

# Chapter 8

## Nagahama Survey on Social Science



Makoto Yano, Shigeru Hirota, Masato Yodo, and Fumihiko Matsuda

**Abstract** The *Nagahama Social Science Survey* is designed to add a social scientific scope to the *Nagahama Prospective Genome Cohort for Comprehensive Human Bioscience* conducted by the Center for Genomic Medicine at Kyoto University. Since 2016, it has been conducted three times; all the surveys share the same questionnaire to build a panel (cohort) data. Each survey also collected data based on its own theme as well. In this chapter, we explain the theme and questionnaire for the first survey and discuss basic summary statistics.

**Keywords** Health · Happiness · Social capital · Cohort · Questionnaire · Nagahama

### 1 Introduction

Human behaviour depends on various social scientific factors, including income and wealth, risk attitudes, family, and views on various social and political issues. At the

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We would like to thank Professor Yoji Inaba (Nihon University) for providing us with the data from the “Survey on Security, Trust, and Social Participation in Daily Life” (2013) for conducting this research. The survey was supported by a Grant-in-Aid for Scientific Research (A) from the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT), “Policy Implications of Social Capital: A Study of its Fostering Factors and Regional Differences” (Project No. 24243040, PI: Yoji Inaba, Nihon University).

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same time, it is heavily influenced by life scientific factors, including biological traits, mental state, and medical histories. As the recent outbreak of COVID-19 evidences, therefore, epidemiological issues cannot be fully understood without taking the interaction of all those social and life scientific factors into account. Similarly, social scientific studies on human behaviour must take into account both social and life scientific factors. Despite this, however, social scientific research and life scientific research have traditionally been conducted in a separate manner. In particular, basic research data concerning human behaviour has been compiled independently in those two fields. It is our view that this has badly hampered a healthy development of a scientific field encompassing social and life science, which we call socio-life science.

With these considerations, we initiated to build socio-life science panel (cohort) data at Kyoto University in 2016, which is made possible by a collaboration between the Graduate School of Medicine and the Institute of Economic Research at the university. Building this panel data, we have conducted social scientific surveys (*Nagahama Social Science Survey* or, simply, *Nagahama Survey*) so as to add a social scientific scope to the existing genome cohort data compiled at the Center for Genomic Medicine, the *Nagahama Prospective Genome Cohort for Comprehensive Human Bioscience* (the *Nagahama Study*), focusing on bioscientific aspects of humans; for details of this genome cohort data, see Setoh and Matsuda (2021). The *Nagahama Survey*, which targets participants of the *Nagahama Study*, has been conducted three times so far (fiscal years 2016, 2018, and 2020). The data altogether provide information not only social scientific aspects of life but also bioscientific features, including genomic information.

Recently, a number of social scientific panel data projects have started to add genomic information. Our survey is unique in that survey questions are designed in such a way to make full use of genomic information in social scientific approach, which is collected in the *Nagahama Study*, at the same time that social scientific factors can be incorporated into bioscientific research.

The three social science surveys constitute panel data. They seek the same basic information from participants. At the same time, they have different emphases. In this chapter, we explain the purpose of our first social scientific survey in 2016 in relation to our survey questions; the first survey's emphasis is on the factors that might put a society together or, in other words, serve as a social bond. As a part of this panel data, we have conducted an additional survey on the formation of COVID-19 antibody and behaviour change in 2021. On this survey, see Hirota et al. (2021).

In Sect. 2, we explain the basic way in which data is compiled. In Sect. 3, we explain the survey questions and descriptive statistics. The actual questions (originally in Japanese) are presented in the appendix.

## 2 Outline of the Nagahama Social Science Survey

This survey is to add a social scientific scope to the *Nagahama Prospective Genome Cohort for Comprehensive Human Bioscience* (the *Nagahama Study*), which is a

genome cohort survey focusing on bioscientific aspects of humans (for details on the *Nagahama Study*, see Setoh and Matsuda 2021). Our survey, which targets participants of the *Nagahama Study*, has been conducted three times (fiscal years 2016, 2018, and 2020). Each time, survey questionnaires were sent by mail to all survey participants, namely, 8482 participants for the first survey, 9813 participants for the second, and 9737 for the third. The number of valid answers was 5954 (70.2%) in the first, 6988 (71.2%) in the second, and 6776 (69.6%) in the third.

A non-profit organization, the Zero-Ji Health Promotion Club, sent out and collected questionnaires, and cleaned up data so that, by the time we received, it was made completely anonymous. Each question, and its use of answers in association with life-scientific data, has been approved by the independent ethics committee organized by the city of Nagahama, which authorizes the *Nagahama Study* by its city ordinance. See Setoh and Matsuda (2021) for details on the approval process of the surveys conducted under the *Nagahama Study*.

The *Nagahama Study* accepts multiple members of a single family as respondents. As a result, all the survey results represent a respondent personal views and states, but not that of the household to which a respondent belong. We cannot identify individuals who have their family member(s) participating in the survey.

### 3 First Nagahama Survey (2016 Survey)

The 2016 *Nagahama Survey*, which is the first of the three surveys conducted so far, has two major purposes. The first is to investigate what holds a society together in relation to social and life scientific factors. This question is one of the most fundamental questions for social scientists but has not yet been addressed systematically in the existing literature. We intend to address the question by means of the determinants of individual social capital. The second is to measure risk attitudes, which are expected to serve as a major determinant for one's healthcare and state of health itself. Measuring one's risk attitude is a difficult task and, in our survey, we address this question from different angles. In addition, we intend to measure economic and personal attitudes towards happiness and fairness. The answers to all the questions can be quantified so that we may select as independent and/or dependent variables.

#### 3.1 Individual and Family Characteristics

Our survey covers a respondent's objective characteristics relating to family, education, and job.

