people that can be flexibly aggregated to sub-populations; (2) they should have a meaning in their absolute value in order to make them comparable over time and across sub-populations; (3) they should be fit for serving as the dependent variable in a regression model/“production function”; and (4) they should have a substantive interpretation in terms of some real life analogy rather than just being an abstract index.

At the preliminary stage, the four ‘families’ or dimensions of indicators of ELY are presented in Figure 1. Technically, each indicator will be calculated by weighting in a life table the age-specific person years lived with age-specific proportions of men and women who have certain chosen features of ‘empowerment’ and will be estimated empirically for time series of as many populations in the world as possible. It will build on and further extend the existing work on “Healthy Life Expectancy” (Salomon et al. 2012), to provide a more holistic representation of well-being over the life span as

captured by the notion of ‘empowered’ life expectancy. Since functional literacy (which is not identical with having attended school and can decline as a function of old age disability) may be viewed as one of the basic prerequisite for sustainable human well-being, “Literate Life Expectancy” will be calculated as one dimension of ELY and refers to the number of years a man or woman is expected to be alive and be able to read and write. “Poverty Free Life Expectancy” will measure the economic aspects of well-being by weighting with age-specific proportions not in poverty according to both absolute and relative measures of poverty; and “Happy Life Expectancy” will be measured by weighting the person years at each age with the proportions stating in surveys that “all things viewed together” they are happy. Whether these four indicators proposed are the right ingredients for ELY project, is yet to be determined by a series of smaller simultaneous studies.

Figure 1. Empowered Life Years (ELY) – criterion for sustainable human well-being



This working paper serves as a preliminary effort to review the vast literature on well-being indicators and develop a theoretical framework to support the proposed ELY indicators. Recent years have seen rapid growth in research on well-being, with an average of 14,000 publications a year on the topic (see also Diener et al. 2017). The growing literature from diverse scholars – ranging from cross-cultural differences in what causes well-being to developmental trajectories of well-being over the life course – provides us with insights to capture the quality of life in societies that go beyond economic indicators and point toward guidelines that can enhance societal well-being around the world.

2 Methodology

A comprehensive but non-systematic literature review was conducted of current research studies (up to and including research published in 2017), using the popular search engine Google Scholar as well as the IIASA library to search for the key words ‘well-being indicators’. We selected English language peer-reviewed publications on theory and research with adult participants. Our literature search resulted in 1,050 hits. We employed narrative research synthesis (Cooper et al. 2009; Schucan Bird & Tripney 2011), a method

of literature review which aims to assemble an inventory of ‘what we do know’, ‘what we don’t know’, and ‘what we want to know’ (Veenhoven 2011). We employed a thematic analysis approach to focus on specific instead of the universal themes and patterns within the articles. The initial analysis involved checking the appropriateness of the articles (i.e., topic specific, adult participants research, peer review article). The findings from our respective analyses were discussed by the ELY team, comprising of one principle investigator, five collaborators and myself.

Based on our narrative research synthesis, seven theories and 10 indicators of well-being emerged from the literature. The theories of well-being include Subjective Well-being Theory, psychological well-being theory, social well-being theory, self-determination theory, positive psychology, quality of life theory, and welfare or economic well-being theory. The indicators of well-being include psychological/life satisfaction, health, education, financial, social, community, time use, government policy, ecology, and religion factors. We also found that the literature highlighted a number of circumstances that affect well-being, including age, gender, culture, and technology development. Finally, we were able to construct a brief overview of well-being around the world, based on our review.

In the following part of the paper, we present the results of our research synthesis review, organised into four sections: (1) Theories of human well-being; (2) Multi-dimensionality of human well-being, (3) Circumstances that influence well-being; (4) Well-being around the globe;

3 Findings

3.1 Theories of human well-being

Are you happy? Are you well? Is happiness equal to well-being? Happiness is a subjective evaluation on one’s affect of satisfaction with life dimension. Well-being, on the other hand, has a broader meaning than mere affect; it includes one’s cognitive judgement with satisfaction in overall life dimension (Carlquist et al. 2017). However, we found that in the literature, the term ‘happiness’ is used interchangeably with well-being.

Scientists are urged to be cautious on the abstruse meaning of “happiness”, as in different languages, the word “happiness” is understood through the lens of historically, culturally, and locally developed meaning systems (Carlquist et al. 2017; Lomas 2016). For example, some languages suggest that happiness is the idea of luck or good fortune (German, Norwegian, French, Korean, Russian, Japanese, Chinese); and others suggest intimate satisfaction of one’s desires or wishes, goals and enjoyable experiences (Italian, Portuguese, Spanish). In a cross cultural comparison of the concept of happiness, Oishi (2010) found that Americans associated happiness with an intense feeling and excitement, whereas Chinese people described it as “a calm, peaceful feeling and a sense of equilibrium”. Furthermore, Chinese people asserted that if happiness is gained from personal accomplishments, it is acceptable to express it; but if it is gained from luck and fortune, it is not acceptable to express it.

The word “well-being” also has different meanings in different languages. Lomas (2016) found 216 ‘untranslatable’ words pertaining to well-being, culled from across the world’s languages. He further organized the words into three categories: feelings

(comprising positive and complex feelings); relationships (comprising intimacy and pro-sociality) and character (comprising personal resources and spirituality) to enrich our understanding of cultural differences in constructions of well-being.

The words ‘happiness’ and ‘life satisfaction’ are often used interchangeably too. However, studies show that people responded differently when asked to evaluate their happiness and their life satisfaction (Becchetti & Conzo 2017). Happiness has been thought of as consisting of at least two aspects: *hedonia* (pleasure) and *eudaimonia* (a life well-lived; (Waterman 2013). Hedonic conceptions of happiness refer to reaching life satisfaction by maximizing positive affect and minimizing negative affect. Eudaimonic conceptions, on the other hand, refer to having a purpose in life, a sense of autonomy, self-acceptance, connectedness, and a psychological sense of vitality (Ryan & Deci 2000; Ryan & Huta 2009; Ryff 2014a; Ryff & Singer 2008). The eudaimonic approach claims that human thought and action are not guided purely by maximizing pleasure. Instead, happiness is to be measured in terms of what people are able to be and do – involving the ability to access basic physical needs, to develop and realize their goals (i.e. pursuing family and social relationships, education, work, and other pursuits freely (Boffo et al. 2017). Neurobiologists show that there is a clear conceptual distinction between pleasure versus the engagement-meaning component in the brain function; however, hedonic and eudaimonic aspects empirically cohere together in happy people (Berridge & Kringelbach 2011; Berridge & Kringelbach 2015). The positive psychology movement (which will be reviewed briefly below) added a third component of happiness: engagement related to feelings of commitment and participation in life (Seligman & Csikszentmihalyi 2014; Seligman et al. 2005).

Economists, such as Easterlin (2006) and Layard (2010; 2011), employ a much broader concept of human well-being, beyond affect and satisfaction; they equate welfare with well-being, even though the effect of money on happiness in general is not large (Blanchflower & Oswald 2004; Clark & Oswald 1996; Diener & Oishi 2000; Popescu 2016). The economists claim that to achieve well-being; people learn to adapt and become habituated to their situation (Brickman et al. 1978; Clark & Georgellis 2013); and psychologists reassure that people is equipped with many strengths (Diener et al. 1999; Oksuzyan et al. 2010) and resilience (Seery et al. 2010) to adapt to their living conditions (see Biswas-Diener & Diener 2001; Diener et al. 2015; Diener & Oishi 2000).

