List of Heartwarming Events: Developing an Alternative Approach to Measure and Analyse Well-Being in the Social Context

Research-in-Progress

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Abstract

In the era of the 4th Industrial Revolution, how can one improve workplace well-being? Although there is growing interest in subjective well-being for professional and private life, measurement methods still lean toward psychological well-being. The present study reevaluates the conventional methods of well-being measurements and develops a “List of Heartwarming Events” as a simple alternative method. The modified grounded theory approach (M-GTA) further complements the limitation of quantitative analysis. The new method proposed in this study effectively analyses the level of well-being with relatively less efforts by the subjects, especially in the social context. The potential of the new tool for social well-being research and management is discussed.

Keywords: subjective well-being, day reconstruction method, M-GTA, heartwarming events

Introduction

In era of the 4th Industrial Revolution, how can workplace well-being be improved? The nature of work has been dramatically revolutionised by digitisation and will continue to change. This has led to job-related fear, uncertainties, dissatisfaction, and poor human relations, among others (Stein et al., 2015; De Kok and Helms, 2016). Several studies show that productivity and creativity are related to the level of well-being (Csikszentmihalyi, 1998; Fredrickson, 2001; Yano, 2014). Moreover, research on the relationship between well-being and productivity in the workplace is in progress. By feeling happiness, the productivity of workers increased 31% and sales result grew 37% (Lyubomirsky et al., 2005).

Therefore, this critical issue must be addressed by the IS community by exploring the factors that affect workplace well-being, both positively and negatively, as well as the methods to study and to engineer them. Well-being or happiness studies are even more relevant to both professional and private lives in the present day.

However, well-being has not been well studied thus far, and no methodology has been established as yet for measuring the level of well-being. The existing methods have advantages and disadvantages, and there are no sufficient alternatives. In addition, several traditional methods are suitable for measuring psychological well-being (PWB), but very few methods exist for measuring subjective well-being (SWB). There are two principal approaches to defining well-being: hedonic and eudaimonic (Ryan and Deci, 2001). From a hedonic approach, the concept of SWB reflects the view that well-being consists of pleasure or happiness. From the eudaimonic approach, the concept of PWB relates to the belief that well-being consists of fulfilling or realising one’s daimon or true nature.
Against this background, the present study reevaluates conventional well-being measurement techniques and develops an alternative and effective method for measuring SWB. The proposed method is relatively less cumbersome and complements the existing methods. Empirical quantitative analyses are conducted along with the social context. In addition, modified grounded theory approach (M-GTA) is adopted to compensate for the limitation of quantitative analysis.

Existing Literature

**Concepts and Constructs of Well-Being**

The WHO defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946), and more recently in 2012, the UN General Assembly proclaimed March 20 as the International Day of Happiness (resolution 66/281), recognising the relevance of happiness and well-being as universal goals and aspirations in the lives of human beings around the world and the importance of their recognition in public policy objectives (UN, 2012).

To define well-being from a positive psychology perspective, Diener et al. (1991), Fredrickson (2001), and others found that positive emotion is essential for well-being, whereas Csikszentmihalyi (1998) emphasised the importance of the state of “flow.” Several researchers stated the importance of social relations with others (Diener and Seligman, 2002; Krueger et al., 2009; Rath and Harter, 2010). Seligman (2011) presented the PERMA model, which includes positive emotions, engagement, relationships, meaningfulness, and accomplishment. Through longitudinal observation of identical twins, Lykken and Tellegen (1996) revolutionised the studies on well-being by claiming that 50% of a person’s happiness is determined by genetic factors. Based on this result, Seligman (2002) and Lyubomirsky et al. (2005) found that a further 10% is determined by circumstances (economic, social situations, etc.), and the factors under voluntary control comprise 40% of determinants.