1. **Gender and age:** Gender and age are basic characteristics that are collected in the original *Nagahama Study*. Figures 1 and 2 summarize data. As Fig. 1 shows, female respondents in our survey constitute a larger fraction than the

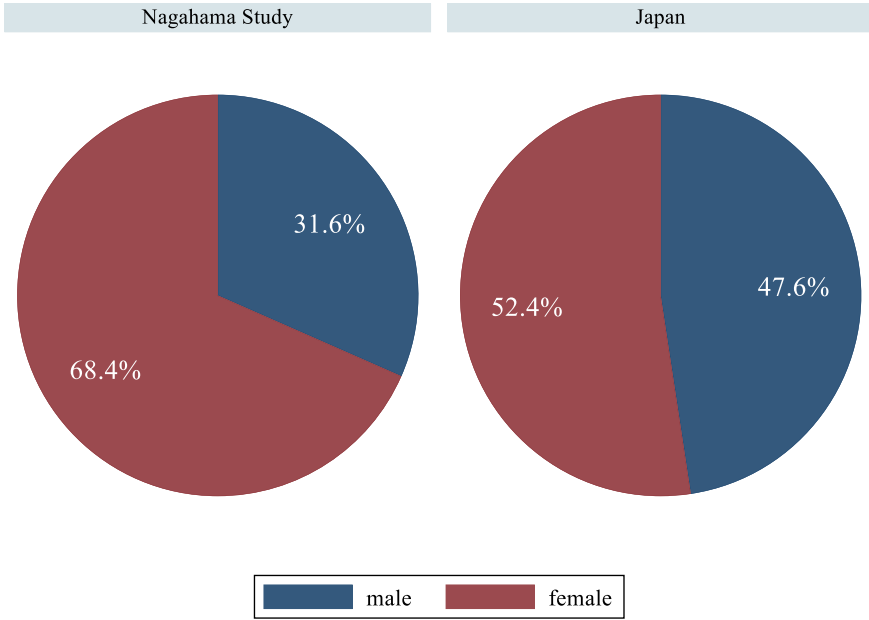


Fig. 1 Gender composition

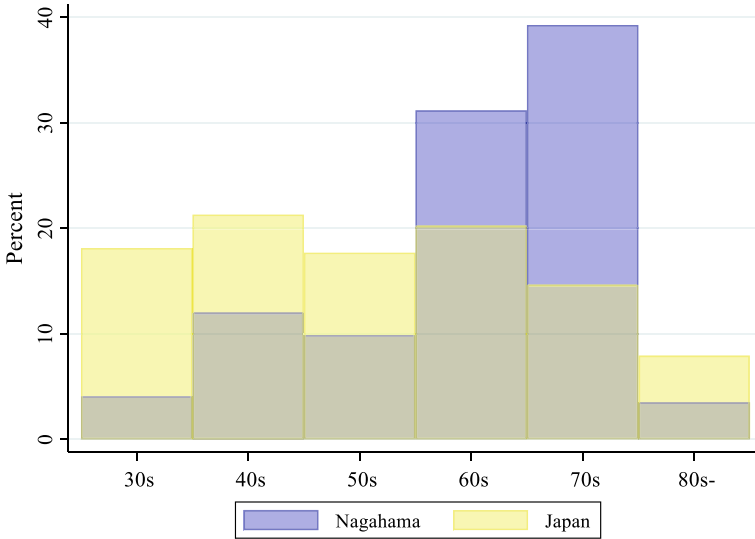
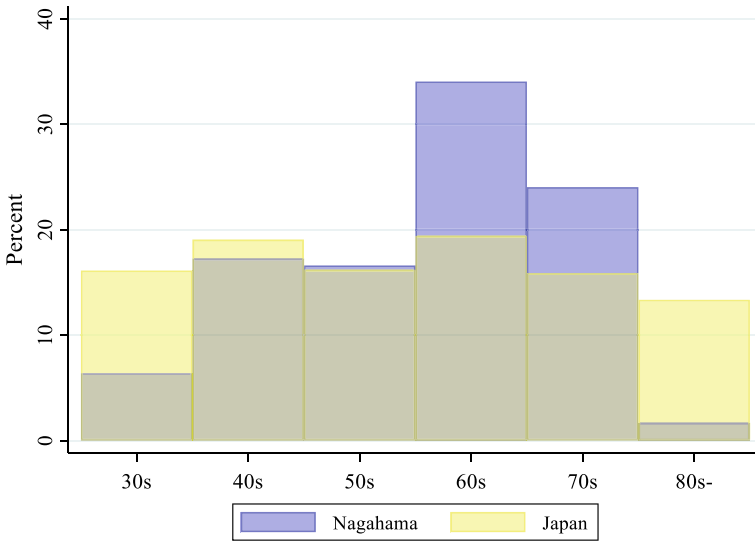


Fig. 2 Age composition (male), comparison with entire Japan



**Fig. 3** Age composition (female), comparison with entire Japan

entire Japanese population based on the 2015 census. As Figs. 2 and 3 show, for both males and females, people in their 60 and 70 s are over-represented in our survey relative to the entire population. This bias is likely to be attributable the fact that the *Nagahama Study* is based on voluntary participation and tied to free health checkups provided by Kyoto University medical staff. It is intuitively clear that people in their 60 and 70 s are more health conscious and are more inclined to participate in a survey. The higher female participation, shown in Fig. 1, is consistent with our intuition; for example, the 2019 Meiji-Yasuda Life Insurance Survey reports that 62.8% of female participants say that they are carefully observing their health, while the fraction falls to 57.6% for the male participants (see Meiji-Yasuda Life Insurance Company 2019).

