

Japanese Statistics and Happiness Measurement

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Summary

- Japanese statistics and happiness study
- Japanese econometricians and happiness study
- Japanese official statistics and happiness measurement
- *Japanese Survey on Time Use and Leisure Activities*
- *Statistical Research on the Japanese National Character*
- How to measure happiness — our future task

Japanese Statistics and Happiness Study

- Japanese Statistics Bureau introduced statistics to measure (at least partly) individual's well-being some time ago.
- *Survey on Time Use and Leisure Activities* has been conducted every five years since 1976. It measures time use and leisure activities.
- Opinion surveys are not regarded as “official statistics” by the Statistics Bureau, but other organizations have been conducting surveys to measure well-being.

Japanese Statistics and Happiness Study

- One such example is *Opinion Survey on the National Lifestyle* conducted by the Cabinet Office.
- Since 1958, this survey has been carried out annually with a sample size of about 10,000 people.
- The questionnaires consist of feelings for current and future lifestyle, including direct questions with respect to happiness.
- Many sociologists as well as researchers in political science have analyzed the data obtained by these surveys.

Japanese Statistics and Happiness Study

- The happiness study by economists has not become popular in Japan.
- Although Japan is a member country of ISSP (International Social Survey Programme), researchers who have used these surveys are mostly sociologists, not economists.
- Some sociologists have analyzed ISSP data extensively, but economic analyses have just begun.

Japanese Statistics and Happiness Study

- Japanese translation of *Happiness and Economics* by B. S. Frey and A. Stutzer (originally published in 2002) appeared in 2005. Japanese econometricians started happiness study only after this book and Layard's book were published.
- Some examples of happiness study are:
F. Ohtake (2004), K. and S. Shiraishi (2006), Ikemoto (2006), Sodekawa and Tanabe (2007).
- Sophisticated micro data analysis in the field of happiness study has not become popular among Japanese economists yet.

Japanese Statistics and Happiness Study

- There have been some statistical surveys conducted by non-government research institutes.
- The most important one is *Statistical Research on the Japanese National Character*.
- This research was first conducted in 1953 by the Research Committee of the Institute of Statistical Mathematics. Since then, a similar statistical survey has been conducted every five years, totaling eleven surveys by 2005.
- The eleventh nationwide survey was carried out in 2003.

Japanese econometricians and happiness study

An historical overview

- During 1950s and 1960s most applications of econometric methods were in the field of macro economics — from Klein's small model to the *Pilot Model* of EPA.
- The Pilot Model predicted the growth of Japanese economy until mid 1970s quite successfully.
- Japanese EPA's world model developed in late 1970 consists of over 5,000 equations.
- Mathematical theory of econometrics was well developed; it only lacked high-speed electronic computers to execute estimation until 1970.

Japanese econometricians and “Happiness” study

- In the 1970s, the power of computers increased sufficiently to perform complicated calculations to estimate large-scale macro economic models.
- Japanese economy slowed down due to the oil crisis; the prediction based on macroeconomic model failed.
- Many people began to suspect the power of econometric models; some moved to time-series analysis, seemingly neglecting underlying economic theory.
- New graduates from Economics Departments (many studied in the U.S.) moved to International Economics and/or Labor Economics where econometric methods still had room for applications.

Japanese econometricians and “Happiness” study

- In 1990s and 2000s, the performance of high-speed computers developed further: at the same time, many micro data sets became available.
- Happiness studies seem to be the natural direction these days, given relatively new data sets.
- This field may continue to attract researchers armed with economic theory and psychology, together with statistical computing power.
- You can expect contributions from Japanese economists, after a short while.

Survey on Time Use and Leisure Activities

- In the process of Japan's reconstruction after World War II, statistics on agricultural and manufacturing industries were required and developed first.
- By 1960s, Japan succeeded to recover in terms of material production which was reflected by high economic growth rate.
- Then, people realized that we should also seek mental satisfaction. In particular, when baby boomers retire from economic and social activities in the near future, non-economic activities (such as leisure activities and volunteer activities) will become increasingly important from now on.

