Research on measuring happiness

Yiling Deng

Pomfret School, Pomfret. 06258, United States,

Abstract. People have been exploring happiness through various "tools", "processes" and "objects" to uncover the mystery of happiness. But few people have measured happiness quantitatively. In this article, I will analyze the reasons why happiness cannot be measured from the perspective of the "tools", "processes" and "objects" of happiness measurement, and highlight the shortcomings of current happiness measurement. I hope this study will help us identify the barriers we need to overcome when measuring happiness. Of course, there are a number of limitations in this paper, such as the lack of discussion of happiness measurement from a cognitive neuroscience perspective and the lack of discussion of the use of multiple methods to measure happiness (the combination of daily reconstruction and glucocorticoid testing, etc.). Although happiness cannot yet be measured, it is clearly something we value very much and it is worth our effort to learn more about it.

Keywords: tools; processes; objects; measure.

1. Introduction

The sudden receipt of a postcard from a distant friend clears away the bad mood caused by last week's poor exam results; on the internet, after followers defend their idols from fake news, they feel a long-awaited satisfaction and happiness – there seems to be no single answer to the cause of happiness. The pursuit of happiness from the womb to the tomb is necessary to unravel its mysteries, but this path is fraught with obstacles. In this paper, I will analyse why happiness cannot be measured from the perspective of the 'tools', 'processes' and 'objects' of happiness measurement and highlight the shortcomings of current happiness measurements.

2. Misguided measurements of happiness

According to the online American Psychological Association Dictionary of Psychology, happiness is defined as an emotion of joy, gladness, satisfaction, and well-being (APA, 2007). However, happiness is a highly abstract concept. There has never been a unified standard answer to what it is, which is one of the significant reasons happiness cannot be measured. From ancient times to the present, eudaemonic happiness under the Socratic philosophical system, hedonistic happiness under the Aristotelian philosophical system, and harmonious happiness under the philosophical system of Confucius all have their underlying logic, and these differences illustrate that happiness has powerful socio-cultural-historical properties and that a single concept of happiness does not fit all social systems (Bartels, 2015; Oishi & Gilbert, 2016). For example, people in collectivist versus individualist societies, people with different religious beliefs, and people of different ages have vastly different understandings of happiness and even with globalisation, these differences have not disappeared (Joshanloo, 2014; Oishi & Gilbert, 2016; Krys et al., 2023). Most happiness measurements are based on hedonism and eudaemonism (OECD, 2013). Whether it is a measurement of subjective well-being or psychological well-being, the limitations of operational definitions mean that tests do not precisely reflect participants’ happiness levels. Moreover, most scientific studies, both in terms of designers and participants, are based on samples drawn entirely from Western, Educated, Industrialized, Rich and Democratic (WEIRD) societies, which represent only about 12% of the world's population, but their findings tend to receive more attention and are even represented as global results, meaning that current large-scale happiness measurements do not represent the accurate level of happiness of the majority of the world's population (Henrich et al., 2010; Krys et al., 2023). In general, the concept of happiness has been deconstructed and reconstructed in different...
socio-cultural and historical contexts, at different times and in different events. In addition, most happiness measurements are currently dominated and taken by the 'WEIRD' population, further contributing to the misunderstanding of happiness. In current measurements of happiness, self-report-based questionnaires are the most commonly used tools (Helliwell et al., 2022). However, confounding variables associated with the time significantly reduce the reliability and validity of the measurement. One of the notable phenomena during the processes is the happiness treadmill effect, where external stimuli, whether positive or negative, are transient, and people return to their baselines of happiness after a while (Diener et al., 2006). This means that if different time points are chosen for the happiness measurement, the same subjects will show inconsistent results. Satisfaction measurements are considered one of the main indicators of happiness. In a study of 231 newlywed couples, marital satisfaction increased significantly for some time after a hurricane disaster due to increased attachment. The effect was more pronounced for couples with lower prior satisfaction. However, later, marital satisfaction returned to its original level, showing that their happiness with their partners ultimately returned to baseline(Williamson et al., 2021). Furthermore, affect, often used as an essential indicator of happiness, is an assessment of past experiences. The events experienced by the subject on the day of the test and their current state of mind can significantly influence judgments of affect concerning previous events (Newman & Nezlek, 2022; Prati & Senik, 2022). In addition, when people recall the positive or negative affects of life events, they tend to ignore the duration of the event and solely pay attention to the most intense moments of the experience and the end of the event. Therefore, their evaluations are easily shaped by the event's end, known as the peak-end rule (Do et al., 2008; OCED, 2013). In a study involving 49 students, they were asked to record the day's events via text message and rate their mood each day during a seven-day holiday; two separate tests were administered at the end and a little while after the seven-day holiday to rate the overall affect of the holiday. The two overall affect evaluations were not exactly equal to the average of the previous day's evaluation, and the two were not precisely equal mutually(Kemp et al., 2008).