2. **Family:** We ask if a respondent lives with children of different age groups: preschool, elementary and middle school, high school, after high school, employed, and others including home making and being unemployed (Q1). We also ask if a respondent lives with his/her parent or his spouse’s parent (Q2). As Fig. 4 shows, around one quarter of the participants live with parents (including parents in law). Moreover, we ask about the number of grandchildren a respondent has (Q3) and if he lives with any of the grandchildren (Q4); see Figs. 5 and 6.
  
3. **Education:** As for education, we ask the type of school a respondent last graduated from (Q6) and the year in which he graduated (Q7). The alternatives for an answer are: (1) primary school; (2) middle school; (3) high school; (4) undergraduate college; (5) graduate school; (6) two-year college; (7) technical college;

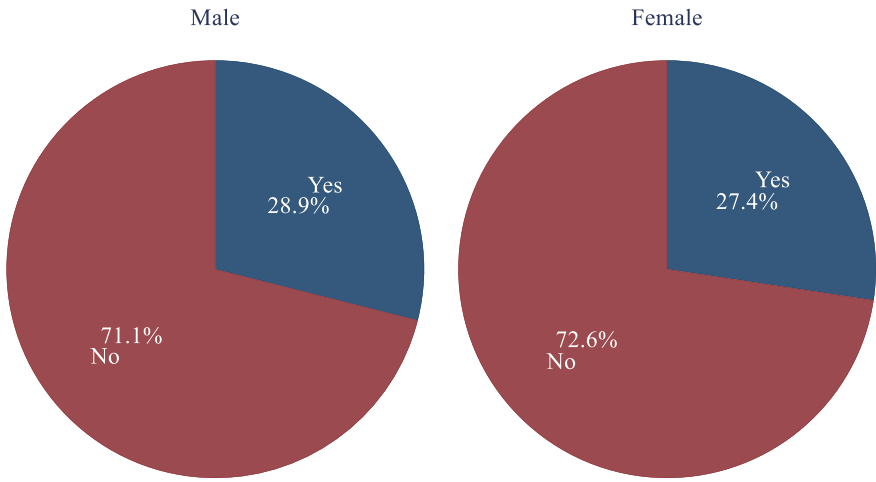


Fig. 4 Whether they live with their parents (Q2)

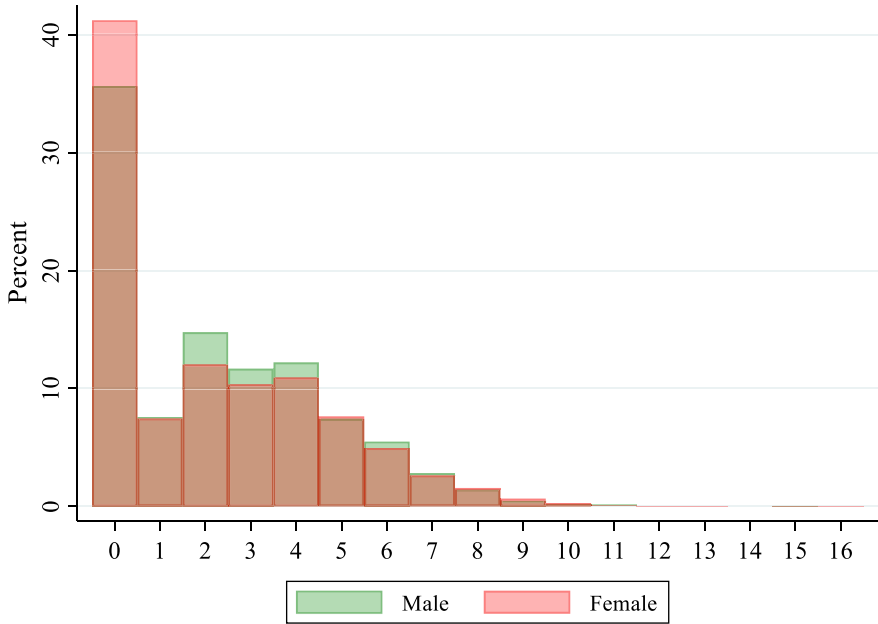
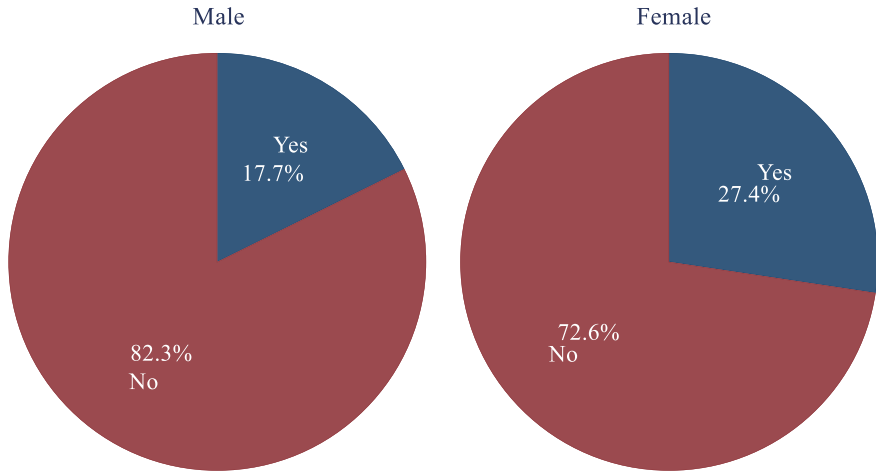


Fig. 5 Number of grandchildren (Q3)