Survey on Time Use and Leisure Activities

- The purpose of this survey is to clarify the actual state of people's social life in order to obtain basic data for several kinds of administrative measures.
For this purpose, it surveys people's time allocation and leisure activities such as Internet use, studies and researches, sports, hobbies and amusements, volunteer activities, and travel and excursions.
- The survey has been conducted every five years since 1976.
- In 2001 survey, about 77,000 households and 200,000 members of the households were surveyed.

Survey on Time Use and Leisure Activities

- Survey Items
 - Basic attributes of the household and family members: annual income, employment status, occupation, usual working hours per week, *etc.*
 - Participation in various activities such as usual economic activity, child care, and housekeeping.
 - Activities done during the past year: studies and researches, sports, hobbies and amusements, volunteer activities, *etc.*

More information is available at:

<http://www.stat.go.jp/english/data/shakai/index.htm>

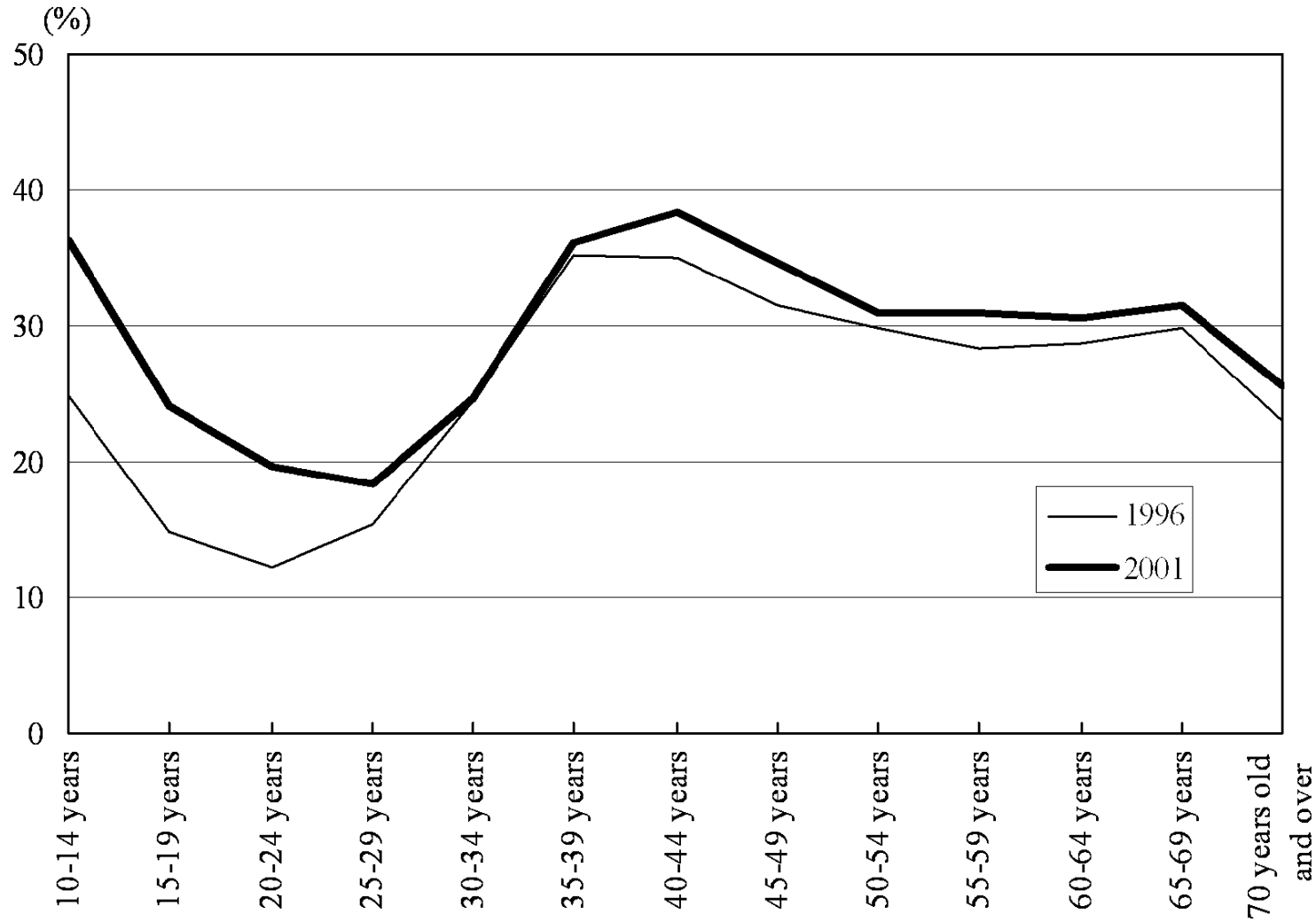
Some results for volunteer activities

- During the previous year, 28.9% people participated in volunteer activities.
- Compared with 1996 survey, the participation rate increased by 3.6 %.
- The participation rate for male was 27.0% and for female 30.6%: female participation rate was higher than male.
- Compared with 1996, the participation rates of both sexes increased, by 2.8 % for male, and 4.2 % for female.

Some results for volunteer activities

- When participation rate is broken down by age groups, the highest was 40–44 years old at 38.4%, and the lowest was 25–29 at 18.3% in 2001 .
- Compared with 1996, the participation rates in all age groups increased, the largest is for teenagers and twenties (see the next figure).
- Mental satisfaction seemed to have increased recently despite economic depression.

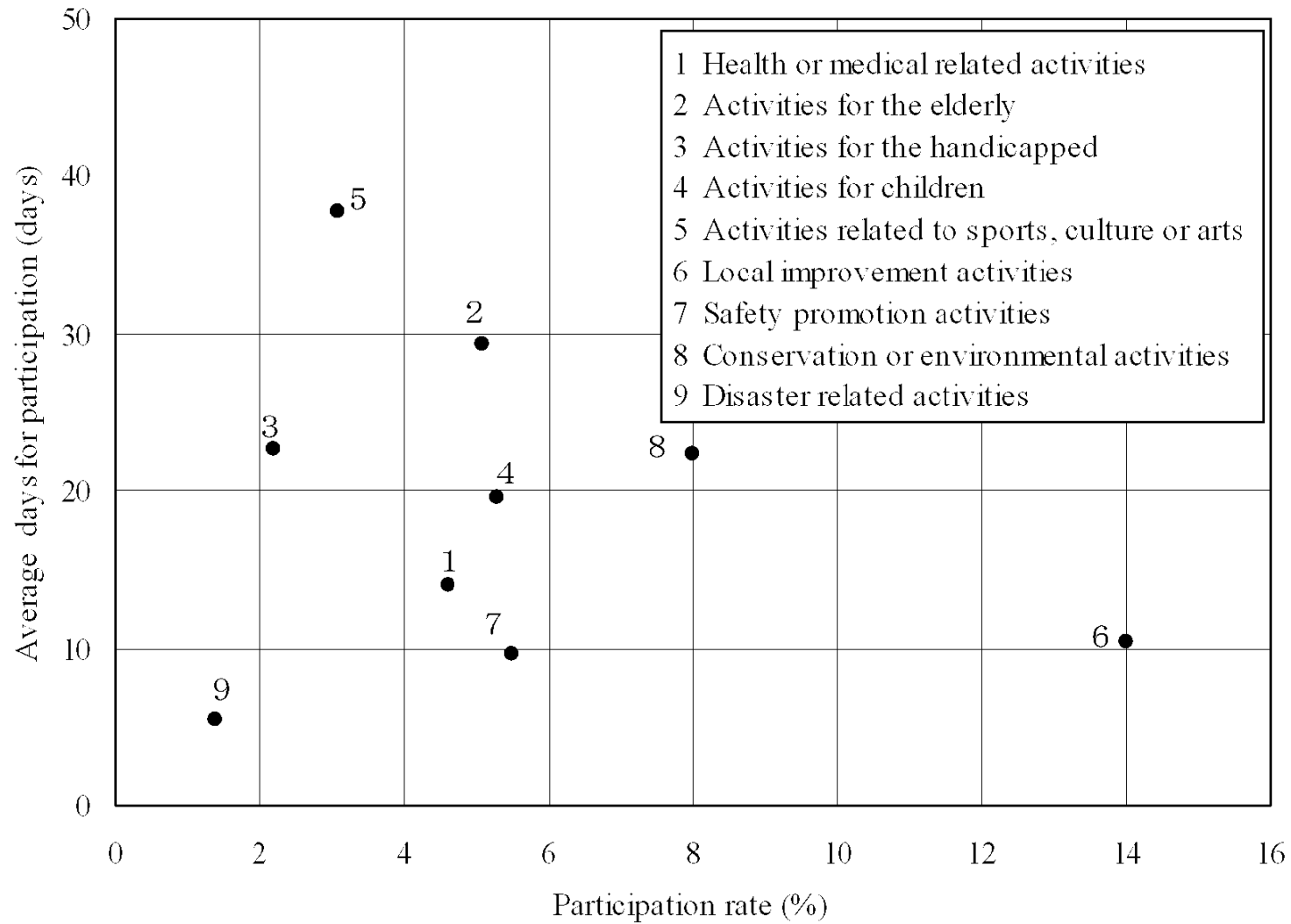
Participation rate in Volunteer Activities by age group