To sum up, several confounding variables contributing to happiness are being inaccurately measured. Furthermore, the subjects' unpredictable cognitive processes during testing contribute to the fact that happiness cannot be measured. One study investigated the affect of question order on affective responses by adjusting the order of the questions. Subjects were asked two questions: "How happy are you?" and "How many dates have you been on in the last month?" The experiment found that the degree of correlation between the answers to these two questions depended on the order in which the questions were presented (Koehler & Harvey, 2008). Apparently, when subjects answered the dating questions first and then took the happiness measurement, they had already prioritised the dating questions, and it is generally believed that dating is a joyous event that increases happiness, so dating dominated the happiness measurement and increased the scores. This is because the human brain's memory system only records specific, representative pieces to save space for storing information, and memory for experiences is often influenced by values and 'expectations of the experience', so memory can be highly biased (Buehler & McFarland, 2001). In addition, organisms have an instinct for pleasure and avoidance of suffering. The long-term impact of negative emotions is underestimated due to the instinct named the psychological immune system, which reduces the negative affect of past events, including but not limited to dissonance reduction, motivated reasoning, self-serving attributions, self-affirmation and positive illusions (Gilbert et al., 1998). Moreover, these defence mechanisms are largely unconscious. The participants are otherwise unable to avoid the influence of the psychological immune system on their answers. For example, a study with 620 subjects demonstrated that when people rated their affect on COVID-19, the negative affective response to recalling the outbreak was significantly less than the negative affective response to predicting the outbreak (Dillard & Meier, 2023). Subjects' affective evaluations of past events, which have undergone unavoidable 'optimisation', can result in overly 'happy' judgments of past experiences, which is one reason happiness cannot be measured.
3. Net Happiness

It must not be overlooked that, thanks to the continuous development of the Internet, there are increasing happiness measurements based on big data, but this does not reflect the proper level of people's happiness. First, in terms of research tools, most happiness measurements on the Internet are based on the affective lexicon approach, that is, the analysis of the vocabulary statistics of positive and negative affective reactions of users of social media, concluding that people's happiness levels in a specific region fluctuate with circadian rhythms, seasonal changes, or the course of the COVID-19 epidemic. These studies have received much attention, and some institutions have even incorporated the findings into vital references to gross national happiness (Su et al., 2020; Helliwell et al., 2023).

However, there is a high probability that social media users' behaviour on the Internet does not correspond to the actual situation; for example, online comments made as 'catharsis' do not mean that offline users are really in a state of negative emotion, but rather may be more relieved after they are posted (Jensen, 2017). Furthermore, in many cases, the meaning of a word is likely to contradict the meaning of the whole sentence if it is focused on a single word (Metzler et al., 2022). Similarly, whether the same emotion dictionary can represent people's affect in all regions is worth considering.

For example, in some states of the United States, 'happy' is more likely to refer to a pop song than to a person's affective state; not merely that, the exact words may have different meanings as time changes (Haybron et al., 2023). Moreover, it is a stretch to assume that the same dictionary of emotions can represent all people's emotions in all regions. Secondly, in the objects sampling process, social media users are not representative of the entire population in the region, people in poor areas do not have access to mobile devices, and some people do not share their status on social media as often or even at all, depending on their habits. This exacerbates the 'WEIRD' phenomenon, which tends to overgeneralise from small to large groups (Jensen, 2017; Krys et al., 2023). Furthermore, due to the continuous development of artificial intelligence and machine learning models, 'realistic' virtual bots have emerged that are used in marketing campaigns, political actions, and fake news, generating natural language with a level of sophistication that, according to one study, resembles the language of real people. There are not just a few bots on the internet, with one study showing bot presence at 8-18% on some social media platforms, which would introduce a considerable amount of bias into internet-based measurements (Cresci et al., 2017; Fukuda et al., 2020; Kosinski, 2023).

Because of these reasons, this also results in happiness not being measurable.

4. Conclusion

Abraham Maslow wrote, "If the only tool you have is a hammer, it is tempting to treat everything as if it were a nail" (Maslow, 1966). People have been persistently exploring happiness through various 'tools', 'processes' and 'objects' to unravel the mystery of happiness. In addition to what has been mentioned previously, other aspects of happiness measurement are flawed; for example, from a physiological perspective, serotonin as a neurotransmitter is often thought to be associated with happiness, and although research has proven that low levels of serotonin do contribute to the development of disorders such as depression, this also does not mean that high levels of serotonin mean happiness (OECD, 2013); from a behavioural research perspective, some studies have used the frequency of smiling per day as a measure of happiness. However, we know that sometimes facial expressions do not equate with internal states, such as social smiling, and that some people with depression, for example, do not smile less often but suffer extensively internally (Labroo et al., 2014; Bhattacharya et al., 2019). It is disappointing and a call to action that although we still have not found a concrete way to measure happiness, this 'curiosity' about happiness is the driving force behind ongoing scientific research. In this paper, I maintain that happiness cannot be measured, but this does not represent a negative or denialist view; I hope this research will help identify the hurdles that need to be overcome when measuring happiness. There are, of course, many limitations to this paper, such as the lack of discussion on the measurement of happiness from a cognitive neuroscience perspective and the lack of discussion on the use of multiple methods to measure happiness (the combination of
the daily reconstruction method and glucocorticoids tests, etc.). Although happiness is not yet measurable, it is clearly something which we value highly, and it is worth striving for more knowledge in this area.

References


