

# Hijacking the Policy-Making Process

Political Effects of the International Fertility Decision-Making Study for 2010s' Japan

TANAKA Sigeto (Tohoku University)

## Table of contents

- 1 Nationalism and International Comparison
  - 2 Background: The “Egg Aging” Propaganda in 2010s Japan
  - 3 The IFDMS
    - 3.1 Outline of the IFDMS
    - 3.2 Information sources
    - 3.3 The process of making and translating the questionnaire
  - 4 Defects of the IFDMS
    - 4.1 Mistranslations
    - 4.2 Social context ignored
    - 4.3 Men’s pregnancy
    - 4.4 Comparability among samples
  - 5 Key Actors in Disseminating the IFDMS Results
    - 5.1 The researchers
    - 5.2 Media
    - 5.3 Medical authorities
    - 5.4 Government
  - 6 Rhetoric to Arouse Public Attention
  - 7 Border Segmentation to Avoid Scrutiny
  - 8 Translations to Conceal the Defects
    - 8.1 Concealed problems of the IFDMS
    - 8.2 Questionnaire unavailable
    - 8.3 Barrier of linguistic differences
  - 9 Lessons from the Case of the Misuse of the IFDMS Results
- References
- Acknowledgement
- Figures

---

Get full paper via

<http://tsigeto.info/hij/>

or

[https://researchmap.jp/mugn3y18m-58901/#\\_58901](https://researchmap.jp/mugn3y18m-58901/#_58901)



## Abstract

Studies that compare social conditions in a certain country with those of other nations can result in national feelings of inferiority or superiority. Comparative studies thus often serve as political devices. Owing to the development of the Internet and translation technology, large-scale, cross-national surveys have become a low-cost means to manipulate public opinion.

In this paper, I introduce the case of the political use of the International Fertility Decision-Making Study (IFDMS) in Japan. IFDMS was conducted in 2009-2010 by researchers from Cardiff University and Merck Serono, a global pharmaceutical company. IFDMS prepared a questionnaire in 13 languages for 18 countries, targeted at both men and women who were trying to conceive. It featured questions regarding medical knowledge about pregnancy. According to the published results, the respondents who lived in Japan exhibited a lower level of knowledge about conception than those in other countries. Based on this result, medical authorities in Japan insisted that, because of the lack of knowledge, the Japanese people had thoughtlessly postponed childbirth, resulting in fertility decline. The government accordingly created a new outline of population policy in 2015, in which it referred the results from IFDMS to advocate sex education for youth in order to encourage early marriage.

However, IFDMS is unreliable. It has many defects including mistranslations in the questionnaire. Nevertheless, results from IFDMS were accepted as reliable scientific findings in conferences and journals in the field of natural sciences in Europe, bypassing scrutiny by social science researchers in the targeted countries. Language differences also prevented the accurate understanding of the research results. The case of the political effect of IFDMS thus teaches us that social impacts of comparative studies may be deceptive and nullify social scientific efforts to accurately perceive the society in which we live.

**Keywords:** cross-national survey, translation, science communication

## 1 Nationalism and International Comparison

International comparisons tend to stimulate nationalism. Numerical indexes about the performance of a national economy, such as Gross Domestic Product (GDP), serve as a source of the national pride (or inferiority) of the nation. This also applies to such indexes as the Global Gender Gap Index, a synthesized scale of gender inequality measured by the World Economic Forum, and the results of the Programme for International Student Assessment (PISA), an evaluation of students' academic performance conducted by the Organisation for Economic Co-operation and Development (OECD). These indexes are reported with a list ranking countries, resulting in competition among countries for a higher ranking in the global hierarchy.

Recent developments in survey techniques have dramatically reduced the cost of comparative research. Today you can easily conduct a cross-national survey via the Internet, using a survey company and translators, if you have a substantial budget. Results of such a low-cost survey can serve as a political device to justify a particular opinion in a country. Such research results may be valuable for those who advocate the opinion in their efforts to realize it in the country's policy. On the other hand, the political use of research results is also valuable for the researcher as a source of evaluation of the social impact of his/her research.

This paper focuses on the case of the International Fertility Decision-making Study (IFDMS), which was an important element of the "egg aging" propaganda led by professionals, the government, and mass media in Japan in the 2010s. The IFDMS was a cross-national survey project conducted in 2009–2010 by a Cardiff University research group and a global pharmaceutical company, Merck Serono, funded by the Economic and Social Research Council (ESRC) of the United Kingdom. The IFDMS found that those who live in Japan seem to have a low level of fertility awareness. This result prompted Japan to establish its self-image as a society without sufficient knowledge of human fertility.

It has become clear, owing to scrutiny conducted after the publication of the results of the IFDMS, that the

quality of the survey was too low for its results to be relied upon. However, the results have already exerted political power as scientific evidence for low fertility awareness among Japanese people. Why did such a low-quality survey have such political power? To explore this phenomenon, we analyze discourses about the IFDMS, tracing the history of the political use of the survey's results.

## 2 Background: The “Egg Aging” Propaganda in 2010s Japan

The IFDMS has been an element of the “egg aging” propaganda, which Japanese society witnessed in the 2010s. Japan has experienced floods of fake knowledge about human reproduction in recent times. Most of this fake knowledge has been created by professionals in the fields of obstetrics, gynecology, and reproductive medicine and spread widely by a mass media campaign backed by academic associations. Such knowledge has also been used by the government as scientific evidence to justify encouraging pregnancy and childbirth for young women (Tanaka 2017c).

“Egg aging” (卵子の老化) has been the key concept in the campaign. This concept was originally a biological term for the degeneration of eggs (or female germ cells) owing to a long delay in the process of meiotic division (Suzuki 1979). As it acquired popularity, however, the concept widened its connotations. Consequently, the term “egg aging” today is not limited to the degeneration of germ cells but covers a wide range of fertility problems experienced by women of an advanced age. It thus serves as a magic phrase to represent many aspects of latent biological mechanisms of declining fertility (Masuda 2018).