Seven theories of well-being emerged in our review of the literature, which will be discussed briefly below.

3.1.1 Subjective Well-being (SWB)

Subjective Well-being (SWB) theory refers to individual’s dimensions of satisfaction judgement, pleasant emotion and moods (positive affect), and lack of unpleasant emotion and mood (negative affect; (Diener 1984b; Diener et al. 1985). Subjective well-being is understood to be the sum of cognitive and emotional evaluations of their lives ; whereas life satisfaction can be regarded as a more cognitive component of SWB as it refers to a cognitive judgmental process by which a person assesses her quality of life (Diener et al. 1999). On the other hand, happiness by maximizing positive affect and minimizing negative affect are regarded as an affective component of SWB (Lyubomirsky et al. 2005; Lyubomirsky et al. 2005).

Most studies use a single item scale to ask general evaluation using interchangeably the word “happy” or “satisfied”, such as “Taking your life in general as consideration ...would you consider yourself to be happy or satisfied?” (Alesina et al. 2004; Binswanger 2006; Brickman et al. 1978; Cuñado & Gracia 2011; Lyubomirsky et al. 2005; Pedersen & Schmidt 2011). There are ample studies, which have validated the single item Life Satisfaction scale (Diener et al. 1985) across countries, age and gender, for well-being measurements (Arrindell et al. 1999; Clench-Aas et al. 2011; Sachs 2001; Silva et al. 2015; Tomás et al. 2015). A recent publication from Latin America on validating the Satisfaction with Life Scale across countries, gender and age, support a single-factor structure as well as the internal consistency of the scale (Esnaola, et al, 2017).

Results from measuring SWB in many countries show that there is a positive correlation between SWB and the wealth of nations (including having more human rights, equality, freedom, low unemployment rate, effective government, less corruption; (Diener et al. 2015). Wealthier people tend to have higher SWB on average, and poorer people tend to have lower SWB. In countries with generous health care and healthier environment, people have higher subjective well-being (Diener et al. 2015).

3.1.2 The psychological component of well-being

The study of the psychological component of well-being is pioneered by Ryff (1989, 2014; Ryff & Keyes, 1995), who emphasises optimal psychological functioning for the development and self-realization of the individual. Ryff claims that happiness is a short-term affective well-being (hedonic approach); in order to achieve sustainable well-being, one needs to shift from satisfaction with life to a sense of meaning in life, and being true to one’s inner self (eudaimonic perspective). She proposes six multiple facets of psychological functioning, as follows:

1. Self-acceptance: the knowledge and acceptance of oneself, including awareness on personal limitations;
2. Positive relations: the depth of the connections with significant others;
3. Personal growth: the continued growth and development as a person;
4. Purpose in life: the pursuit of meaningful goals and a sense of purpose in life
5. Autonomy: a sense of autonomy in thought and action;
6. Environmental Mastery: the ability to manage complex environments to suit personal needs and values.

One criticism of Ryff’s theory is that it gives too much emphasis on environmental mastery, which refers to the power of human beings to modify and intervene to transform the environment, while neglecting the positive functionings, such as purposeful engagement in life, realization of personal talents and capacities, and enlightened self-knowledge. Ryff (2014b) revisited her theory and found that one important modality for sustainable well-being is resilience – the capacity to maintain or regain well-being in the face of hardship. Further, according to Ryff:

- High level of well-being is progressing parallel with the developmental tasks of adult life, although aging itself has been accompanied by declines in purpose in life and personal growth;
- Well-being changes as individuals negotiate challenges of adult life, such as social comparisons, community involvement, work and family life, parenting;

- Cultural differences on work and family influence well-being;
- Increasing of health protective features of psychological well-being in reducing risk for disease and promoting length of life.

3.1.3 Social Well-being Theory

Unconvinced with SWB and theories detailing the psychological component of well-being, Keyes (1998) introduced the dimension of social well-being, pointing out that well-being is “the appraisal of one’s circumstance and functioning in society. Individuals remain embedded in social structures and communities, and face countless social tasks and challenges, including:

1. Social integration: the evaluation of the quality of one’s relationship to the society and community;
2. Social acceptance: the construal of society through the character and qualities of the other people as generalized category (trust others, think that others are capable of kindness; a social counterpart to self-acceptance);
3. Social contribution: the evaluation of one’s social value (belief that one is a vital member of society with something to give to the world);
4. Social actualization: the evaluation of the potential and the trajectory of society (evolution of society and potential);
5. Social Coherence: the perception of the quality, organization and operation of the social world; includes a concern of knowing about the world.

Social Well-being theory can be applied to study individual’s capacity for adaptation and integration into the society, such as the case of migration, refugee or asylum seekers.

3.1.4 Self-Determination Theory

Ryan and Deci (2000) developed self-determination theory, which begins with the assumption that individuals possess autonomy, with an innate determination toward psychological growth and development, and strive to be competent in facing ongoing challenges and in integrating their experiences into a coherent sense of self. This natural human tendency requires ongoing support from the social environment toward active engagement and psychological growth.

A decade later, Ryan and Deci (2011) further improved their theory, incorporating modern conceptions of happiness, including hedonic and eudaimonic perspectives. They view happiness as a symptom rather than a prerequisite of well-being. Being a symptom, happiness is related to human capability for autonomous self-regulation. Using a self-determination framework, individuals from all cultures use their autonomy to satisfy basic psychological needs for competence and relatedness, and thus to attain psychological well-being and happiness. Ryan and Deci (2011) highlight that autonomous self-regulation is dependent on individuals’ personal / interpersonal relationships and distal (political, cultural, economic) supports. In supporting the universal need for autonomy in well-being, Yu et al. (2017) conducted a comparison study among 36 independent samples (22 from the US and 14 from East Asian samples including China and Japan) totalling 12,906 participants. The study showed a moderate correlation between autonomy and subjective well-being and the difference between correlations for studies conducted in the East and West was not significant. A study on the well-being of ageing

population also supports the self-determination theory's proposition that autonomy is a universal psychological need (Vanhove & Meriaux et al. 2017).

Figure 2. Social Determination Theory by Ryan and Deci (2002, 2008).