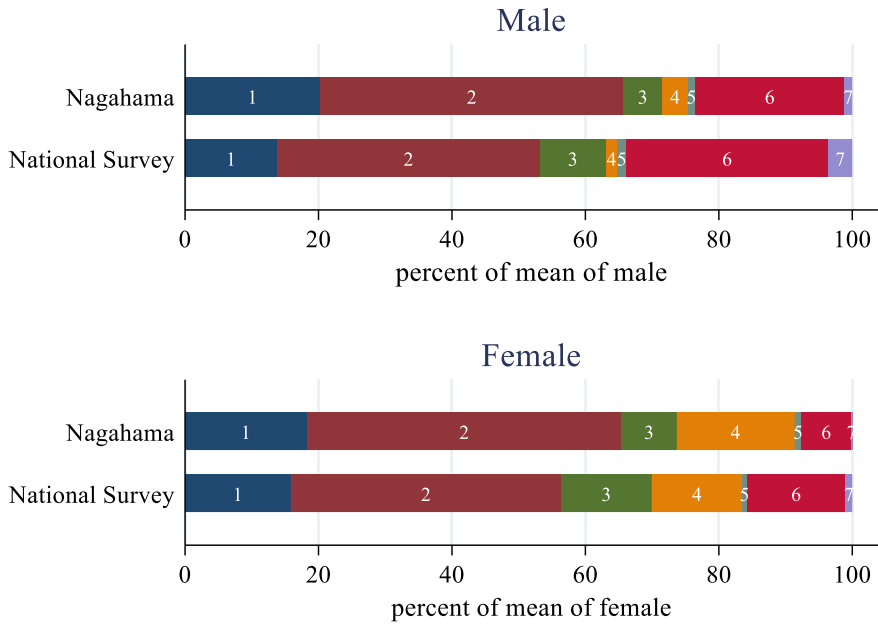


**Fig. 6** Whether they live with their grandchildren (Q4)

(8) higher technical college; (9) do not want to answer. We also ask a respondent with an undergraduate or graduate degree to specify the field of specialization (Q6-1). The alternatives for an answer are: (1) literature; (2) education; (3) law; (4) economics; (5) science; (6) medicine or dentistry; (7) pharmacology; (8) engineering; (9) agriculture; (10) others. Figures 7 and 8 illustrate the distributions of highest degrees and majors for college graduates. For both men and women, as Fig. 7 shows, high school graduates constitute the highest fractions, which is consistent with the Japanese population.<sup>1</sup> In contrast, the fraction of those with a four-year college degree is much smaller in the Nagahama group than the entire Japanese population. Women with a four-year degree constitute a smaller fraction, while those with a two-year college degree constitute a larger fraction. Figure 8 summarizes the majors of those who have a college degree and a higher.

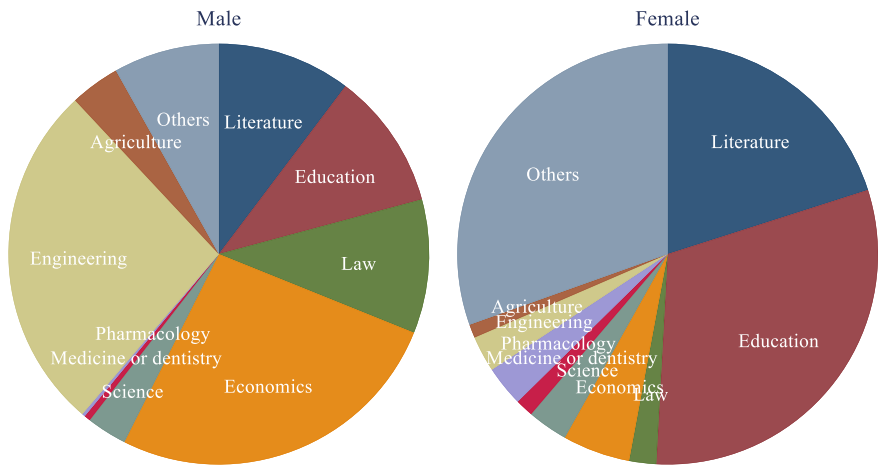
4. **Job:** The survey covers a respondent’s job. We ask the number of weekly hours in which a respondent work to earn income (Q10). We also ask the type of employment that a respondent has (Q8). The alternatives for an answer are: (1) not employed (full time housewife, students, and retirees); (2) employee; (3) self-employee (food services, shop owners, farmers, etc.); (4) independent professionals (physicians, lawyers; accountants, tax accountants, writers, etc.); (5) family worker; (6) household worker not formally employed; (7) contract worker or subcontractor not formally employed; (8) do not want to answer. If the respondent is an employee, we ask about his job description (Q8-1). The alternatives for an answer are: (1) full-time employee below a manager level; (2) full-time employee at a manager level; (3) full-time employee at an executive

<sup>1</sup> Data for the Japanese population are taken from the Ministry of Internal Affairs and Communications, “Employment Status Survey 2017.”.



Each part stands for:  
 1: Primary and middle school  
 2: High school  
 3: Technical college  
 4: Two-year college  
 5: Higher technical college  
 6: University  
 7: Graduate school