From a macro-level view, Japan has experienced a decline in its birthrate. Since 1990, the declining birthrate has been seen as a social problem. Although low fertility became a high-priority political agenda, the country's total fertility rate (TFR) continued to drop, to 1.26 in 2005, the lowest rate in the history of Japanese birthrate statistics (IPSS 2018: Table 4-3). By 2015, the TFR had risen to 1.45, but it is still critically lower than the replacement level of 2.07.

## 3 The IFDMS

The IFDMS was a cross-national multi-lingual survey conducted in 2009–2010, targeted at 18 countries in 13 languages.

### 3.1 Outline of the IFDMS

The outline of the survey is shown below. See Section 3.2. for information sources.

**Name:** “Starting Families” Survey; International Fertility Decision-Making Study.

**Project leader:** Professor Jacky Boivin at Cardiff University.

**Collaborators:** Merck Serono, the International Consumer Support for Infertility (iCSi) community, and others (listed in Bunting et al. (2013) and Merck Serono (n.d.)).

**Survey date:** July 2009 to April 2010.

**Target countries:** Australia, Canada, Denmark, France, Germany, Italy, Japan, New Zealand, Portugal, Spain, UK, USA, Brazil, China, India, Mexico, Russia, and Turkey. (People from other countries also filled out the online questionnaire; the resulting answers were collected from a total of 79 countries.)

**Participants:** People between 18 and 50 years of age, currently married or living with their partner, and trying to conceive for at least 6 months. (The collected answers included people who were over 50 years of age or trying to conceive for less than 6 months; these answers were used in the analysis.)

**Valid responses:** 10,045. Of 10,615 collected responses, duplicate cases (154), incompletely answered

surveys (more than half of the questions were missing: 278 cases), and invalid data (138 cases) were removed.

**Language:** Danish, French, German, Italian, Spanish, Portuguese (European and Brazilian), Turkish, Japanese, Hindi, Russian, and Chinese (Mandarin).

**Survey method:** Social research panel (for Japan, Russia, India, and China), paper questionnaire distributed in fertility clinics (for India and China), and online survey (recruited through Google, Facebook, and other various ways).

**Survey contents:** Questionnaire consisting of 64 questions divided into five parts.

**Funding:** ESRC RES-355-25-0038; Merck Serono.

### 3.2 Information sources

The main resource to obtain information on the IFDMS is the paper published on *Human Reproduction* (Bunting et al. 2013). The online version of the paper was first released in December 2012, and the final publication date was January 15, 2013. Secondary resources are the press release by Merck Serono (2010a, 2010b), the report for a general audience titled *Fertility: The Real Story* (Merck Serono n.d.), and the presentation at the 26th annual meeting of the European Society of Human Reproduction and Embryology (ESHRE) in Rome (Boivin et al 2010).

There is no published IFDMS questionnaire. I contacted Professor Jacky Boivin, the representative researcher of the IFDMS project, and obtained the Japanese version of the questionnaire directly (PDF files for male and female respondents) (Tanaka 2016a, 2016b, 2016c). I obtained only the Japanese questionnaire; no information about other versions is available, except for the English version of the Cardiff Fertility Knowledge Scale (CFKS) —a set of questions to measure the respondent’s medical knowledge on fertility issues— listed in the appendix of Bunting et al (2013: 397).

### 3.3 The process of making and translating the questionnaire

According to Bunting et al (2013), the IFDMS questionnaire was framed in English, pre-tested by potential respondents, and then translated. The first translation from English to each target language was conducted by the Cardiff University Centre for Lifelong Learning<sup>1</sup>. The translation was then checked by local fertility experts. The final version of the translated questionnaire was the version agreed upon by both the local fertility expert and the translator.

The questionnaire-making process above suggests that the IFDMS was not designed as comparative research using multiple languages. In the process, questions may not have been selected to ensure comparability among different social conditions. The translated versions were not pre-tested by potential respondents. This could have resulted in unreadable or unanswerable questions being retained in the questionnaire.

When conducting an international survey, a research project should have diverse members in terms of their language and culture. Such information is not disclosed about the IFDMS.<sup>2</sup>

## 4 Defects of the IFDMS

The IFDMS has many defects that reduce the validity of measurement and comparability across countries. I explain some of these defects in the following. See Takahashi (2015) and Tanaka (2016a; 2017a) for details.

---

<sup>1</sup> The website of the Centre at that time: <http://web.archive.org/web/20120305162123/http://www.cardiff.ac.uk/learn/>

<sup>2</sup> Tanaka (2016a) reported that there is profile of a member of the research group available from the personal SNS account.

#### **4.1 Mistranslations**

Looking at the Japanese version of the questionnaire, the overall impression is that the quality of the translation is poor. There are many unnatural Japanese phrases within the 17 pages of the questionnaire, as well as spelling errors (e.g., “atana” instead of “anata” [=you]).

Mistranslations are found among the 13 items of the CFKS. Many English expressions involving comparisons and tendencies (e.g., “more,” “never,” and “likely to”) are not translated. For some items, Japanese postpositional particles are misused to make unintended connotations. In questions about male fertility, the terms “fertility” and “fertile” are translated as the Japanese word “授精”, which means “artificial insemination” and thus stops the respondent from thinking about pregnancy in natural course without assistance of reproductive technology. In total, I identified 10 of the 13 items as improperly translated (Tanaka 2017a).

In addition, the order of the 13 items of the CFKS differs between the English and Japanese versions (Tanaka 2016a). In the English version, the eighth item is “Having a healthy lifestyle makes you fertile.” In the Japanese version, the corresponding item is fifth. It is an elementary mistake to fail to retain the identical order in a series of questions. In the Japanese version, this item follows two items about the effects of smoking. This would cause a carryover effect that reminds the respondent of the negative relationship between fertility and an unhealthy lifestyle (Tanaka 2017a). Such an effect will be weak in the English version, because the item of “Having a healthy lifestyle...” is separated from the items about smoking.

#### **4.2 Social context ignored**

The second item of the CFKS includes the statement “A couple would be classified as infertile if they did not achieve a pregnancy after one year of regular sexual intercourse (without using contraception)” and sets the right answer as “TRUE.” However, the answer should have depended on the definition of infertility in each society. In Japan at that time, for instance, the standard definition from the Japan Society of Obstetrics and Gynecology (JSOG 2008: 276) applied the term “infertility” to couples who had not conceived after regular intercourse of *two* years. The item thus failed to capture the existing international varieties in the definition of the term.

