

Can happiness be measured?

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Abstract. In the process of realizing the Sustainable Development Goals, the measurement of happiness has unique significance and value, which helps the government departments to avoid paying attention to economic development at the cost of subjective psychological feelings when formulating the coordinated social development of society. Happiness indicators can reflect the public's wishes and psychological state, and monitor the psychological state of society. At the same time, happiness indicators can complement economic indicators and provide a comprehensive measure of quality of life. However, each of these measures cannot claim to be accurate. We should not blindly believe these cold statistics. Fortunately, scientists have been constantly developing tools for qualitative and quantitative measurements to get closer to the 'truth about happiness'. Standing on the shoulders of these "giants", happiness is becoming clear and transparent. In this study, I will demonstrate that well-being can be measured from the concept of happiness, from the perspective of measurement direction, and highlight that well-being measurement is an essential tool to help address the sustainability challenges.

Keywords: happiness; measured; tools; mentation; psychology.

1. Introduction

The concept of sustainability encompasses five significant dimensions: people, prosperity, planet, peace, and partnership, and there is no doubt that the measurement of happiness is a central and indispensable indicator in the pursuit of sustainable development for all humanity (O'Brien, 2008). Indeed, in the past year, the ageing of the population has been a constant source of concern, pandemics have posed significant public health challenges, and technological advances are a double-edged sword. There is an urgent need for more research and exploration of these complicated issues to achieve sustainable human development. Happiness is defined as an emotion of joy, gladness, satisfaction, and well-being (APA, 2007). In this study, I will demonstrate that happiness can be measured from the perspective of the concept of happiness, the measurement orientation, and highlight the happiness measurements as an essential tool to help address sustainability challenges.

2. An evolving idea of happiness

From Aristotle to contemporary positive psychologists, the study of happiness from a psychological perspective has been rooted in two philosophical orientations: hedonia and eudaimonia. Since then, the measurement of happiness has now yielded fruitful results (Seligman et al., 2005). For example, some studies have developed the concept of subjective well-being from the perspective of hedonia, and have measured and compared happiness by using life satisfaction as core indicators of happiness (Diener, 1984). At the same time, a theoretical framework of psychological well-being has been constructed from the perspective of eudaimonia. Related measurement studies have been conducted, with the results even serving as one of the essential complementary indicators for the clinical diagnosis of mental disorders (Ryff & Keyes, 1995). It is worth noting that the two orientations have developed in relatively separate directions, which has led to a 'split' in the study of happiness. Nevertheless, an international comparison of a large sample of studies from these two different frameworks has found that the correlation between the two is 0.96, with low discriminant validity (Disabato et al., 2016). This explains well that happiness should not be connoted by a dichotomy of hedonia and eudaimonia, but rather by interdependence and harmony. Focusing on just one aspect is insufficient to describe the whole picture of happiness. A representative example of this

is that the pursuit of temporary stimulation and pleasure for the senses does not ultimately lead to happiness and can even have a negative impact on long-term happiness (Ryan et al., 2008). It is like alcohol intake, which has always been thought to be hedonic. Alcohol is known to trigger the endorphin system, and the social consumption of alcohol may thus have the same effect as the many other social activities, such as laughter, singing and dancing, that we use as a means of servicing and reinforcing social bonds (Dunbar et al., 2016). However, a study, which analysed data from 195 areas over 26 years, concluded that no dose of alcohol intake is beneficial to health, i.e., there is no safe dose of alcohol intake, and alcohol can be both psychologically and physically damaging and leave long-term severe mental and physical health risks (Griswold et al., 2016).

Contemporary definitions of happiness are moving towards the harmonisation of hedonia and eudaimonia. Several scholars and institutions have recognised this trend; for example, the introduction of the PERMA model, which includes the five elements of Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment, reflects the dynamic change in the concept of happiness, which is increasingly moving towards the integration of two orientations (Seligman, 2018). The 2023 World Happiness Report, due to the COVID-19 epidemic, added pro-social behaviour and altruistic behaviour to the traditional measurement system, demonstrating that the concept of happiness is constantly changing, incorporating more contemporary elements in tune with the times (Helliwell et al., 2023). Overall, these changes indicate that the concept of happiness constantly changes with the times and that each era has its structure of happiness, an 'evolving' and 'sustainable' manifestation that lays the foundation for measuring happiness.

3. Measuring happiness from an affective perspective

Bradburn (1969) developed a model of affective orientation in the assessment of well-being, distinguishing between positive and negative affect and suggesting that people's well-being depends on the balance between positive and negative affect over a period of time and that happiness means experiencing more positive affect and less negative affect (Bradburn, 1969). In addition, it has been suggested that happiness is measured primarily by the frequency, rather than the intensity, of positive affect (Suh et al., 1998). Thus, the experience of positive affect, which determines overall happiness, is often used as a vital indicator of happiness because the frequency of emotional experiences is easily measured and is also associated with long-term happiness levels. Indeed, Positive affect is associated with flourishing and success across life domains, including social, work, physical, and mental health (Pressman et al., 2019). Furthermore, positive affect is not only a sign of happiness in the past or present but can even help us predict the future and improve some of the pressing issues of the present. In a nine-year study of 991 participants focusing on increasingly ageing problems, positive emotions were shown to significantly slow down the degenerative memory loss that comes with age (Hittner et al., 2020). In addition to helping to protect cognitive function, happiness is also strongly associated with healthy longevity, and a meta-analysis of 11 studies on affect indicated that positive affect significantly predicted perceived health, life satisfaction, life expectancy, and longevity in near-centenarians and centenarians (Cheng et al., 2021). Therefore, measuring happiness through positive affective experiences is a valid and feasible method that represents the present and predicts the future, serving the betterment of sustainable human development.