**Data Collection Method for Well-Being Research**

(1) Questionnaire Survey by Likert Scale

Lyubomirsky (2008) introduced the “Subjective Happiness Scale.” Subjects assess each of the four questions in seven levels, and the average score indicates the level of well-being. McCullough et al. (2002) adopted “The Gratitude Questionnaire-6.” Subjects assess each of the six questions in seven levels, and the average score indicates the degree of gratitude. Lykken and Tellegen (1996) asked the subjects to compare their level of happiness and content with other people on a 5-point rating scale through a self-rating questionnaire.

However, there are arguments that Likert scale is not suitable under some conditions. For instance, Schwarz and Clore (1983) pointed out that judgments of happiness and satisfaction with one’s life are influenced by the person’s mood at the time of judgment. Kahneman (2012) also questioned the robustness of the simple questionnaire on the level of life satisfaction.

(2) Experience Sampling Method (ESM)

Csikszentmihalyi (1998) adopted an ESM by asking participants to report on their thoughts, feelings, behaviours, and environment on multiple occasions over time. Although it is highly reliable, this method is cumbersome because subjects need to answer the questionnaire frequently during their daily lives (Kahneman, 2012).

(3) Day Reconstruction Method (DRM)

Kahneman et al. (2004) proposed the DRM by combining the features of time–budget measurement and ESM to assess how people spend their time and how they experience the various activities and settings of their lives. However, Diener and Tay (2014) claim that there is limited evidence for the validity and reliability of the DRM and are not entirely supportive, however, stating that DRM can be less burdensome than ESM on respondents.
(4) Wearable Device

Yano (2014) adopted a wearable device to measure body movement that correlated with the level of happiness. Gruebler and Suzuki (2014) proposed the design of a wearable device that reads positive facial expressions using physiological signals.

(5) Others

Danner et al. (2001) identified all words in autobiographies that reflected an emotional experience and classified them as positive, negative, or neutral. Fredrickson and Losada (2005) proposed a tipping point of positivity ratio from the evaluation of speech act by a well-trained coder.

Research Design

The present study aims to propose a new method to measure SWB, thereby increasing alternatives for better management of well-being. To this end, a “List of Heartwarming Events” was proposed, which served as a data collection method for SWB.

At the end of the day during the experimental period, examinees reflect upon and list the events which they feel heartwarming subjectively. Participants are asked to describe the events and whether they are alone or accompanied by others (Appendix). Number of heartwarming events indicates the level of well-being, while text data in the list suggests the resources of well-being of each respondent. The method is regarded as a simplified version of DRM.

Using the proposed method, the actual data were gathered from a company and a business school, then these data of well-being were analysed in the social context both quantitatively and qualitatively. This proposed method was compared with some existing methods to distinguish their characteristics.

Experiment

Well-being is first measured in workplaces of Japanese manufacturing companies in 2016. In 2017 and 2018, additional larger-scale experiments were conducted in the same company. Further experiments were conducted for students from three different universities.

In each experiment, the “List of Heartwarming Events” was distributed to the examinees for measuring their level of well-being. Participants in these experiments were unaware of the objective of the experiment; they were only informed how to use the “List of Heartwarming Events.”

Results

Quantitative Analysis

As there was a variation in the frequency of sheet submission, subjects who responded over more than half of the experimental period were considered valid. Moreover, the number of participants differed among the six experiments. Table 1 and Figure 1 summarise the results of the four experiments in which the numbers of valid participants were relatively large.

An indicator of the level of well-being is the total number of “heartwarming events” that the participants reported on the day. Relationship-oriented well-being was derived from the number of heartwarming events with other people, whereas events by themselves alone indicate self-oriented well-being. The box plot (Figure 1) illustrates the difference in trends between each experiment group, as well as the presence of several outliers in each experiment.