#### **4.3 Men’s pregnancy**

Although different questionnaires were prepared for women and men, they were almost identical. As a result, some questions were unanswerable for male respondents: the questionnaire for men includes questions about the respondent’s thoughts on why he is not pregnant.

#### **4.4 Comparability among samples**

The IFDMS adopted different strategies to recruit participants according to the social conditions under which the survey was conducted: a social research panel (SRP) for Japan and Russia; an SRP plus distribution of the paper questionnaire at fertility clinics for India and China; and recruitment through advertising (on Google and Facebook) or through other online networks for other countries (Bunting et al 2013).

The differences in forms of recruitment may result in differences in the recruited participants in terms of background, interests, knowledge, motivations, and so on. The data will be thus incomparable among countries (Takahashi 2015).

## 5 Key Actors in Disseminating the IFDMS Results

### 5.1 The researchers

In 2011, Jacky Boivin, the leader of the IFDMS project, visited Tokyo to give lectures on the results of her study to the mass media on February 9 and to Diet members on February 10 (Boivin 2011; Miura 2011). These lectures are mentioned in the “Impact Report” submitted to the ESRC: “Due to important results concerning Japan, Professor Boivin presented to Yuko Obuchi, Minister for Declining Fertility at the Japanese Parliament” (Boivin 2011: 3).<sup>3</sup>

Professor Boivin was interviewed by a team from NHK (the Japan Broadcasting Corporation) in May 2012, and the interview was used in TV programs and a book (see Section 8.3).

As we have seen, the IFDMS has many defects. The research group of the IFDMS may have been aware of the defects at least partially (see Section 8.1). However, there is no record of the researchers providing any explanations or expressing any reservations with regard to the defects.

### 5.2 Media

The IFDMS was first introduced by the Japanese media (Hibino 2010; Sinmura 2010) once the survey results had appeared at a meeting of the ESHRE in June 2010 in Rome. These articles were already addressing the low CFKS score of Japan.

In February 2011, newspapers (Mainichi 2011) and online media (Amano 2011) featured the results of the IFDMS on the basis of the lecture by Boivin mentioned above. They referred to the results uncritically.

In 2011, *FRaU* magazine also published a special issue on fertility (Kodansha 2011). Professor Boivin appeared in the issue and introduced some results from the IFDMS.

In 2012, NHK broadcast TV programs on infertility issues. These programs aroused public interest in infertility and the concept of egg aging. The team of NHK reporters visited Cardiff University and interviewed Professor Boivin. Although details of the IFDMS were not included in the TV programs, the NHK team published a book on the same issue in the following year. This book (NHK 2013) raised some questions about the measurement of the CFKS score, which we will see in Section 8.3.

Since 2013, many books, articles, and online media have featured egg aging. Many of them included the IFDMS to introduce the low level of knowledge about human fertility among Japanese people.

### 5.3 Medical authorities

Dr. Saito Hidekazu, an obstetrician/gynecologist at the National Center for Child Health and Development, featured the IFDMS results in his presentations and lectures (Saito 2014, 2015). He thereby advocated new policies to introduce fertility-related knowledge into education.

Organizations of doctors also referred to the IFDMS. The Japan Association of Obstetricians and Gynecologists (JAOG) repeatedly featured the IFDMS results in its monthly press conferences (Kuribayashi 2014; Adachi 2015; Kinoshita 2016) and newsletter (Kinoshita, 2015b)<sup>4</sup>. The IFDMS thus facilitated the establishment of Japan’s self-image as a society lacking knowledge about human fertility. The president of the JAOG, Kinoshita (2015a; 2015b), states that it is the responsibility of the national organization of obstetricians and gynecologists to instill notions of healthy pregnancy and childbearing in children.

---

<sup>3</sup> Obuchi was a Diet member but not in fact a minister at the time.

<sup>4</sup> Kinoshita (2015b) is a reprint of Kinoshita (2015a).

In March 2, 2015, nine associations —the JAOG, the Japan Society of Obstetrics and Gynecology (JSOG), the Japan Society of Reproductive Medicine, the Japan Society of Maternal Health, the Japan Society of Perinatal and Neonatal Medicine, the Japan Society of Gynecologic Oncology, the Japan Society for Menopause and Women’s Health, the Japan Society of Adolescentology, and the Japan Family Planning Association— submitted a petition to Arimura Haruko, the then-minister in charge of measures to counter the declining birthrate (JFPA 2015). The petition mentioned the results of the IFDMS as evidence of Japan’s low fertility awareness in the context of substantiating the argument that schools should teach fertility issues, in particular, medical knowledge regarding the age-related decline of women’s fertility. Lobbying by these organizations was effective in encouraging the Japanese government’s implementation of a new pronatalist policy, as we will see in the next section.

#### **5.4 Government**

In November 2012, Diet member Noda Seiko (Liberal Democratic Party: LDP) mentioned the IFDMS in a question to the Cabinet (Noda 2012). In this question, Noda introduced some findings from the IFDMS as evidence of Japan’s low fertility awareness. As Boivin (2011) reported, Noda had attended the lecture featuring the IFDMS results held in the Diet in February 2011. She may have prepared the question on the basis of the contents of the lecture.

In December 2012, the LDP won the general election under the leadership of Abe Shinzo. As the new cabinet (Second Abe Cabinet) started, it launched a taskforce to handle the low birthrate issue. Dr. Saito Hidekazu became a member of the taskforce. He used figures from Bunting et al (2013) in presentations at taskforce conferences to argue for the necessity of education on human fertility.

In March 20, 2015, the government (Third Abe Cabinet) determined the new administration outline for policies targeting low birthrates (Cabinet Office 2015), one of the pillars of which was improved education on fertility. According to the appendix of the outline, the government made it a goal to increase understanding of scientifically and medically correct knowledge about pregnancy and childbirth to 70% by 2020, up from 34% in 2009. The appendix of the outline states that the figure of “34%” was based on Bunting et al. (2013), but this figure is not found in their paper. Bunting et al (2013: 392) indicate a score (CFKS) for Japan of 37 or 38 (Tanaka 2017c).