Survey on Time Use and Leisure Activities

- Participants in volunteer activities is broken down by kind of volunteer activities.
 - 14% people participated in “Local improvement activities,” 8.0% in “Conservation or environmental activities,” 5.5% in “Safety promotion,” and 5.3% in “Activities for children.”
- The average days in the previous year participated in a particular activity is also broken down by kind of volunteer activities.
 - Participation in “sports, culture or arts” was the highest with 37.8 days, followed by 29.4 days for “for the elderly,” and so on.

Participation rate by kind of Volunteer Activity



History of *Japanese National Character Survey*

The following description is based on Yoshino (2007) with Institute of Statistical Mathematics (ISM).

- ISM has been conducting a longitudinal nationwide social survey called “Japanese National Character Survey” every five years since 1953, using the same questionnaire items.
- Although definition of the term “national character” may be problematic, it is adopted to mean the characteristic shown in people’s response patterns of the questionnaire survey.

History of *Japanese National Character Survey*

- The question items cover various aspects of people's opinions about their culture and daily life. This survey was one of the foundations of the public opinion survey system based on the statistical sampling theory developed immediately at the post-World War II in Japan.
- The significance of this survey was clear at the time when Japan was expected to shift from the military regime to a democratic system in the latter half of 1940s.
- This survey stimulated many countries to carry out the same sort of time series surveys such as the World Value Survey, Eurobarometer, General Social Survey (GSS) of USA, ALLBUS of Germany, CREDOC of France, *etc..*

History of *Japanese National Character Survey*

- There was a time that the post-war Japanese democracy had been criticized because it was not democratic from a viewpoint of western world. Interestingly, however, Japan conducts public-opinion polls based on a statistically ideal sampling using an almost complete residential or voters' list whereas the other countries have to use other methods such as quota sampling or random-route sampling.
- The latter two sampling methods consider statistical randomness but do not yield the statistical estimate of sampling errors. As far as the system of public-opinion polls is concerned, therefore, Japan may be more democratic than the western countries.

History of *Japanese National Character Survey*

- Since 1971, the survey of ISM has been extended to a cross-national comparative study for more advanced understanding of Japanese national character.
- The focus of the cross-national surveys is the investigation of the statistical comparison of peoples' social values and their ways of thinking and feeling.
- More explicitly, the concern has been with cultural identities and people's attitudes toward economy, freedom of speech, interpersonal relationships, leadership, politics, public acceptance of science and technology, religion, social security, *etc.*

History of *Japanese National Character Survey*

- These aspects may clarify certain similarities or dissimilarities that are represented by psychological distances between countries or races in certain statistical pattern analyses of responses.

How to measure happiness — our future task

- Japan has extensive experience in measuring sensitivity and sense of humans.
- Japanese “sake” tasting and sensitivity test
- Toyota Motor Corporation succeeded in developing new models using sensitivity tests.
- Musical instruments and sensitivity test: Yamaha’s example
- Combined with experiences at ISM, we may be able to create high-quality data-sets of happiness measurement.
- We are still uncertain when the measurement of happiness is applied to policy-making.