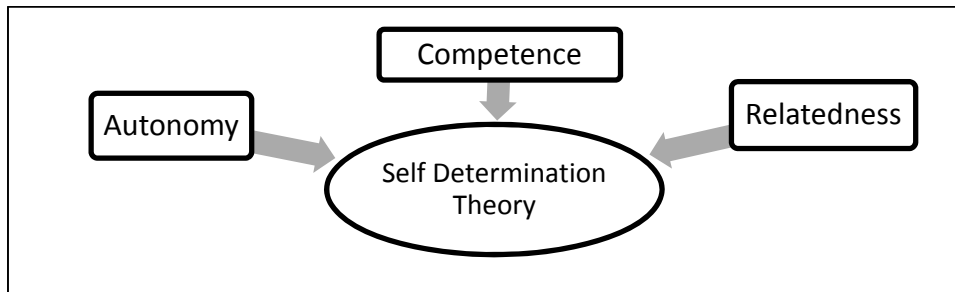


Figure 3. The PERMA model of Well-being, adapted from Seligman & Csikszentmihalyi (2014)



3.1.5 Positive Psychology

Positive psychology advances the study on well-being from a multilevel perspective, which includes positive experiences and enduring psychological traits at the individual level, positive relationships at the meso level, and positive institutions at the organization and macro level. In the words of Seligman (2002, p.3), “The aim of positive psychology is to catalyze a change in psychology from a preoccupation only with repairing the worst things in life to also building the best qualities in life”. Positive psychology promotes human flourishing, with a strong emphasis on prevention and health promotion, not merely the treating of mental illness. Happiness, starts with positive emotion, engagement and meaning. By including an analysis of relationships and achievements, they are then able to articulate a theory of wellbeing (see Figure 3, Seligman & Csikszentmihalyi 2014). In line with self-determination theory, positive psychology places responsibility on the individuals incorporating meaning to determine their own life.

3.1.6 Quality of Life Theory

Veenhoven (1994; 1999; 2006; 2014), a sociologist, has devoted three decades to studying quality of life. He conducted a seminal meta-analytic literature review and summarized it in The Quality of Life Matrix model (Figure 4), by looking into variants of potential quality of life: outer opportunities vs inner qualities of human being in two life domains: life chances and life results. The matrix shows different ways of looking at quality of life; once individuals make use of their outer opportunities and inner qualities, their quality of life can be seen in the life result domain. The result is the reflection of one’s appraisal of one’s environment and value for oneself.

1. Live-ability of the environment means good living conditions, a quality of society as a whole. Economists may refer to it as welfare; ecologists see live-ability in the natural environment and describe it in terms of global warming.
2. Life-ability of the person means inner life chances; how well we are equipped to cope with the problems with life. Psychologists may refer to this as self-efficacy or intelligence/potency or self-actualization; biologist refers to it as adaptive potential; medical perspective refers to this quality of life based on the absence of functional defects, such as physical and mental illness. Nussbaum and Sen (1993) introduced a similar concept called the Capability approach which stipulates that in order to achieve a quality of life, a person needs to have three factors: functioning (achievement of a person), freedom (range of choice & autonomy for judgment/measurement of quality of life) and conversion efficiency (ability of person to convert his/her resources into functioning's given his/her freedom; depends on individual, society and environment).
3. Utility of life is the external worth of life result. A good life is a meaningful life for others, such as contribution to the society, pro-social behaviour, environmentally friendly living, virtuous living, and is often presented as the essence of true happiness.
4. Appreciation of life is the inner appraisal of life result, or eminently worded as Subjective well-being, life satisfaction and happiness.

Figure 4. Four qualities of life Model, adapted from Veenhoven (2006)

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life chances</i>	<p>Live-ability of environment</p> <ul style="list-style-type: none"> • Ecological: Climate, clean air, housing • Social: Freedom, equality • Economical: Wealth, social security • Cultural, etc. 	<p>Life-ability of the person</p> <ul style="list-style-type: none"> • Physical health • Mental health • Knowledge • Skills: Intelligence, manner • Art of Living, etc.
<i>Life results</i>	<p>Usefulness of Life / Objective utility of life</p> <ul style="list-style-type: none"> • External Utility; For intimates: rearing children; For society: being a good citizen • Moral perfection: Authenticity, compassion, tolerance 	<p>Subjective appreciation of life</p> <ul style="list-style-type: none"> • Appraisal of life aspects: job Satisfaction • Prevailing moods: depression • Overall appraisals: Affective: General mood level; Cognitive: Contentment with life

Veenhoven's effort in compiling happiness studies can be found at The World Database of Happiness <<http://worlddatabaseofhappiness.eur.nl>>. The World Database of Happiness consists of publications from as early as 1975, which and is categorised according to: 1) The Bibliography of Happiness, which involves some 4000 publications, 2) a collection of acceptable Measures of Happiness that contains about 800 variants, 3) the collection of Happiness in Nations that list the distributional findings of some 3000 general population surveys in nations studies, 4) the collection of Happiness in Publics containing the results of some 3000 studies among particular categories within nations, and 5) The collection of Correlational findings, which involves some 11000 findings on covariates of happiness (Veenhoven 2009).

3.1.7 Economic and welfare theories of well-being

The economics of well-being gained popularity as a research field in the early 19th Century, when Alfred Marshall outlined Economics as a study of mankind in the ordinary business of life. The economics of well-being examines that part of individual and social action which is most closely connected with the attainment and with the use of material requisites of well-being. This definition regards economic welfare as a component of social welfare which can be measured in terms of money. Thus, national output was used widely to measure the well-being of the nation. While economic growth raises objective living conditions, it also raises the standards by which people judge their living conditions. Countries that have higher growth rates of satisfaction with finances typically have higher growth rates of overall life satisfaction ((Easterlin et al. 2010).

If financial satisfaction is closely linked to life satisfaction, as this result indicates, why doesn't subjective well-being improve with economic growth? Conventional approaches of measuring economic well-being by using economic indicators (i.e., real GDP growth) have many flaws; there is no consistent relationship between long-term economic growth and the growth rate of subjective well-being (Aaberge et al. 2000; Ballas & Tranmer 2012; Clark & Oswald 1996; De Neve et al. 2015). The Easterlin

Paradox theory explains that when certain economic growth achieved, its relationship to life satisfaction is no longer supported (Easterlin 2006; Easterlin et al. 2010).

Dasgupta (1995; 2014) suggests that we need to differentiate between happiness and well-being; and a single item measurement is not adequate to determine one's well-being. Happiness, according to Dasgupta, is an experiential state; it is not the same as well-being. It is hard to quantify experiential states, as the mind is involved. A person's well-being is an aggregate of its constituents: utility (because it is the most reliable approximate of one's desires – for example, health, life expectancy, mortality) and freedom (the ability to live a life acquiring basic economic, health, and educational needs, being able to live a full social and political life with human functioning) that one enjoys. To measure well-being, we need to assess the entire life, begin from the period when individual has the right to be regarded as a person. We should look at the constituents (measure by output such as health, longevity, literacy) and determinants of a person's wellbeing (measure by input such as national income). The importance of freedom as a predictor of well-being from the East to the West part of the world was confirmed by Nakazato et al.(2017); that freedom was one of the strongest predictors of life satisfaction among several predictors (i.e., health condition, household income, marital status).

Dasgupta's suggestion above is in line with the capability approach from Sen and Nussbaum (Nussbaum & Sen 1993; Sen 2001; Sen 1989; Sen 1997). The capability approach focuses on the "full human being" who is able to access "commodities" or resources (that is, the set of all goods and services available to the individual) and functionings (that is, what an individual can be or do) in the broader set of capabilities. Being a full human being according to the capability approach involves self-respect, equality and freedom for employment, safety and integrity, basic nutrition, healthcare, education, and political voice (Hui 2017). The achievement of these freedoms would depend not only on the personal characteristics and attributes of the individual, but also on one's discourse to the setting where one lives.