### **6 Rhetoric to Arouse Public Attention**

Discourses about the results of the IFDMS were accompanied by rhetorical appeals to public opinion. Hibino (2010), one of the earliest reports on the IFDMS in Japanese, already had a title emphasizing the difference between Japan and other countries. In the following years, reports on the IFDMS maintained that Japan was different from the rest of the world (Miura 2011) and that it was the lowest ranked among developed countries regarding fertility-related knowledge (Tarui 2015).

Figure 1 is a graph from a document prepared for a governmental conference on population policies (Saito 2014). The graph was reproduced from Bunting et al (2013). Saito added explanations in red Japanese characters that Japan’s score was the second lowest among the surveyed countries, next to Turkey.

This kind of rhetoric had the effect of causing feelings of national inferiority. Because the score was low for Japan, the survey results were interpreted as indicating that something had been wrong in Japanese society in dealing with knowledge related to human reproduction. In addition, comparisons with other countries’ scores led to the impression of Japan as an outlier among the developed countries — that is, Japan was still not a properly developed country, so people should make an effort to raise the status of the country in the hierarchy of international society.

Discourse about the IFDMS has also been associated with another aspect of nationalism: fear of a shrinking population. As we mentioned above, the results from the IFDMS were referred to in the context of devising population policy in response to the declining national birthrate. It was a part of the “egg aging” propaganda based on the idea of linking the age-related decline in biological fertility and the country’s birthrate decline in these decades. Given that women’s average age at first childbirth was as old as 30 years, people were concerned about the trend of the delaying marriage and childbirth. They called for a political movement to educate people about human reproduction in order to encourage women to become pregnant earlier in life and thereby stop the decline in population of Japanese society.

## **7 Border Segmentation to Avoid Scrutiny**

The IFDMS is a cross-national multi-lingual social survey. It should therefore have been subjected to scrutiny by social science researchers who are familiar with the societies surveyed.

It escaped such scrutiny because the results were presented and discussed outside of the field of the social sciences. It first appeared in a meeting of the European Society of Human Reproduction and Embryology (ESHRE). The main source on the IFDMS is Bunting et al (2013), a paper from *Human Reproduction*, an official journal of the ESHRE. Accordingly, discussion on the IFDMS took place within the circle of researchers and doctors in reproductive medicine.

While the IFDMS results were being used for political purposes, the social sciences were unaware of them. By the time of the first response from a Japanese social science researcher (Tanaka 2016a), the IFDMS had already established its status as the authorized resource for evidence of poor fertility-related knowledge in Japanese society (Tanaka 2017b).

Discussion in the field of reproductive medicine did not critically examine the validity of the survey methods employed by the IFDMS. It is obvious that social survey methodology is outside of the scope of medical research. However, general audiences do not care about such differences in specialty among academic disciplines. In spite of the lack of scrutiny of the survey’s quality, the mass media, the public, and the government accepted the IFDMS results as a reliable source of evidence, in line with the endorsement provided by doctors and their associations.

## **8 Translations to Conceal the Defects**

### **8.1 Concealed problems of the IFDMS**

Although the IFDMS has many defects, as mentioned above, only limited information has been available to allow the public to evaluate the quality of the IFDMS. There has not been comprehensive information to evaluate the validity of the survey result. In particular, there has been no IFDMS questionnaire published.

We thus have to rely on secondary resources to investigate the survey. However, such secondary information is often manipulated. For example, when the press release by Merck Serono (2011a, 2011b) picked up some findings from the study, it rephrased the questions.

- Merck Serono (2011a) refers to one question as “a couple is considered infertile and should seek help after 12 months of trying to conceive, unless over 35 years of age, when it should be after 6 months.” The actual wording used for the survey is “A couple would be classified as infertile if they did not achieve a pregnancy after 1 year of regular sexual intercourse (without using contraception).” Comparing these two statements, the former uses the verb “consider,” while the latter uses “classify”; the latter gives the impression of categorization according to a strict criterion. Moreover, the former adds an exception for

those who are over 35 years of age, while the latter does not.

- Merck Serono (2011a) refers to a question as “women in their 40s have a similar chance of getting pregnant as women in their 30s.” The actual wording of the question in the questionnaire is “These days, a woman in her 40s has a similar chance of getting pregnant to a woman in her 30s.” Putting aside the grammatical difference in the number of the subject, Merck Serono omits the introductory phrase “These days.” This omission alters the connotation of the question. Although the original question asks about the evaluation of the achievement of reproductive medicine on pregnancy at an advanced age, this connotation does not remain after this omission.

This press release explains the lack of representativeness of the IFDMS samples: “Results are not representative of the general population”; “each time that a country is mentioned, one should read the statement as representative of the participants interviewed from that country, and not necessarily representative of the total population of that country” (Merck Serono 2011a: 3). The paper by Bunting et al. (2013) also repeatedly addressed the voluntary bias in the IFDMS samples. Nevertheless, these caveats have been ignored by those who used the survey results politically.

## 8.2 Questionnaire unavailable

As I mentioned above, the questionnaires of the IFDMS have not been made available to the public. To obtain them, it is necessary to request them directly from the research group. You may receive them if you are lucky enough.

The English version of the CFKS items is listed in the appendix of Bunting et al (2013: 397). This may be the only case in which authentic information about the IFDMS questions is available to the public. Although the press release by Merck Serono (2011a, 2011b) and the report (Merck Serono n.d.) mention some questions in the IFDMS, they may not be identical to what was asked in the survey. Bunting et al (2013: 387) direct readers to the URL <http://www.startingfamilies.org> for details on the IFDMS. This URL is redirected to a webpage on the Cardiff University site with no information about the IFDMS (Figure 2). Another domain, [www.startingfamilies.com](http://www.startingfamilies.com), which offered the online questionnaire of the IFDMS, has expired and is being sold. The Internet Archive (<http://archive.org>) keeps a record of the main page of this website, but it include no pages from the online questionnaire for any language (Figure 3). It is unclear whether these websites were accessible before the manuscript for the paper by Bunting et al. (2013) was submitted to *Human Reproduction* or whether they were deleted after the manuscript passed the peer review procedure of the journal.