The bar graphs indicate the distribution of experiments conducted in 2017 in which the number of subjects was the largest (Figure 2). The chart showed a few participants in the outstanding high-level layer, whereas many subjects are at a lower level. Moreover, many subjects experienced relationship-oriented well-being more frequently than self-oriented well-being, but there was variation in the degree.
Table 1. Experiment Summary

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental period</td>
<td>5 days in 2016</td>
<td>5 days in 2017</td>
<td>9 days in 2018</td>
<td>14 days in 2017</td>
</tr>
<tr>
<td>Number of valid participants</td>
<td>24</td>
<td>172</td>
<td>57</td>
<td>21</td>
</tr>
<tr>
<td>Numbers of submitted sheets</td>
<td>96</td>
<td>692</td>
<td>303</td>
<td>252</td>
</tr>
<tr>
<td>Total WELL-BEING level</td>
<td>Mean 1.86</td>
<td>Mean 1.52</td>
<td>Mean 1.48</td>
<td>Mean 2.50</td>
</tr>
<tr>
<td></td>
<td>Median 1.90</td>
<td>Median 1.37</td>
<td>Median 1.25</td>
<td>Median 2.00</td>
</tr>
<tr>
<td></td>
<td>CV 0.41</td>
<td>CV 0.36</td>
<td>CV 0.45</td>
<td>CV 0.82</td>
</tr>
</tbody>
</table>

Qualitative Analysis

The M-GTA (Kinoshita, 2007) is generally applied to interview data, which are as follows: (1) transcribed word by word; (2) divided into several items according to topics; (3) each item is given a topic label (first, a definition label is given, followed by a shorter concept label); (4) items having a similar concept label are classified into category groups; (5) each category group is then given a category name; (6) all category names are mapped in the resulting figure; and (7) story lines are created from the resulting figure, which explain the structures or describe the process of the phenomena. The M-GTA was applied to the descriptions of “List of Heartwarming Events.”

Owing to the limitation of number of pages, the present study focuses on the result with the most amount of information among the several analyses that were conducted. Based on the result of the text data analysis of the outlier group of Business School (A), the topics are divided into seven categories: by myself, university tasks, professor, others/community, close relationship, family, and daily life (Figure 3). The actual text data were collected, and analysis conducted in Japanese language; therefore, Figure 3 is a translated sample.

The experiments are detailed as follows:

In order to manage work–life balance with families and others, it appears that students are occupied with fulfilling the need for academic achievement, while living busy daily life. Class, research, tasks, and group work are frequently mentioned activities. While they were grateful for the events in family life (such as sleeping/waking, meals, spending time in household chores, and saving time on going to school), occupation, business, entrepreneurship, and career referrals were mentioned as well. They also consider focusing by themselves or having their own time as a heartwarming event.

There are several references to relationships with families, children, pets, and especially babies. They also described experiencing heartwarming events with close relationships, such as friends at school, a familiar person such as friend in same “Mom” position, store clerk, and a baby sitter. With regard
Twenty-Third Pacific Asia Conference on Information Systems, China 2019

List of Heartwarming Events

The respondents also evaluated the experiments because they supported the need to enrich their daily lives.

Discussion

Evaluation of “List of Heartwarming Events” Method

The five data collection methods ((1) List of Heartwarming Events (LHE), (2) Questionnaire Survey by Likert Scale (QS), (3) DRM, (4) ESM, and (5) Wearable Device (WD)) emerging from the review of the existing literatures were compared on several dimensions (Table 2).

First, in terms of “Frequency of data collection,” QS is relatively low. Second, in terms of “Data reliability,” QS is also low because of memory tampering by a longer time lag. Third, in terms of “Less subject burden,” ESM appears to have the lowest evaluation because the subject’s activities are often interrupted by frequent intervention. Fourth, for the “Affirmation effect” dimension, both QS and WD have the lowest evaluation because the subjects have few opportunities to declare positive words in the data collection process. Fifth, with regard to “No special equipment required,” WD appears to have the lowest evaluation compared with other descriptive methods. Sixth, in terms of “Data availability,” WD shows the lowest evaluation because of its complexity in simultaneously collecting quantitative and correction data.