Nevertheless, recent studies show that wealth remains the main determinant of subjective well-being (Becchetti & Conzo 2017; Diego-Rosell et al. 2016). Using three years' data from the Gallup World Poll, including 153 countries and ten geopolitical regions, Diego-Rosell, et al (2016) pointed out that a strong determinant of subjective well-being in the study is judgement about household income, whereas community functioning, governance and altruistic behaviours have a relatively low importance. Becchetti & Conzo (2017) tested preferences over different well-being domains significantly correlate with life satisfaction and found that the willingness to invest more in the economic well-being domain is negatively correlated with life satisfaction. However, researchers suggest that individuals (with lower education) may make systematic errors in estimating the well-being implied from their choices – so called utility misprediction (Becchetti & Conzo 2014; Frey & Stutzer 2014). Utility misprediction theory suggest that individuals may face distorted choices and lower well-being when they trade-off between alternatives that are characterized by attributes satisfying extrinsic desires and alternatives serving intrinsic needs (Frey & Stutzer 2014).

3.2 Human well-being as a multidimensional construct

As is clear from the above discussion, human well-being is a multidimensional, subjective value concept. People tend to alter their concept of well-being depending upon what role they are playing where, when, and how. Theoretically, its conceptual heterogeneity can have an infinite number of combinations, because the appraisal of one's well-being refers to a particular point in time for a particular group, in a particular area, and is often dependent on a range of needs and wants, which differ according to culture, gender, age, etc. For any individual, well-being can be said to depend on the fulfilment of those needs and wants, where some are achieved, leading to a sense of satisfaction, and others are not yet realised and/or are out of reach, leading to a sense of longing. Even after different needs and wants are met, one rarely experiences a long-term, sustainable sense of satisfaction, as other needs and wants pop up quickly to take the place of those that have already been met. As a result, the concept of well-being varies not only from person to person, but also from place to place and from time to time.

In our literature review, we found that most studies approached well-being with varying preconceived definitions. Upon analysis, we were able to draw out 10 indicators of well-being – life satisfaction, health, education, financial, social, community, time use, governance, environment, and religion – that were considered key components of human well-being

3.2.1 Life Satisfaction

Life satisfaction refers to the self-evaluation by individuals of quality of life using their cognitive, affect and mood. The cognitive evaluation includes making a conscious judgment about one's satisfaction with life as a whole; while the affect and mood evaluation includes a hedonic evaluation guided by emotions and feelings such as frequency with which people experience pleasant/unpleasant moods in reaction to their lives (Longo et al. 2017). Most studies employ the Subjective Well-being or Quality of Life Scales by Ed Diener in measuring the psychological well-being. Study by (Goodman et al. (2017), which compare Seligman's flourishing model and Diener's subjective well-being model, showed similar and that both indicators can be converged onto a single well-being factor.

3.2.2 Health

The World Health Organisation (WHO) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” This restates the importance of good health as a dominant determinant of human well-being, both in terms of physical health (see the work of Defenderfer et al. 2017; Răileanu Szeles 2017; Wehby et al. 2017) and in terms of mental health (Czekierda et al. 2017; Smyth et al. 2017).

Many indices today attempt to measure health by life expectancy at birth, healthy life years (the quality of life spent in a healthy state –also called disability-free life expectancy), and the Healthy life expectancy (HALE) at birth. The HALE adds up expectation of life for different health states, adjusted for severity distribution making it sensitive to changes over time or differences between countries in the severity distribution of health states.

3.2.3 Education

Education is claimed to be the key to empowering human beings to recognize and reach their potential and to reduce ill-being (Bencze 2017; Colucci-Gray 2017; Michalos 2017). Most countries provide compulsory education to their citizens so that children develop the skills and knowledge for (1) understanding what constitutes a valuable life for them; (2) understanding their obligations in both local and global communities; (3) learning to express themselves and understand the expressions of others; and (4) flourishing (Delors 1996; Spratt 2017)

Childhood intelligence at age 10 has been found to correlate positively with internal locus of control at age 16, which is a significant predictor of educational success (Furnham & Cheng 2017). Intelligence is strongly related to educational outcomes which opens greater and better job opportunities, both of which lead to better earnings.

Instead of simply calculating the number of years one goes to school, it is important to consider different the national of systems of education and schooling across states and nations. Some methods used to measure education attainment include: the highest level of education obtained across countries (<www.barrolee.com>), achievement tests (such as PISA), adult learning (calculated by percent of adults that have taken adult training, weighted by years of total learning – [duration of compulsory education + tertiary education]), and whole life learning (measure of proportion of lessons in non-academic subjects).

3.2.4 Financial

How much do people need to be out of poverty? Do people have a threshold in terms of what they financially need, or do they continuously compare what they have with others, and feel unhappy when they keep facing unmet expectations? Should we measure income or consumption? These are just some of the questions raised in the literature when attempting to address the economic dimensions of human well-being.

Proposed financial indicators of well-being include fulfilment of basic material needs and being out of poverty (Brüggen et al. 2017). Financial indicators are traditionally measured by national income such as GDP or Gross National Income (GNI). In comparing the effect of national income among 10 European countries with relatively low GDP (Portugal, Spain, Greece, Italy, Ireland) and relatively high GDP (Belgium, Denmark, France, Germany and The Netherlands), Bonasia et al. (2017) found that national income has a significant and positive effect on well-being in all 10 countries considered. By looking at the mean and variance of economic growth and well-being within a time series framework, the effect of national income is smaller in countries with high GDP; however, the size of the effect is strengthened by the economic crisis for all five countries with lower GDP. Moreover, economic uncertainty tends to increase the well-being gap between the low and high GDP countries. Over time, the countries with lower GDP are more sensitive to the volatile of their variance to the national income.

Financial indicators are affected by several factors, including age, gender, education and social status. A comprehensive 30 years longitudinal study in UK by Furnham and Cheng (2017) showed that gender, parental social class and education, intelligence, self-esteem, locus of control, malaise, educational level and occupational status, were all significantly correlated with financial well-being. The study examined a set of socio-demographic and psychological factors that influence adult financial well-

being of 4790 participants, using variables parental social status (at birth), childhood intelligence and self-esteem (at age 10), locus of control (at age 16), psychological distress (age 30), educational qualifications (age 34), current occupation, weekly net income, house ownership status, and number of rooms in the residence (all measured at age 38 years). The study found significant differences in total income between the genders, but with a very similar pattern. In particular, two inter-correlated factors, namely childhood intelligence and parental social class, predict financial well-being in mid-life. The direct effect of childhood intelligence is stronger than that of parental social class in predicting adult financial well-being.

3.2.5 Social Capital

Social capital indicators of well-being are defined as a network of shared norms, values and understandings that facilitate co-operation within or among groups; to bridge people across structural boundaries, as well as bind them together within the communities to which they belong (Putnam 2000). The importance of social networks to well-being is reflected in companionship, emotional support, social approval, solidarity, a sense of belonging and of experiencing one's history, and the desire to be loved or recognized by others (Bartolini et al. 2017). Research has demonstrated that individuals feel more happy, enthusiastic, less sadness and tiredness, during moments when they are engaged in a social interaction versus when they are not ((Bárcena-Martín et al. 2017; Bernstein 1971; Puntsher et al. 2015). Social capital is measured by social trust, participation in groups and associations and social gatherings (Almakaeva et al. 2017; Hamilton et al. 2016; Helliwell et al. 2014).