## 8.3 Barrier of linguistic differences

Language is an important factor in understanding how the IFDMS avoided scrutiny. The research group published information about the IFDMS in English. The subsequent academic discussion was also held mainly in English. It was thus difficult for the general public in Japan to access the academic discourse on the IFDMS. This prevented open public debate on the validity of the IFDMS results in Japan, where the vast majority is Japanese speaking and public discourse is almost all in Japanese.

Given the lack of access to the primary information offered by the IFDMS research group, public debate in Japan has relied on secondary information translated into Japanese by the mass media. It is interesting that the Japanese media did not report the Japanese version of the questionnaire itself, although it should have been available on request from the research group. Instead, they used their own, inaccurate translations from comments or press releases by the research group.

For example, when Japanese newspapers reported the result of the IFDMS for the first time, they quoted one question as “健康的な生活を送っていれば妊娠できる” (Mainichi 2011). This Japanese translation is

quite different from the question in the Japanese questionnaire: “健康なライフスタイルであれば受胎能力がある。” The former has a more similar meaning to the English version of the question, “Having a healthy lifestyle makes you fertile,” than does the latter. The article by Mainichi (2011) continued by reporting that the ratio of the correct answer to this question was lower in Japan than in the UK and Australia, but it did not mention that the result was not comparable between the Japanese and English questionnaires because of the improper translation and the different ordering of question items (see above).

Some articles (Kawai 2015; Tarui 2015) offer lists of their own translation of all 13 questions for the CFKS that differ entirely from the questionnaire that was actually used for the survey. For example, Tarui (2015) presents one question as “標準体重より 13 kg 以上重い、肥満の女性は妊娠し難い。” This is a better (though inaccurate) translation than the unnatural sentence in the IFDMS’s Japanese version: “女性が 13 キロ以上太りすぎていると妊娠できないかもしれない” (the English version says, “If a woman is overweight by more than 2 stone (13 kg or 28 pounds), then she may not be able to get pregnant”). Tarui may have directly translated this from the list of English questions for the CFKS (Bunting et al. 2013). However, she provides no notification that the translation is her own or that it is not identical to the questionnaire actually used in the survey. It thus gives the misleading impression that the questions were presented to the survey respondents as natural and readable Japanese texts.

NHK behaved in a more sophisticated manner to conceal the defects of the Japanese version of the IFDMS questionnaire. The book by the team of NHK (2013) describes a relatively similar version of the real questionnaire of the IFDMS. However, its wording is manipulated to guide the audience away from suspicions about the quality of the survey.

Tanaka (2016a) took four examples found in NHK (2013: 136–137). For the first two examples, the quoted texts were in quotation marks; the latter two were not.

- For the item “These days a woman in her 40s has a similar chance of getting pregnant to a woman in her 30s,” NHK (2013) quoted it as “四十代の女性でも三十代の女性と同じくらい妊娠する可能性があるか否か,” instead of the expression in the Japanese IFDMS questionnaire, “今日では 40 代の女性でも 30 代の女性と同じくらい妊娠する可能性がある。” NHK thus omitted the first phrase “These days” (今日では) from the question, as Merck Serono (2011a, 2011b) had done (see Section 8.1). NHK’s translation thus deleted the original connotation and gave the impression of asking about the universal knowledge concerning the relationship between age and pregnancy, regardless of the assistance of reproductive technology.
- For the item “A woman is less fertile after the age of 36 years,” NHK (2013) used “女性は三十六歳を過ぎると受胎能力が落ちるか。” The expression in the Japanese IFDMS questionnaire is “女性は 36 才を過ぎると受胎能力が落ちる。” NHK thus appended the sentence-final particle “か” (ka) to change the sentence into the interrogative form. This makes the focus of the sentence clear, asking whether a woman’s fertility declines after the age of 36, rather than asking about the precise point at which the decline starts.
- For the item “If a woman is overweight by more than 2 stone (13 kg or 28 pounds), then she may not be able to get pregnant,” NHK (2013) described it as “女性の肥満が不妊を招く。” NHK thus simplified the expression in the Japanese IFDMS questionnaire, “女性が 13 キロ以上太りすぎていると妊娠できないかもしれない,” to make it more understandable.
- For the item “People who have had a sexually transmitted disease are likely to have reduced fertility,” NHK (2013) described it as “性感染症が不妊の原因となる。” In the Japanese IFDMS questionnaire,

the corresponding question is “性病に罹ったことのある人は受胎能力が減少する,” which implies that a sexually transmitted disease *always* reduces one’s fertility. NHK thus revised the expression to have the connotation that a sexually transmitted disease *probably* reduces one’s fertility.

It is highly probable that NHK knew the original wordings and intentionally rewrote them. That is because NHK (2013) presented an almost identical text to the IFDMS Japanese questionnaire for the first two examples. These are subtle differences. Nevertheless, these differences may be effective in preventing reasonable doubt among readers and leading them to accept the prepared story (Tanaka 2016b). The book (NHK 2013: 136) concludes that the survey revealed that Japanese men and women had a poor knowledge of pregnancy.

## 9 Lessons from the Case of the Misuse of the IFDMS Results

As we have seen above, the IFDMS exerted an emotional effect, arousing feelings of national inferiority by pointing to the fact that those who live in Japan exhibit a low average in the CFKS score. This effect was accelerated by growing concerns about the decline in population numbers with the result that the government pursued a pronatalist policy with reference to the result of the IFDMS.

Border segmentation between cultures —between the fields of the natural and social sciences and between languages— hampered an accurate understanding of the survey. If the survey results were subjected to scrutiny, no matter how they had emotional effects, the defects of the survey could be easily detected. In reality, however, such scrutiny was avoided. As the survey results were discussed in the field of reproductive medicine in Europe, no critical assessment was made from the perspective of social survey methodology, of domestic knowledge in Japanese society, or of Japanese native speakers’ insights.