The proposed LHE compensates for the weaknesses of other methods SQ, ESM and WD that has highly disadvantageous in certain dimensions. Compared with DRM as the basis of our simplified version, the proposed LHE method has the advantage of a “Less subject burden.” Subjects are asked only to make a list of good events with “with whom” and “what are good.” Unlike the DRM, they need not self-diagnose for every episode. Especially, when collecting data of workplace well-being in the real setting social context, the less subject burden is critically important.

![Figure 3. M-GTA analysis of the outlier group at Business School (A)](image-url)
Hypotheses Generated from Analysis

By analysing the “LHE,” the following hypotheses are generated. These hypotheses are not deductively derived from theory but are inductively generated from data obtained by LHE. In this sense, LHE may have the power to generate unique hypotheses using bottom up approach.

(1) Some participants only focused on relationship-oriented well-being whereas others on self-oriented well-being. The proposed method reveals the diverse individual tendencies of well-being resources. Thus, it may encourage customised well-being management.

(2) Each organisation and community may have outliers whose well-being levels are unresolved. By focusing on the tendency, there is a greater possibility of improving the level of well-being of the group.

(3) Whereas some have a stable level of well-being every day, others’ level of well-being varies greatly from day to day. To raise the average level of well-being of the members of the organisation, focus on those with higher fluctuations may be essential.

Conclusion

In the era of the 4th Industrial Revolution, we are faced with two kinds of challenges. First, with more digitisation and introduction of machines, we need to change the way we work. We need to retrain ourselves for new man-machine interfaces. Secondly, if we fail to keep up with these incessant changes, we face the risk of being replaced by machines, namely unemployment, or of forced job changes. These challenges cause alienation, stress, unhappiness, disengagement, poor social relations, etc at the workplace. It is responsibility of the IS community to address these concerns and to seek ways to increase the advantage of man–machine collaboration, as well as to ameliorate the negative side of digitisation. Therefore, it is important for us to understand the factors affecting workplace well-being. The existing methodologies, however, want various improvements in areas, such as reliability, load on the subjects, and the social context.

Although the measurement of well-being in the present study based on the “LHE” is nascent, the initial results appear promising. Research questions regarding self-oriented vs. relationship-oriented well-being and happiness-prone personality have been addressed for the first time. Further studies on the measurement and its use will bring a fruitful perspective.

There are several findings and questions for the future research.

(1) If the survey using the “LHE” and conventional method is conducted simultaneously, the proposed method will be further clarified.
(2) For a more detailed quantitative analysis, it is necessary to understand the reasons of nonresponders: did they spend an unhappy day, or did they just feel hassled to answer?

(3) Since the main interest was in the social context, the information was limited to “with whom” and “what was heartwarming.” A modified questionnaire will provide further information for quantitative analysis or GTA and response to different research questions.

(4) From the organisation management perspective, this study is suitable for considering how to increase organisational strength. When combined with other methods, such as in-depth interview, knowledge from these lists will be applicable to problem solving and other purposes.

(5) If the “LHE” survey will be conducted using IT devices such as smartphones, burden on both respondents and analysts will be reduced further.

References


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**Appendix: List of Heartwarming Events (Translated)**

<table>
<thead>
<tr>
<th>Belongings:</th>
<th>ID:</th>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please write events you felt “heartwarming” during work hours today.
- Please describe with whom did you feel heartwarming, as in examples.
- Please write out all “heartwarming events” with bullets.
- Please also write out when you feel “heartwarming” through what you appreciated by others.

<table>
<thead>
<tr>
<th>No.</th>
<th>With Whom</th>
<th>What you made heartwarming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Mr. Suzuki, Ms. Sato</td>
<td>Came across to great idea during a meeting</td>
</tr>
<tr>
<td>Example</td>
<td>Mr. Takahashi</td>
<td>My colleague thanked me for my help</td>
</tr>
<tr>
<td>Example</td>
<td>By myself</td>
<td>Concentrated on work and my task progressed better than expected</td>
</tr>
</tbody>
</table>

Original version is written in Japanese