In comparing the social capital between more individualistic and more collectivist countries, a study with a sample of 50,417 individuals from the European Social Survey Round 6 found less than 10% variance in social capital indicators between countries, meaning that the level of social capital varies more substantively between individuals than between the countries (Beilmann et al. 2017). The study claims that the sources of social capital at the individual level can be found in people's immediate social surroundings, as well as their everyday social interactions. Visiting friends and relatives at least once a month and engaging in social organizations increase individuals' general satisfaction (Bárcena-Martín et al. 2017). Using up to 25-year annual longitudinal data obtained from 4,404 now-deceased participants of the nationwide German Socio-Economic Panel Study, it was found that physical health factors were found to play a major role for well-being decline, but in interaction with psychosocial characteristics such as social participation (Brandmaier et al. 2017).

The social capital network can be categorized formal networks (networks that develop from individuals' membership ties with social groups, voluntary associations, among a few, which individuals can engage in society at large) and informal networks (networks that mostly develop from kin ties, friendships, and acquaintanceships, in which individuals can share personal experiences, emotions and feelings). While the formal network may have a set of rules, the informal network is built-up and strengthened through unwritten rules and obligations on the dyadic basis (Bian et al. 2017). In comparing the effect of formal and informal social networks to subjective well-being in Australia, Britain, and China, the study found that the formal networks are of notable importance in increasing people's subjective well-being in Britain and urban China, but

the informal networks have much greater impacts in all three countries, particularly in rural China (Bian et al. 2017).

Recent decades have witnessed the development of communication technology, which enables social discourse to move from traditional face-to-face interaction or written mail to online communication. The effect of this shift is still being examined; some studies support (Castellacci & Tveito 2018; Guo et al. 2014; Neumeier et al. 2017; O'Brien et al. 2017); while others warn about the consequences of replacing traditional method of communication with social networking sites due to different personal motivation (Bozoglan 2018; Huang 2017; Koc, & Cavlin 2006; Sinche et al. 2017). Active usage of social network sites to moderate level has been found to positively predict subjective well-being; as it create social capital and stimulate feelings of social connectedness (Burrow & Rainone 2017; Chen & Li 2009; Verduyn et al. 2017; Wilson 2017); however more time spent using social media was found to be linked to having anxiety disorder (Vannucci et al. 2017) and may create internet addiction (Wilson 2017). Passively using social network sites (such as being observers or stalkers), on the other hand, may provoke social comparisons and envy, which have negative consequences for subjective well-being (Jiang 2017; Verduyn et al. 2017; Weinstein 2017). Despite the booming usage of social networking sites, face to face communication is still deemed to be the most effective way to lower loneliness and increase life satisfaction (O'Brien et al. 2017; Wohn et al. 2017).

3.2.6 Community

Our communities are filled with diverse individuals and diverse groups of residents who, though they share a common place, may not experience their communities (diversity, inclusion and inclusiveness) the same way as their compatriots (Talmage & Knopf 2017). In rural India and China, where diversity of the community includes ethnicity, religion, caste, and poverty; the people suffers from social exclusion, thus affecting their well-being (Bhalla & Luo 2017). A study on ethnic diversity in Germany after the collapse of Berlin Wall (Akay et al. 2017) shows positive correlations between the diversity and well-being of the native population. This longitudinal study also showed there is a welfare gain from higher diversity, and the socio/economic assimilation of immigrants in the region is an important factor for well-being.

Another type of diversity is having immigrants worldwide. According to a United Nations report (United Nations 2017), in 2017, the number of international migrants worldwide reached 258 million, up from 220 million in 2010 and 173 million in 2000. Nearly two thirds of the international migrants reside in Asia (80 million) or Europe (78 million). There are 50 million immigrants resided in the United States of America, followed by 12 million in average each for Saudi Arabia, Germany and the Russian Federation, and nearly 9 million in the United Kingdom of Great Britain and Northern Ireland. In 2016, the total number of refugees and asylum seekers in the world was estimated at 25.9 million. Turkey became the largest refugee-hosting country worldwide, with 3.1 million refugees and asylum seekers, followed by Jordan (2.9 million), the State of Palestine (2.2 million), Lebanon 1.6 million) and Pakistan (1.4 million). People's well-being is affected by feelings of trust, security, and belongingness (Weeranakin & Promphakping 2017). Scholars have found that acculturation and support for immigrant families can increase feelings of trust, security and belongingness for immigrants and

their host communities (Ferguson et al. 2017; Gassmann et al. 2017; Ilies et al. 2017; Wassermann et al. 2017).

3.2.7 Time use

Another important indicator of well-being is how people assign their time, to create a balance between personal, work, family and social life (Ayala et al. 2017). Employment is a central part of many people's lives, as people generate income through work. However, work eats into the time available in a day, as people spend a considerable part of their waking hours working. Therefore, available time for people to freely spend on non-work activities is very much fixed and controlled. In developed countries, government, private institutions set a policy to maximize available time for workers, such as setting maximal working hours (include leave, maternity leave, overtime regulation); assistance to dual working couple (include nursery, after school supervision in public school), among a few (Ilies et al. 2017; Vîrgă & Iliescu 2017).

How individuals are able to use their remaining time is based on a number of factors, including personal choice. Dual-earner couples have become increasingly normative, potentially reducing the time couples and families spend together (Neilson & Stanfors 2017). The authors investigated how coupled individuals allocated time together, alone, with children, and as a family, exploring changes between 1990 and 2010 in Sweden using three waves of the Swedish Time Use Survey (N = 9,544). The findings show that childless couples spent similar amounts of time together; whereas for parents, women spend less time alone compared to their husband. However, one study also shows that poor time consumption – such as used for hedonic pleasure – may lead to less life satisfaction (Tseferidi et al. 2017).

3.2.8 Governance

Citizens anticipate their government to take a major role in enhancing quality of life, by imposing rules and policy in solving national problems in their country. These may include reducing and preventing crime, practising democracy, addressing inequality, safety and freedom, reducing poverty, improving public facilities (such as sanitation, transportation systems, communication and information systems, education systems, health care, environment protection, cultural heritage preservation). The trust and conformity by the citizens to their government is measured by support for election (such as voting), poverty index, availability and access to public facilities, nationalism (such as participation in national day).

One study on well-being for people living in conservative and liberal countries (Onraet et al. 2017) show a happiness gap among the citizens. Conservative thought – (more right-leaning) - prioritises law and order, religion, family and national traditions such as patriotism, the military, and support lower taxes, market forces and deregulation, and capitalism broadly. Liberals – (more left-leaning) – broadly hold values such as freedom of thought, expression and religion, freedom to choose living arrangement and relationships choice. Onraet et al. (2017) examine hypothesis that the country-level threats may affect the well-being of the citizens. Using representative samples from 94 countries (total N = 137,890), they found that, especially in countries characterized by high levels of threat, individuals with right-wing attitudes experienced greater well-being than individuals with left-wing attitudes. In countries with a low level of threat, this relationship was considerably weaker or even absent. They concluded that right-wing

attitudes may serve a self-protective function, helping individuals to manage and cope with threat.