It is noteworthy that the IFDMS was funded by the UK’s ESRC. The IFDMS researchers reported to the ESRC the social impact of the research results on the Japanese government and media (Boivin 2011). Taxpayers may not care whether their research funding supported a source of fake news outside the UK. The problem of the IFDMS reveals not only the too-hasty conduct of researchers seeking social impact (Tanaka 2017b) but also the lack of social control over the negative impact of misused research results exported across national borders.

To conclude: Cross-national surveys may have the power to hijack public opinion and policy-making processes by stimulating national sentiment. In addition, they can adopt a variety of tactics to avoid scrutiny through public debate. It is therefore an urgent matter to identify ways in which we can protect our society against the misuse of research results and to secure the quality of comparative study in a globalizing world.

## References

- [Adachi 2015] 安達 知子 (2015) 性教育 15歳以下の望まない妊娠・出産ゼロを目指す (日本産婦人科医会 記者懇談会 2015.7.8). <[http://www.jaog.or.jp/all/document/89\\_150708ta.pdf](http://www.jaog.or.jp/all/document/89_150708ta.pdf)>
- [Amano 2015] 天野 馨南子. (2015). 「女性活躍推進」=「少子化推進」の失敗を繰り返さないために: 超少子化社会、脱却への一処方箋 (ニッセイ基礎研究所 基礎研レポート 2015-02-23). <<http://www.nli-research.co.jp/report/detail/id=42236>>
- [Boivin 2011] Boivin, J. (2011). His & her biological clock (ESRC Impact Report, RES-355-25-0038). <<http://www.researchcatalogue.esrc.ac.uk/grants/RES-355-25-0038/read>>
- [Boivin et al 2010] Boivin J., Bunting, L., Tsibulsky, I., Kalebic, N., & Harrison, C. (2010). O-289 What makes people try to conceive?: Findings from the International Fertility Decision-Making Study. *Human Reproduction* 25, i114-i117. <doi:10.1093/humrep/de.25.s1.69>
- [Bunting et al 2013] Bunting, L., Tsibulsky, I., & Boivin, J. (2013). Fertility knowledge and beliefs about fertility treatment. *Human Reproduction*, 28(2), 385-397. <doi:10.1093/humrep/des402>
- [Cabinet Office 2015] 内閣府. (2015). 少子化社会対策大綱. <<http://www8.cao.go.jp/shoushi/shoushika/law/taikou2.html>>
- [Fassbender 2016] Fassbender, I. (2016). Enhancing autonomy in reproductive decisions?. *Contemporary Japan*. 28(2),