**Fig. 7** Education (Q6)



**Fig. 8** Major (Q6-1)



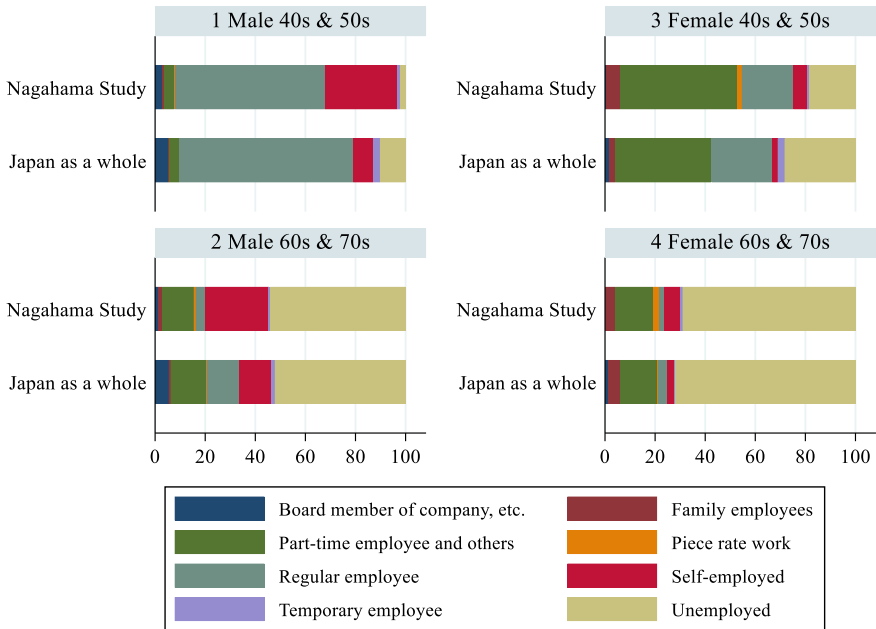
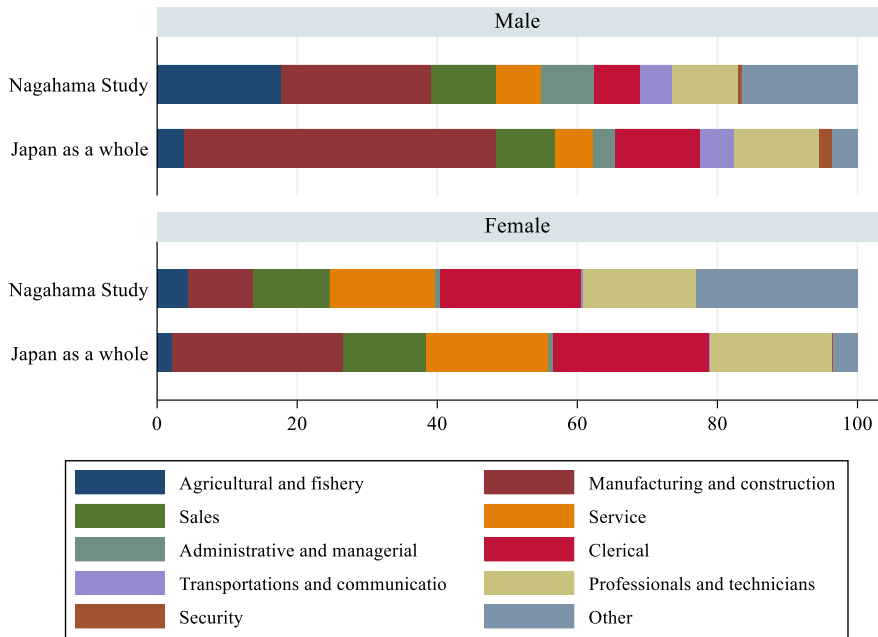


Fig. 9 Types of job (Q8 and Q8-1)

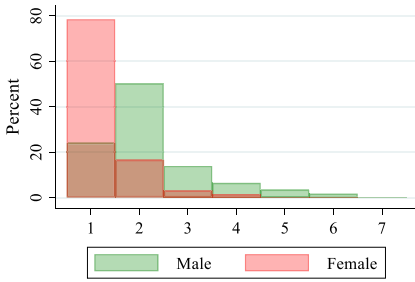
level; (4) contract employee; (5) temporary or part-time worker; (6) dispatched worker; (7) commissioned worker; (8) do not want to answer. Figure 9 illustrates the distribution of job types for our survey samples and for Japan as a whole. In this figure, those who do not want to answer are dropped. For both men and women in their 40s and 50s, the fraction of people who have a job is higher than the Japanese population. The fraction of men who have a full-time job is smaller in the Nagahama group; the fraction of women who have a part-time job is larger. A larger fraction of people are self-employed in the Nagahama group than the Japanese population. In contrast, the percentage of regular employees is lower. In addition, females in their 40s and 50s are also characterized by a high proportion of part-time employees and others. We also ask the kind of job that a respondent performs (Q9). The alternatives for an answer are: (1) agriculture, forestry, and fishery; (2) mining; (3) sales; (4) service provider; (5) administrative and managerial; (6) clerical; (7) transportation or communication; (8) manufacturing, construction, maintenance, moving and delivery business; (9) data processing and system engineering; (10) specialized or technical work other than those in (9), healthcare, personnel, legal staff, teachers, artists (11) security (self-defense force, police, fireman, security guard); (12) do not want to answer. Figure 10 illustrates the distribution of kinds of jobs for our survey samples and for Japan as a whole; because the job types in our questionnaire are finer than in the census, we adjust our job types to that of the census. For both males and



**Fig. 10** Kinds of job (Q9)

females, the share of agriculture, forestry, and fishery work is high and that of manufacturing is low compared with the entire Japan.

- Financial state:** In order to explain personal views on life and the states of health, it is important to control income and financial assets. For this reason, we first ask a respondent’s yearly household income as well as personal income (Q11, Q13). The alternatives for an answer on these questions are: (1) 0–2 m yen; (2) 2–4 m yen; (3) 4–6 m yen; (4) 6–8 m yen; (5) 8–10 m yen; (6) 10–15 m yen; (7) more than 15 m yen; (8) do not want to answer. We also ask about a respondent’s household total assets as well as personal total assets, including bank deposits, shares and mutual funds (Q12, Q13). The alternatives for an answer on these questions are: (1) 0–2 m yen; (2) 2–4 m yen; (3) 4–6 m yen; (4) 6–8 m yen; (5) 8–10 m yen; (6) 10–15 m yen; (7) 15–20 m yen; (8) more than 20 m yen; (9) do not want to answer. The upper panel of Fig. 11 shows the distributions of annual income for male and female (Q13). For each age groups of men and women, the lower panels show the relationship between each income level and the percentage of people who are in that income level or lower (cumulative relative frequency curves). For example, the heights of orange lines at 2 show that about 90% of people in their 70 s have income less than or equal to 4 m yen. Figure 12 shows the individual assets of participants (Q14). The upper panel shows that the fraction of women with personal assets of 2 m yen or less is higher than that of males. In the lower panels, the cumulative