Living in a democracy is positively correlated with life satisfaction (Bellinger 2017; Loubser & Steenekamp 2017; Touchton et al. 2017). According to one study, subjective well-being (life satisfaction and happiness) was strongly associated with living in a democracy in 10 countries: Brazil, China, India, Russia, Rwanda, Singapore, South Africa, Sweden, Turkey, and the United States (Loubser & Steenekamp, 2017). Furthermore, citizens with high life satisfaction are more likely to support the government by voting (Liberini et al. 2017). From the World Value survey, Waves 1 to 5 with 169 representative national samples in 68 nations, 1981 to 2009, and over 200,000 respondents, show that in developing nations income inequality is not harmful but probably helpful, as it increase well-being by about 8 points out of 100. In advanced nations, income inequality on average neither helps nor harms. However, studies with more or less the same data, show slightly different results. Using the World Values Survey from 1981 to 2012, Mikucka et al. (2017) show that, in the long run, economic growth improves subjective well-being in advanced nations when income inequality reduces. Hui (2017) and Roth et al. (2017) found a similar trend, using data from the German Socio-Economic Panel Study for the years 1984-2012, that people felt happier in years with lower inequality.

3.2.9 Environment

Many recent measures of well-being include an environmental aspect, as recommended by WHO. Scholars from various disciplines have come up with theories on individual's satisfaction with the environment. For example, environmental psychologists recommend preferences to urban planning by studying the bond between humans and the natural environment (Foye 2017); sociologists advise about the dynamics of social change (Otto et al. 2017); and demographers predict the needs for city landscape and living compounds for population in the future (Tani 2017).

Environmental awareness is tied in with education (Bencze 2017; Blumstein & Saylan 2007; Colucci-Gray 2017). In order to develop effective, culturally appropriate, and equitable environmental conservation, government and practitioners must conceive of human and ecological well-beings as an interrelated system (Caillon et al. 2017; Hattam et al. 2017). Efforts in fulfilling human needs (for example daily use of energy and natural resources) must be guided by an understanding of the importance of preserving the environment for future generation (Lamb & Steinberger 2017).

3.2.10 Religion

Defining religions is as complicated as defining human well-being. Until the late eighteenth century, religions tended to be defined according to a "feeling of absolute dependence", and believers tended to be strict followers of their sacred texts and dogmatic formulations (Z. Cheng et al. 2017; Newberg 2017). Beginning in the 20th century, a neuroscientific approach to the study of religion has shifted the definitions to make a distinction between spirituality and religiousness; by bringing up both religious and non-religious spirituality and spiritual experiences. Despite the ongoing effort to define religion, we recognize that each religion can bring guidance to improve human's life in its own creed (Cheng et al., 2017; Crisp 2017); reduce anxiety and experience greater well-being for the believers (Abdel-Khalek & Lester 2017; Sujarwoto et al. 2017).

Thanking others, thanking God, and cherishing blessings, through religious and spiritual practices can contribute to well-being, self-esteem and the reduction depression (Lin 2017; Singh et al. 2017).

Daoism, Confucius and Buddhism have flourished in East Asia over thousands of years, while the Abrahamic monotheistic religions (the main ones are Christianity, Islam, and Judaism) have grown to be the largest religions (by number of believers), in other part of the world. Christians remained the largest religious group in the world in 2015, with nearly a third (31%) of Earth's 7.3 billion people (Pew Research Centre, 2017). Muslims occupy the second largest religious group, with 1.8 billion people, or 24% of the world's population, followed by atheist (16%), Hindus (15%) and Buddhists (7%). Believers of folk religions, Jews and members of other religions make up smaller shares of the world's people.

Pew Research Centre (PEW 2011) further estimated that by 2060 with an estimated global population of 9.6 billion, the count of Muslims will be 3 billion, or 31% of the population, and of Christians will be 3.1 billion, or 32%). Worldwide, the number of Hindus is projected to be 1.4 billion believers; Jews will be 16.4 million, and believers of various folk religions – including African traditional religions, Chinese folk religions, Native American religions and Australian aboriginal religions, among others – are projected to increase to 441 million. Due to low fertility rates and aging populations in countries such as China, Thailand and Japan, in 2060, the Buddhists are projected to decline from nearly 500 million in 2015 to 462 million in 2060. All other religions combined (Baha'is, Jains, Sikhs, Taoists and many smaller faiths) are projected also to decrease, from a total of approximately 59.7 million in 2015 to 59.4 million in 2060. The number of religiously unaffiliated people is projected by 2060 to shrink to 1.2 billion, with estimation of residence in much of Europe and North America, and less in Asia.

Using the World Values Survey (from 1981 to 2014), Ngamaba & Soni (2017) found that individual religiosity and country level of development play a significant role in shaping people's subjective well-being; and that Protestants, Buddhists and Roman Catholic were happier and most satisfied with their lives compared to other religious groups. To improve the well-being, countries and religious groups across the globe need to pay attention to the health, household's financial satisfaction and freedom of choice of their citizens (Crisp, 2017; Mochon et al. 2011; Ngamaba & Soni 2017). In China, however, spiritual beliefs are stronger than religions in shaping the mindset, therefore, influencing subjective well-being (T.C. Cheng et al. 2017). Lu & Gao (2017) find that having a religious identity in China (i.e., all dimensions of Christianity) was not significantly associated with happiness, while religious belief and practice—in particular attending religious services—was negatively associated with happiness. The researchers pointed out that Daoist beliefs or practices and all dimensions of Christianity were negatively associated with happiness. Having a Buddhist identity and high frequency of Buddhist practices were associated with increased happiness; however, the Buddhist beliefs or practices were found to be unrelated to happiness.

3.3 Circumstances affecting well-being

3.3.1 U-shaped subjective well-being over life span

Blanchflower & Oswald (2008) report the results of a cross-national study of 74 countries that show the U-shaped relationships between age and subjective well-being. They conclude that in most societies studied, the well-being of adults tends to be high in young adulthood and old age and lowest around age 40. Similar findings were reported by (Stone et al. (2010) using the 2008 Gallup report and a recent publication by Graham & Ruiz Pozuelo (2017) that showed the U-shape relationship between age and happiness held in 44 of the 46 countries studied. Further longitudinal studies provide stronger evidence on the relationship between age and SWB (see, for instance, T. C. Cheng et al. 2017; Wunder et al. 2009).

In illuminating the U-shaped relationships between age and well-being, researchers speculate that in the early life span, when expectations are high but largely unmet, people tend to lower their satisfaction; those who feel the regret from unmet expectations experience a further reduction of life satisfaction. The onset of the decreasing happiness in young adults is mainly due to leaving home for further study (Gunnell et al. 2017), or to start new career (Hobson & Maxwell 2017). In later life, people give up or lower their expectations, so there is a positive effect on well-being (Fischer et al. 2004; Fischer & Sousa-Poza 2006; Tiefenbach & Kohlbacher 2015). Neuroscientific findings demonstrate that the emotional reaction to missed chances decreases with age so that the elderly might feel less regret about unmet expectations. Baltes et al. (2006) claim that wisdom and emotional intelligence increased through middle age. Socioemotional selectivity theory stipulates that older people have an increased ability to self-regulate their emotions and view their situations positively (Carstensen et al. 2011). Schwandt (2016), using German SOEP data, found that – stable across time, within cohorts and socio-economic groups – people make errors in predicting how satisfied they will be in five years: young people overestimate their future life satisfaction, the elderly underestimate.