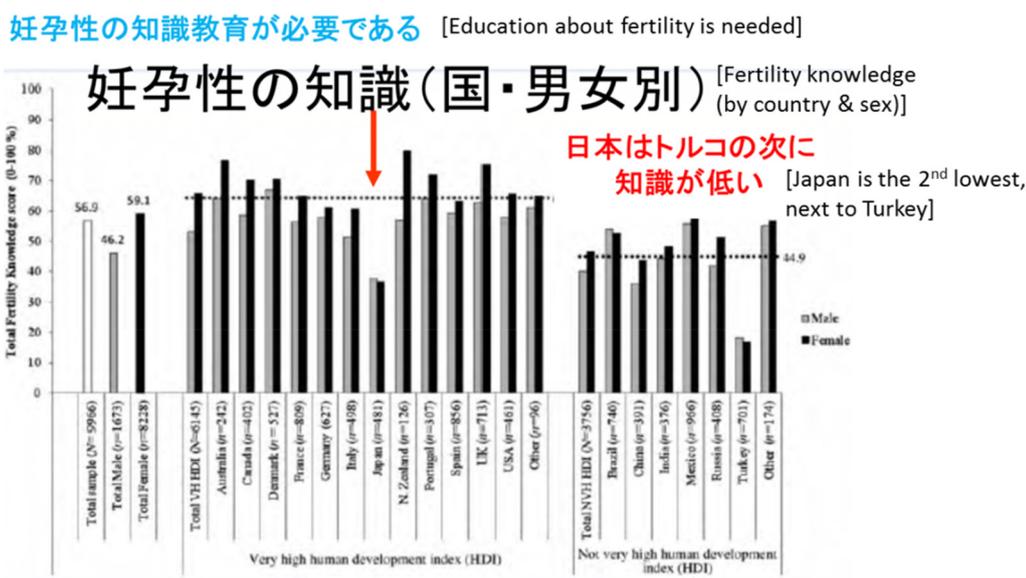
- 123-144. <doi:10.1515/cj-2016-0007>
- [Hibino 2010] 日比野 守男 (2010). 不妊国際調査が明かしたもの: 「妊娠」への意識で目立つ日本と他国の差 - 欧州ヒト生殖医学会から. *JMS* 166, 32-36. <<http://ci.nii.ac.jp/naid/40017330881>>
- [IPSS 2018]. 国立社会保障・人口問題研究所. (2018). 人口統計資料集 2018. <<http://www.ipss.go.jp/syoushika/tohkei/Popular/Popular2018.asp?chap=0>>
- [JSGO 2008] 日本産科婦人科学会. (2008). 産科婦人科用語集・用語解説集 (改訂第2版). 金原出版. <ISBN:9784307300964>
- [JFPA 2015] 日本家族計画協会. (2015). 本会、日本産婦人科学会など9団体 学校教育の改善求め要望書提出. *家族と健康* 732, 1. <<http://ci.nii.ac.jp/ncid/AA1151359X>> <<http://web.archive.org/web/20161021014815/http://www.jfpa.or.jp/paper/main/000430.html>>
- [Kawai 2015] 河合 蘭. (2015). 出産年齢と妊孕性について伝える方法. *助産雑誌* 69(5), 410-415. <doi:10.11477/mf.1665200202>
- [Kinoshita 2015a] 木下 勝之. (2015). 児童・生徒に対する適切な妊娠・出産・育児の学校教育の充実を: 新しいのちの誕生のために. *学校保健* 312, 10-11. <[http://www.hokenkai.or.jp/kaiho/pdf/0097\\_312.pdf](http://www.hokenkai.or.jp/kaiho/pdf/0097_312.pdf)>
- [Kinoshita 2015b] 木下 勝之. (2015). 児童生徒に対する適切な妊娠・出産・育児の学校教育の充実を: 新しいのちの誕生のために. *日本産婦人科医会会報 (JAOG News)* 67(6), 1-2. <NCID:AA11912041>
- [Kinoshita 2016] 木下 勝之. (2016). 日本産婦人科医会の挑戦 (日本産婦人科医会 第100回記者懇談会 2016-07-27). <[http://www.jaog.or.jp/all/100\\_160727.pdf](http://www.jaog.or.jp/all/100_160727.pdf)>
- [Kodansha 2011] 講談社. (2011). *FRaU body: 妊活スタートブック*. Tokyo: Kodansha. <ISBN:978-4-06-389575-9>
- [Kuribayashi 2014] 栗林 靖. (2014). 産婦人科医からの少子化に対する警告 (日本産婦人科医会 第79回記者懇談会 2014-09-10). <[http://www.jaog.or.jp/all/document/79\\_140910.pdf](http://www.jaog.or.jp/all/document/79_140910.pdf)>
- [Mainichi 2011] 毎日新聞. (2011). 妊娠: 日本の知識、最低水準 「子ども欲しい」も低く. *毎日新聞* 2011-02-14. <<http://mainichi.jp/life/edu/news/20110215k0000m040096000c.html>>
- [Merck Serono 2010a] Merck Serono. (2010). Findings from global survey help understand fertility trends and barriers to seeking medical help against infertility (News release June 28). <[http://merckserono.com/corp.merckserono/en/images/20100628\\_en\\_tcm112\\_54803.pdf](http://merckserono.com/corp.merckserono/en/images/20100628_en_tcm112_54803.pdf)>
- [Merck Serono 2010b] メルクセローノ. (2010). 国際的調査結果により、妊娠に関する傾向と不妊治療をためらう原因が明らかに (2010-07-08). <[http://www.merckserono.co.jp/cm/m.merckserono\\_jp\\_2011/ja/images/20100708\\_release\\_Fertility\\_survey\\_results\\_tcm2453\\_121136.pdf](http://www.merckserono.co.jp/cm/m.merckserono_jp_2011/ja/images/20100708_release_Fertility_survey_results_tcm2453_121136.pdf)>
- [Merck Serono n.d.] Merck Serono. (n.d.). Fertility: The Real Story. <[http://www.icsicommunity.org/\\_files/f/1452/Fertility%20-%20The%20Real%20Story.pdf](http://www.icsicommunity.org/_files/f/1452/Fertility%20-%20The%20Real%20Story.pdf)>
- [Miura 2011] 三浦 天紗子. (2011). なぜ日本だけが世界と違うのか?. <<http://www.ninkatsu.net/jp/info/0003.htm>>
- [NHK 2013] NHK 取材班. (2013). 産みたいのに産めない: 卵子老化の衝撃. Tokyo: Bungeishunju. <ISBN:978-4-16-376360-6>
- [Nishiyama & Tsuge 2017]. 西山 千恵子 & 柘植 あづみ (Ed.) (2017). 文科省／高校「妊活」教材の嘘. Tokyo: Ronsosha. <ISBN:978-4-8460-1626-5>
- [Noda 2012] 野田 聖子 (2012) 妊娠適齢期についての教育及び若い時期に女性が働きながら産み・育てることができる社会基盤の欠如に関する質問主意書 (2012-11-16) <[http://www.shugiin.go.jp/internet/itdb\\_shitsumon.nsf/html/shitsumon/181050.htm](http://www.shugiin.go.jp/internet/itdb_shitsumon.nsf/html/shitsumon/181050.htm)>
- [Saito 2014] 齊藤 英和. (2014). 妊娠適齢期を意識したライフプランニング (新たな少子化社会対策大綱策定のための検討会, 3rd meeting, December 12). <[http://www8.cao.go.jp/shoushi/shoushika/meeting/taikou/k\\_3/pdf/s2-1.pdf](http://www8.cao.go.jp/shoushi/shoushika/meeting/taikou/k_3/pdf/s2-1.pdf)>
- [Saito 2015] 齊藤 英和. (2015). 資料3 (2/5) (新たな少子化社会対策大綱策定のための検討会, 7th meeting, February 24). <[http://www8.cao.go.jp/shoushi/shoushika/meeting/taikou/k\\_7/](http://www8.cao.go.jp/shoushi/shoushika/meeting/taikou/k_7/)>
- [Schoppa 2008] Shoppa, L. (2008). Demographics and the state. In Coulmas, F., Conrad, H., Schad-Seifert, A., & Vogt, G. (Ed.), *The demographic challenge* (pp. 639-652). Leiden: Brill. <ISBN:978-90-04-15477-3>
- [Shinmura 2010] 新村 直子. (2010). イタリア・ローマ発国際学会海外レポート: 妊娠・不妊に関する過去最大規模の国際意識調査 <<http://www.ninkatsu.net/jp/info/0001.html>>
- [Suzuki 1979] 鈴木 秋悦 (1979). 卵子の異常. *代謝 (Metabolism and Disease)* 16(202), 1463-1467. <<http://dl.ndl.go.jp/info:ndljp/pid/1791852>>
- [Takahashi 2015] 高橋 さきの. (2015). 「妊娠しやすさ」グラフはいかにして高校保健・副教材になったのか. *Synodos* 2015.09.14. <<http://synodos.jp/education/15125>>
- [Tanaka 2016a] 田中 重人. (2016). 濫用される国際比較調査と日本の世論形成: International Fertility Decision-making Survey と少子化社会対策大綱. 第61回数理社会学会大会. <<http://hdl.handle.net/10097/64281>>
- [Tanaka 2016b] 田中 重人. (2016). 日本人は妊娠リテラシーが低い、という神話: 社会調査濫用問題の新しい局面. *Synodos* 2016.06.01. <<http://synodos.jp/science/17194>>
- [Tanaka 2016c] Tanaka S. (2016). Misinformation due to a low-quality international multilingual survey. <<http://osf.io/q6fx8>>