Each bucket stands for:  
 1: No more than 2 million yen  
 2: Greater than 2 million yen and no more than 4 million yen  
 3: Greater than 4 million yen and no more than 6 million yen  
 4: Greater than 6 million yen and no more than 8 million yen  
 5: Greater than 8 million yen and no more than 10 million yen  
 6: Greater than 10 million yen and no more than 15 million yen  
 7: Greater than 15 million yen

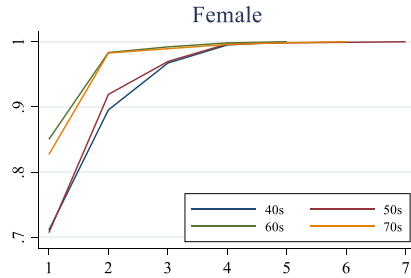
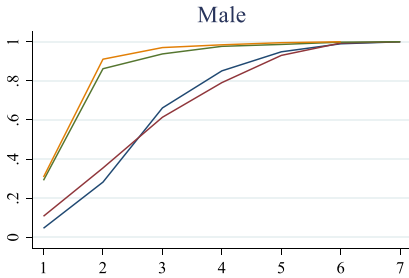
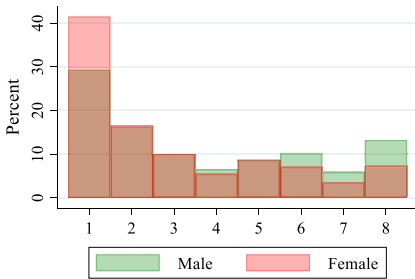


Fig. 11 Individual income (Q13)



Each bucket stands for:  
 1: No more than 2 million yen  
 2: Greater than 2 million yen and no more than 4 million yen  
 3: Greater than 4 million yen and no more than 6 million yen  
 4: Greater than 6 million yen and no more than 8 million yen  
 5: Greater than 8 million yen and no more than 10 million yen  
 6: Greater than 10 million yen and no more than 15 million yen  
 7: Greater than 15 million yen and no more than 20 million yen  
 8: Greater than 20 million yen

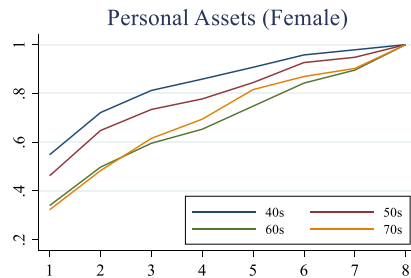
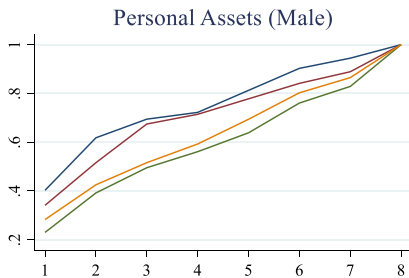


Fig. 12 Individual assets (Q14)

frequency curves by age group shifts downward in the order of 40 s, 50 s, 70 s, and 60 s for both males and females, which implies that many people reduce their assets most when they are in their 60 s.

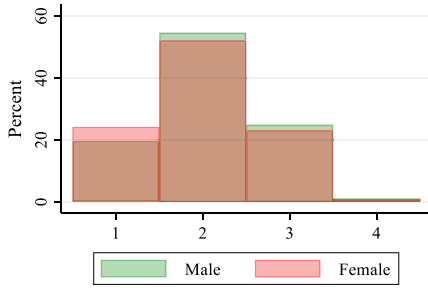
### 3.2 Social Capital

In the first *Nagahama Survey*, we ask 13 questions relating to social capital. The questions can be classified into one of the OECD's four types of social capital: (1) personal relationships; (2) social network support; (3) civic engagement; (4) trust and cooperative norms (see Scrivens and Smith (2013) and Yodo and Yano (2017, 2021)). Some of the questions related to social capital are taken from the *Survey on Security, Trust, and Social Participation in Daily Life* (2013) conducted by Yoji Inaba (the *Inaba Survey*). Unlike our *Nagahama Survey*, the *Inaba Survey* covers the entire country.<sup>2</sup> In what follows, we compare our survey results with those in the *Inaba Survey* to show differences between Nagahama participants and Inaba participants, the latter of whom represent Japan as a whole.

1. **Personal relationships:** To measure the amount of social capital representing personal relationships, we ask how often an individual interacts with his neighbors (Q33). The alternatives for an answer are: (1) I have someone with whom I cooperate in my daily life, for example, by giving each other advice or loaning each other daily necessities. (2) I associate with some neighbors by regularly chatting with them. (3) I only associate with them at the minimum level of exchanging greetings. (4) I do not associate with them at all. As shown in the first panel of Fig. 13, the answers are not very different between men and women. The lower panels show that the older the age group, the higher the degree of closeness to neighbours. It can also be seen that such a change in distribution occurs more gradually in females; it occurs rapidly between their 40 s and 50 s in males. Figure 14 compares the Nagahama respondents with the Japanese population represented in the *Inaba Survey*. It shows that the Nagahama respondents have closer relationship with neighbours than the average Japanese. Another question is how many of his neighbours a respondent interacts with on friendly term (Q34). The alternatives for an answer are: (1) 20 or more; (2) 5–19; (3) 4 or less; (4) I do not know who lives next door. Figure 15 illustrates the distribution of answers to this question. As shown in the upper panel, the percentage of people who have more contacts with neighbours is higher for men than women. As the lower panels show, the older they are, the more neighbors they associate with. Figure 16 shows the distributions of answers for the *Nagahama Study* and the *Inaba Survey*. We can see that the participants in the *Nagahama Study* have closer relationships with neighbours than the average Japanese people. Moreover, we ask how often a respondent usually interacts with people in each of the following groups: friends and acquaintances, relatives, and workmates

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<sup>2</sup> See Inaba (2014) for details.