Marriage and parenthood are found to reduce overall well-being in earlier years of adult life (Bernardi et al. 2017). Becoming a parent may produce vulnerability—observable as an enduring decrease in well-being—in life domains that are strongly interdependent with the family domain, such as work and leisure. Conversely, when it comes to older adults, evidence is accumulating about the association between strong family ties and the emotional and physical welfare of older adults, and researchers have identified negative consequences of being unmarried, being childless, and/or living alone. In China, for example, living with a spouse and/or grown children, is claimed to improve elderly well-being. Using longitudinal data from the 2010 and 2012 waves of the China Family Panel Studies (N= 9,831 respondents), Williams et al. (2017) found that married respondents reported lower depression scores, greater levels of life satisfaction, compared to those who were never-married or divorced. Using the data from German Socio-Economic Panel (1984–2013) and multilevel growth curve modelling, the authors show strong gender-based vulnerability in how people react to parenthood, men display decreasing life satisfaction, women experience more changes in their satisfaction with work and more dramatic decreases in leisure satisfaction.

3.3.2 Gender

Across time and space, there is global progress towards gender equity, as a result of improvement in human rights, political freedom, access to health care and education, employment opportunities, career advancement, and family life balance (Estes & Sirgy 2017). However, recent studies on gender equity show that there are still many gaps to enhancing physical, emotional, and social well-being for both women and men of all ages, in particular for marginalized women in developing countries.

One study suggests that differences in well-being between men and women (while small and varying from country to country) can be attributed to a range of factors, including a high proportion of Muslims in the country, a low proportion of Catholics, and absence of communist history (Meisenberg & Woodley 2015). Based on World Values Survey data with over 90 countries, Meisenberg and Woodley (2015) indicated that a low rate of female non-agricultural employment is associated with higher female-versus-male happiness and satisfaction (see also work of 2017).

In the recent study comparing men and women of who migrated to Germany (data from German Socio-Economic Panel (GSOEP)'s waves from 1990 to 2014), (Melzer & Muffels (2017) found a positive and strong effect of migration on subjective well-being, for both for men and women. Even though the general income increases do not generate equivalent gains in SWB due to the processes of adaptation and social comparison; the study found that the increment of SWB in migrating men diminished significantly by a dissatisfaction resulting from comparing their income with that of their new peers in western Germany and that of their former peers in eastern Germany. In contrast, migrating women enjoyed an incremental increase in well-being parallel with the incremental increase of their income.

3.3.3 Culture

Culture plays a significant role in influencing SWB (Ivaldi & Santagata 2017). There are similar traits and values that appear to affect subjective well-being in the same way across cultures. For example, at the most abstract level of motivation, researchers have identified cross-cultural similarities: individuals high in well-being in any culture tend to engage in action from internalized motivation as opposed to externalized motivation (Aknin et al. 2013; Chen et al. 2015; Disabato et al. 2016). Tolerance, trust, and safety are positively correlated with well-being in all nations (Hagerty & Veenhoven 2003; Veenhoven 2013). Social contextual variables (e.g., whether there is someone respondents can count on when they need help) account for more variance than income in all nations (Guo et al. 2014; Hamilton et al. 2016; Helliwell et al. 2009; Helliwell et al. 2014). (Delhey and Dragolov (2016) claim that what makes citizens of affluent societies happier is social cohesion – their capacity to create togetherness and solidarity among their members. Using data from 27 European Union countries, the researchers found that Europeans are indeed happier and psychologically healthier in societies that are more cohesive.

There is also evidence of cultural differences affecting SWB. Diener, et al. (2010) find that in Latin nations (South America, Spain, etc.), there is a belief that positive emotions are mostly all good and negative emotions are mostly all bad. In Asia (e.g., Korea, China, and Japan), there is a belief that negative emotions are as good as positive ones (Kikutani et al. 2016; Miyamoto et al. 2014). Self-esteem (Crocker et al. 1994; Diener 2009; Dogan et al. 2013) and pride (Byrne et al. 2014; Hernández et al. 2017;

Hughes et al. 2015) are signatures of well-being in many individualistic nations, whereas they are not in collectivist nations. In less affluent nations, the satisfaction of basic needs (e.g., financial satisfaction) is more strongly associated with life satisfaction than in affluent nations (Biswas-Diener & Diener 2001; Thomaes et al. 2017).

Scientists advise caution in conducting cross cultural research on well-being, in particular when it comes to validity criteria (whether the target concept [e.g. happiness, life satisfaction or well-being] has the same meaning across culture and time), and reliability criteria (whether there is a notable difference in how people present themselves and their response styles; Diener et al., 2017). Oishi (2010a) points out that single-item measures of subjective well-being, such as Cantrill's ladder, or general items on life satisfaction are less reliable than longer scales and do not allow for more in-depth examination of cross-cultural equivalence in terms of measurement equivalence.

3.3.4 Technology

Since the existence of mankind, technology has been a profoundly catalytic phenomenon, capable of eliciting both good and bad, and triggering changes in how people do everything (Selian & McKnight 2017). Technology progresses in line with the economics of a nation. The impact of technology can be viewed from input, throughput, and outcome in everyday life. Input of technology arises from innovation, research and development, which bear an important role in the rise of what we today would consider throughputs such as electricity, manufacturing, automobiles, telecommunications, and health care goods. These in turn are linked to major technology outputs by means of improving overall quality of life and well-being.

Past, present and future of the quality of life of humankind has been altered by development and improvement of technology. We are impacted daily by the introduction of newer and fancier devices for either living necessities, work productivity, communications, transportation, or energy conservation. Information and Communication Technology (ICT) is claimed to contribute to societal progress and well-being. This technology also allows us to explore beyond earth, with promising research on the possibilities of living on another planet. Our future can never be boring. But, will we be more happy?

3.4 Well-being around the world

The recently published book, *The Pursuit of Human Well-being*, edited by Richard J. Estes and M. Joseph Sirgy, provides glimpses of changes in well-being from eight of the world's major regions (North America, South America, Asia, Africa Russia, Middle East and North Africa, Australia and Oceania) over the 34-year period from 1980 to the end of 2014. From the poorest regions to the richest nation, people experienced significant improvements in health, education, and income, according to the editors. The outcomes of the improvement in health is notable in the increasing average years of life expectancy worldwide, as well as steep declines in rates of infant, child, and maternal mortality. Global investments in education—specifically in the African countries- showed significant progress in school enrolment levels. Adult literacy rates in North America and Canada are nearly 100 % and virtually all children complete at least a minimum of 9–12 years of formal education (Estes et al. 2017). Nevertheless, economic well-being worldwide progresses slowly and unevenly, and poverty levels remain high in developing

countries. The world is witnessing rapid advancements in technology (e.g. infrastructure, transportation, and communication), urbanization and migration, improvement in gender equality, and basic human rights. The book also demonstrates considerable global progress in participatory democracies from previously autocratic or authoritarian regimes; despite large numbers of the world's population continuing to live under authoritarian rule, with China being the largest and least free nation on the planet. Corruption has declined steadily in all economically advanced countries but remain persistently high in many low-income and resource-poor developing countries.