- [Tanaka 2017a] 田中 重人. (2017). 日本人は妊娠・出産の知識レベルが低いのか?. In 西山 千恵子 & 柘植 あづみ (Ed.), 文科省／高校「妊活」教材の嘘 (pp. 135-159). Tokyo: Ronsosha. <ISBN:978-4-8460-1626-5>
- [Tanaka 2017b] Tanaka S. (2017). Professional responsibility for spreading unscientific knowledge: the case of the “ease of conception” graph in a supplementary high school textbook. <<http://osf.io/3d2x5>>
- [Tanaka 2017c] Tanaka S. (2017). Another science war: Fictitious evidence on women’s fertility and the “egg aging” panic in 2010s Japan. *Advances in gender research* 24: 67-92. <doi:10.1108/S1529-212620170000024006>
- [Tarui 2015] 樽井 智子. (2015). あなたの妊活知識をチェック! (樽井智子先生の妊活コラム Vol.8). *Doctor’s me*, 2015/03/02. <<https://doctors-me.com/doctor/topics/707>>

## Acknowledgement

Some findings in this paper come from my activities in the activist group “高校保健副教材の使用中止・回収を求める会” (<http://fukukyoza.jimdo.com>). I extend my thanks to the members of the group for their cooperation. This paper includes research results from the project “非科学的知識の生産・流通と「卵子の老化」パニック” (Unscientific knowledge and the “egg aging” panic) funded by the Japan Society for the Promotion of Science (KAKENHI #17K02069) for 2017-2019. See <http://tsigeto.info/egg/> for the project.

## Figures

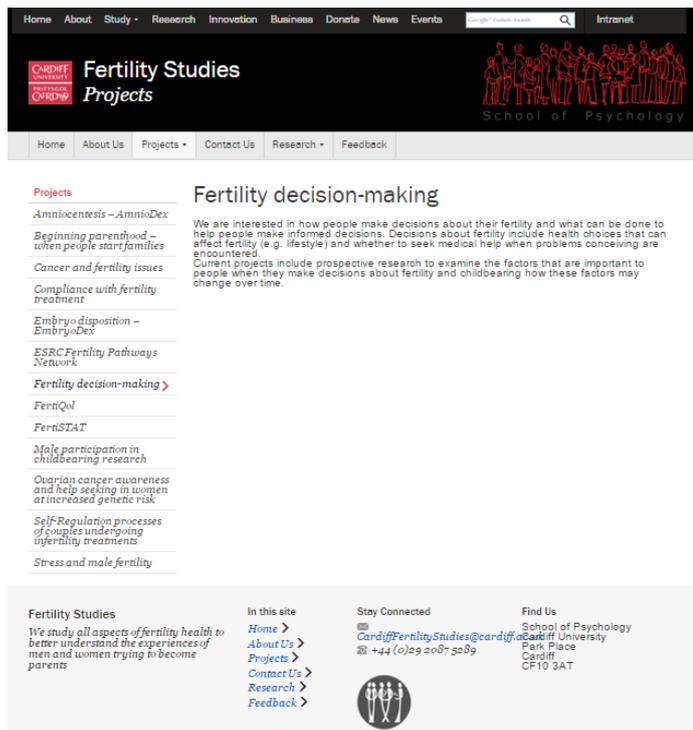


Human R1reproduction,28:385-397, 2013

1

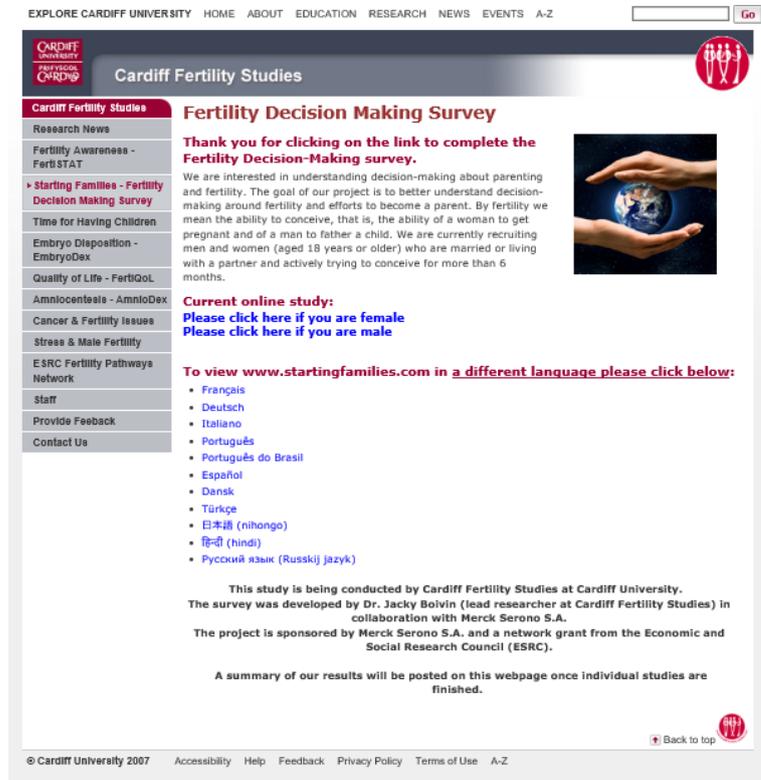
Source: Saito (2014), a document prepared for a governmental conference in 2014.  
 See <http://www8.cao.go.jp/shoushi/shoushika/meeting/taikou/>  
 Japanese texts are added by Saito Hidekazu (English translations are mine).

Figure 1. Mean Cardiff Fertility Knowledge Scale scores by country and sex according to the IFDMS



<http://www.startingfamilies.org> was redirected as follows (retrieved 2016-01-17)  
 → <http://psych.cf.ac.uk/fertilitystudies/projects/fdms/>  
 → <http://psych.cf.ac.uk/fertilitystudies/projects/decision-making/>  
 → <http://sites.cardiff.ac.uk/fertilitystudies/projects/decision-making>

**Figure 2.** The page on Cardiff University website redirected from [www.startingfamilies.org](http://www.startingfamilies.org)



<http://web.archive.org/web/20090712035823/http://www.startingfamilies.com/>

**Figure 3.** The top page of [www.startingfamilies.com](http://www.startingfamilies.com) recorded by The Internet Archive