Each bucket stands for:  
 1: I have someone with whom I cooperate in my daily life, for example, by giving advice or loaning daily necessities each other.  
 2: I associate with some neighbors by chatting with them regularly.  
 3: I only associate with them at the minimum level of exchanging greetings.  
 4: I do not associate with them at all.

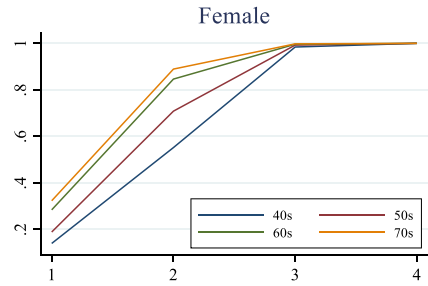
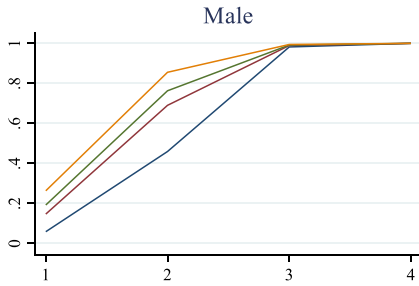


Fig. 13 Interaction with neighbors (Q33)

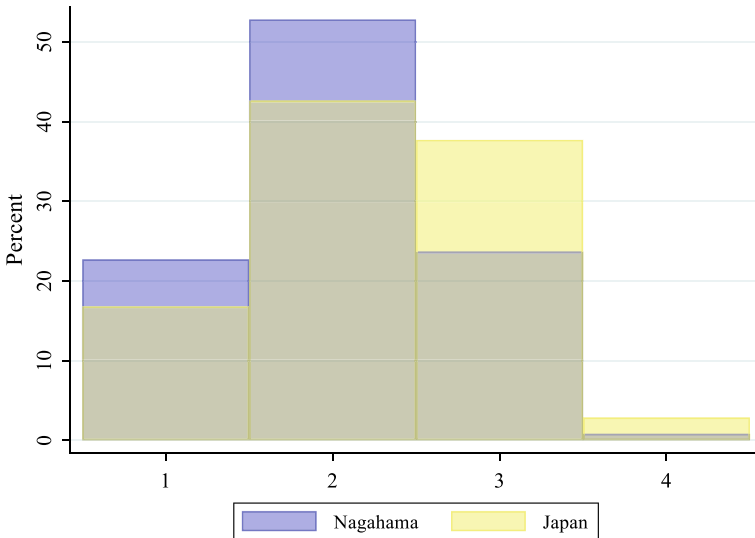
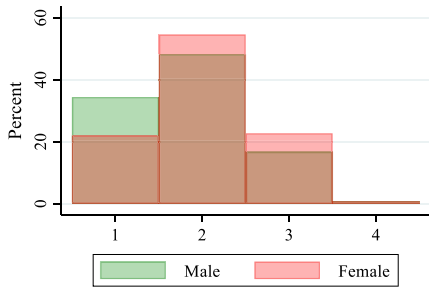


Fig. 14 Interaction with neighbors (Q33), comparison with entire Japan



Each bucket stands for:  
 1: I am acquainted with or interact with many of my neighbors (generally 20 people or more).  
 2: I am acquainted with or interact with some of my neighbors (generally from 5 to 19 people).  
 3: I am acquainted with or interact with very few of my neighbors (4 people or fewer).  
 4: I do not even know who lives next door.

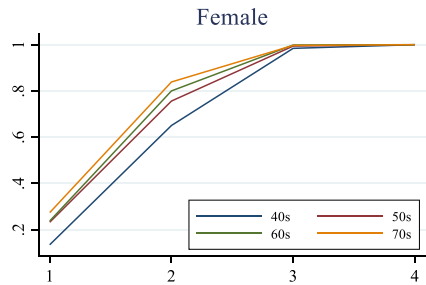
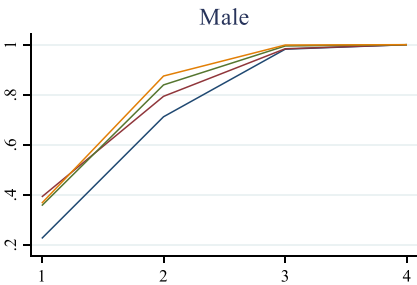


Fig. 15 Number of close neighbors (Q34)