In Europe, we are witnessing a significant improvement in all domains of life. Almost 60% of research on well-being in 2017 initiated and funded it by EU; which shows the opulent budget has been dedicated to learning how to improve the wellbeing of EU. Glatzer & Kohl (2017), however, accuse European governments and media for often conveying the impression that economic growth is the best way to solve the problems of contemporary societies and elevate happiness in modern Europe. In recent years, the well-being of the European has been greatly affected by social and political integration in the European Union, the Eurozone, and the Council of Europe; and the immigration of large numbers of people fleeing war and poverty in North Africa, the Middle East, and Eastern Europe. Therefore, European authorities should focus their attention on handling these issues.

Asian countries are among the most socially, politically, economically, culturally, linguistically, and religiously diverse in the world (Inoguchi & Estes 2017). Asia also is home to five of the world's most ancient religions and philosophical systems, i.e., Buddhism, Confucianism, Shamanism, Shintoism, and Daoism and, in recent years, Islam in South East Asian region and Christianity in South Korea. Folk religions are pervasive throughout the region as well. Well-being in East Asia is among the highest worldwide, e.g. highest average years of life expectancy, the lowest rates of infant and child deaths, high levels of primary and secondary school enrolment, and high levels of access to university or technical school education. In China, Japan, and Korea, the robust modernization during the past century does not affect their ideals and practices concerning well-being (Arthur & Mair 2017). Fortune, happiness, and family are the three key terms of well-being; the first two co-exist in the context of the third. In East Asia, Arthur and Mair (2017) specified that the family-centred notion of well-being is interwoven in a matrix of religious values and practices. Thus, although modernity and influences from abroad have had an enormous impact on East Asian societies, the traditional values and practices remain intact, because happiness, good fortune, longevity, and well-being persist as primary desires. In South Asia, specifically India, the notions of well-being are clustered around comfort, a common good, religiosity, status, and wealth (Arthur & Mair, 2017). These strategies emphasise 'traditional' values of cooperation, simplicity, and ecological and spiritual harmony as the way to achieve culturally sustainable development and emotional well-being. The religious ideals are often overruling wealth and status. In Southeast Asia (Mangahas & De Jesus 2017), the region recovered post-colonialism and embarking to modern states, developing the economy, promoting health, and enriching cultural diversity, and in the same time dealing with internal conflicts.

The major driver of well-being in Latin America is family and human relations (Rojas & García Vega 2017). Whereas history embraces Latin America to be a vast territory involving many countries, many languages, and many ethnicities with a common

identity; the people of sub-Saharan Africa do not have a common identity, due to a history of slave trade and colonialism between the fifteenth and early twentieth centuries (Møller & Roberts 2017). Until present day, the countries in sub-Saharan Africa are still facing political and development challenges as a result. The well-being notions of people in sub-Saharan Africa lay on the optimism and resilience that their dreams of a better life will come true.

The Middle East and North African (MENA) region is heterogeneous in terms of geographic size, culture, political leadership, and level of development, thanks to huge reserves of energy sources and important routes of international trade (Tiliouine & Meziane 2017). Today, the MENA region's overall well-being indicates advances in years of life expectancy, reduced infant and child mortality rates, and steadily increasing levels of basic and advanced education. However, the region also suffers from high levels of political insecurity, financial poverty, income inequality, and overall social deprivation for many of the region's peoples.

The Oceania region includes over 25,000 islands and islets with a combined population of about 37 million people living in 14 countries, Australia and New Zealand being the largest and most populated countries. Australia has enjoyed stable democracy, with egalitarian philosophy, and is generally welcoming to new immigrants (Cummins & Capic 2017), though it has been heavily criticised by members of the international community for its treatment of asylum seekers in recent years. Papua New Guinea, on the other hand, face ongoing tribal conflicts, high level of mistrust and corruption throughout the political systems, which suspend the development of economic, educational, and health.

4 Discussion

Human well-being indices have been developed across the social sciences in response to a demand from policy makers for guidance in setting up new policies, aid, budget and investment to more deserving sectors or nations. Such indices tend to be responsive to changes in global conditions, and to use more sophisticated concepts and methods and improved data resources than earlier, more-economically focused measures. Yet, at the same time, these indices remain a product of, and a challenge to historical, economic, social and political pressures. One of the main difficulties in developing a composite indicator for well-being is that, with time – particularly over a long period – some indicators lose their relevance and data collection methods change.

Definitions of human well-being have expanded to move beyond affect and satisfaction in life to a meaningful interaction between an individual and their social and physical environment, such that a human is considered to be 'well', if they exist in harmony with their nature, their essence. A holistic definition of human well-being includes cognitive, physical, and mental health, as well as psychosocial well-being and the meeting of basic needs. A human is considered to be 'well' if they understand (are conscious of) what the "good things of life" are (feeling satisfied with life, positive day-to-day feelings such as happiness and enjoyment of life and minimized negative feelings) for them and have an opportunity and intention to achieve these good things. Social well-being theory, psychological well-being theory, self-determination theory and other theories of human nature posit that understanding what is meant by the "good things of life" is not universal: it depends on one's cognitive and social capital development.

Sociohistorical issues, including culture, religion, work/employment, and intergenerational transfer, also play important role in shaping one's value of life.

A human is considered to be 'well' if they have an opportunity to realize their full potential as a human being. Capabilities theory proposes that the opportunity to reach the potential of each individual depends on their upbringing, socioeconomic status, access to education, health care, and living condition. A human is considered to be 'well' if the society constituting the grounds of the state creates conditions and provides opportunities for them to exist in accordance with their nature, to realize their potential as human beings, and to achieve the good things of life that human strives to achieve. Gender equality, trust, community engagement and freedom are among the conducive conditions a society should possess, according to proponents of capabilities theory.

A good human well-being index should be based on individual characteristics and focus primarily on long-term developments that can be measured in a time series (Boelhouwer 2017). The Empowered Life Years might meet these criteria for a good human well-being indicator. The ELY will be counted only if the person is above a certain threshold in terms of objective physical, mental, and economic empowerment (as assessed by 'not being disabled', 'being functionally literate', and 'being out of absolute poverty', respectively) and in terms of scores of subjective life satisfaction. In addition to being based on individual characteristics, the ELY indicator will consider well-being as an end-goal, rather than a means to an end. For example, rather than using years of schooling as a proxy for cognitive well-being, ELY will measure the years when a person is literate and functions cognitively to conduct his daily life. Schooling serves as the means of achieving literacy, but ELY will be calculated based on the ends, not the means (i.e. functional literacy, not years of schooling). Ideally, ELY should be interpretable through the use of a real life analogy. Using GDP as an indicator, for example, the GDP/capita is suggestive of the money an average person makes).

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