4. Measuring happiness from a cognitive perspective

The cognitive assessment model has its roots in sociologists' research on life satisfaction as a critical indicator of happiness. The cognitive model includes a comprehensive assessment of overall life satisfaction and satisfaction with specific aspects of work, income, social interaction and marriage. In either context, satisfaction can be an essential indicator of happiness measurement (Ryff & Keyes, 1995). For example, the multi-item General Satisfaction with Life Scale, a five-item scale developed in the 1980s, is based on the theory that life satisfaction is a way for individuals to compare their

current life situation with their self-expectations, either concerning their aspirations or to other people, or their past life situation (Diener et al., 1985). This understanding has been continued and developed in numerous subsequent studies, with one three-year study assessing the association between health satisfaction and happiness through a daily reconstruction method, finding that while health satisfaction did not predict future happiness, it was significantly associated with current levels of happiness (Hudson et al., 2019). Not only that but with today's significantly slower population growth, research is beginning to focus on the happiness of the single population. For example, modern people consider romantic relationships an essential source of happiness. Whereas some choose to remain single, and a cross-lagged analysis including fifteen years of data showed that the relationship between happiness and single satisfaction was bidirectional, with single-life satisfaction, for some individuals, predicting more happiness in life subsequently, and with increased happiness in the present, individuals will also have higher levels of single satisfaction later in life (Oh et al., 2022). Therefore, it is feasible to use satisfaction measurements as evidence of happiness. Furthermore, it can help us explore the various problems we may encounter in sustainable development.

5. A multi-faceted measure of happiness

Over the last few decades, a vast array of techniques has been developed to measure happiness, mainly through questionnaires combined with other assessment techniques, with a predominantly positive assessment and negative indicators. In addition to self-report questionnaires, the relationship between hormone levels and happiness levels, such as glucocorticoid concentrations in saliva or blood samples, shows a negative correlation between glucocorticoid concentrations and happiness levels (Chetty et al., 2014). Cognitive neuroscience also has found unique circuits in the brain related to happiness (Davidson & Schuyler, 2015). This strongly refutes Descartes' mind-body dualism, showing that mind and body have always been tightly connected. We can also measure the presence of happiness in terms of its embodied nature.

The changes technology has brought to measuring happiness must be considered, and as the adage goes, yesterday's answers cannot answer today's questions. The internet has become a fact of life, we chat with our friends on social media and tweet daily to share our thoughts from that moment, and we cannot ignore the human experience of happiness in this online space (Mitchell et al., 2011). Language is a natural way for individuals to describe complex mental states, experiences and desires (Helliwell et al., 2023). Therefore, in Internet research on happiness measurement, the statistical method of emotion dictionaries has been widely applied to measure the happiness of online users (Acheampong et al., 2020). For example, a dictionary of positive emotions could include words like accept, beautiful, carefree, easiness, trust, and hope. In contrast, a dictionary for negative emotions contains expressions like dull, cried, gloomy, heartbreak and miss (Helliwell et al., 2023). The emotion dictionary approach is based on simple word counting: the higher the percentage of words associated with an emotion, the more a text is thought to express this emotion. Moreover, deep learning models or neural networks have the advantage of considering not only word frequencies but also information such as word order and other context features (Dang et al., 2020). This makes it more accurate and effective to measure the happiness of online users. A study based on social media data from 10 countries showed how happiness levels trended as outbreaks, lockdowns, and recoveries occurred, helping the public to understand better the factors that influence happiness levels during an epidemic; for example, the severity of the epidemic was negatively correlated with the happiness levels of the groups surveyed (Sarracino et al., 2023). It also helps us to anticipate when and where we should take more targeted measures to help people in 'unhappy' situations if a similar disaster occurs in the future, achieving sustainable development.

6. Conclusion

In the process of achieving sustainable development goals, the measurement of happiness has unique significance and value, as it helps government departments to avoid focusing on economic development at the expense of subjective psychological feelings when formulating socially coherent development, and happiness indicators can reflect public aspirations and psychological states and monitor the psychological state of society. At the same time, indicators of happiness can complement economic indicators and provide a comprehensive measure of the quality of life (Helliwell et al., 2023). The concept of happiness is not abstract, and scientists are working continuously to portray the concept of happiness that belongs to this era by combining human peculiarities with the characteristics of the times. However, every method of measurement cannot claim to be accurate. Nor can we mindlessly believe in the cold statistics. Fortunately, scientists are constantly developing tools to measure both qualitatively and quantitatively to get closer to the 'truth about happiness'. Standing on the shoulders of these 'giants', happiness is becoming clear and transparent. Happiness can be measured, which is a necessary part of sustainable development. We hope that the world will become a better place in the future.

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