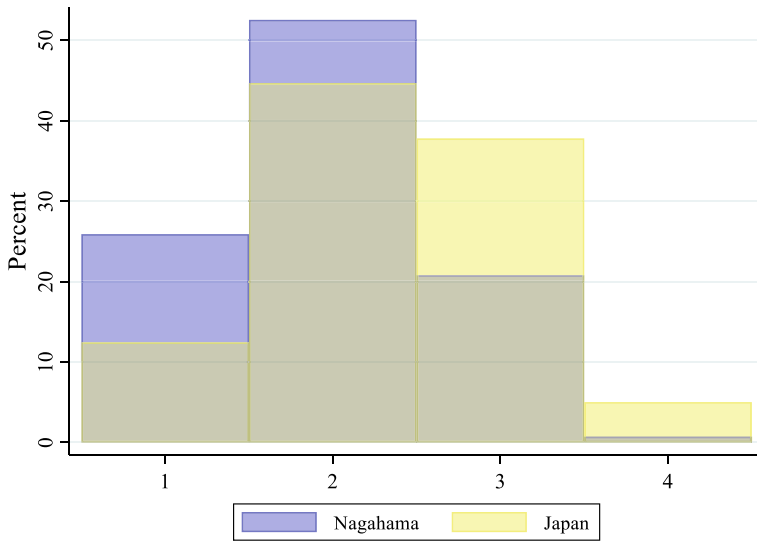


Fig. 16 Number of close neighbors (Q34), comparison with entire Japan

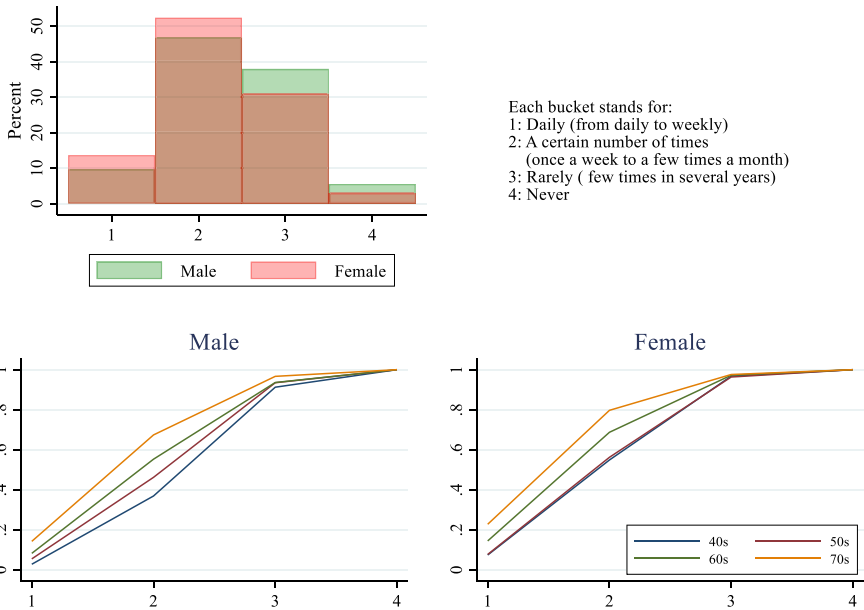
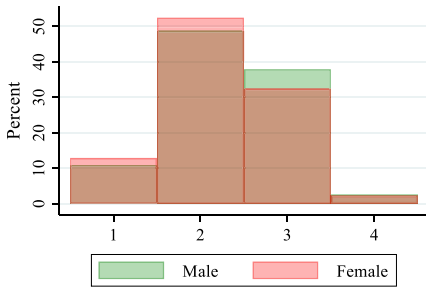


Fig. 17 Frequency of interaction (friends) (Q37-1)

(Q37). The alternatives for an answer are: (1) daily; (2) from once a week to a few times a month; (3) from once a year to a few times in several years; (4) never. Figures 17, 18 and 19 show the distributions of answers to these questions. Answers to the questions relating to friends and acquaintances and to relatives are similar to those relating to neighbours. In contrast, answers to the question relating to workmates are significantly different from those relating to friends and acquaintances, and relatives; people maintain looser relationships with workmates.

- Social network support:** To measure the amount of social capital representing social network support, we ask the extent to which a respondent thinks he can count on people in each of the following groups: neighbours, family members, relatives, friends and acquaintances, and workmates to seek for help to deal with daily problems and concern (Q35). The alternatives for an answer are: (1) very much; (2) somewhat; (3) cannot say either way; (4) not very much; (5) not at all. Moreover, we ask if a respondent wants his children and grandchildren to continue to live in the region where he currently lives (Q39). The alternatives for an answer are: (1) yes; (2) no, and (3) I do not know. With neighbours, family members, relatives and workmates, the Nagahama respondents maintain closer ties than the average Japanese. With friends, they are not very different from the average Japanese. The upper panels of Figs. 20, 21, 22, 23 and 24 compare the distributions of answers between men and women, which are similar to each other. As the figures show, the distributions of answers to



Each bucket stands for:  
1: Daily (from daily to weekly)  
2: A certain number of times (once a week to a few times a month)  
3: Rarely ( few times in several years)  
4: Never

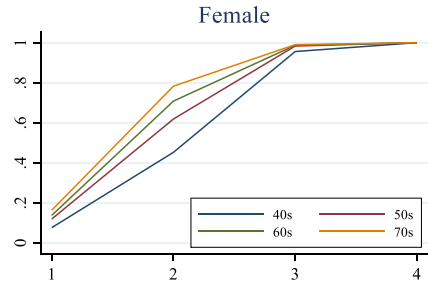
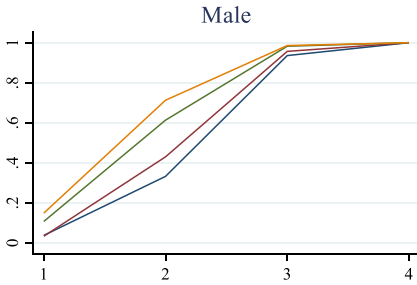
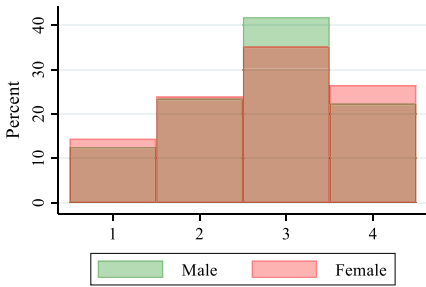


Fig. 18 Frequency of interaction (relatives) (Q37-2)



Each bucket stands for:  
1: Daily (from daily to weekly)  
2: A certain number of times (once a week to a few times a month)  
3: Rarely ( few times in several years)  
4: Never

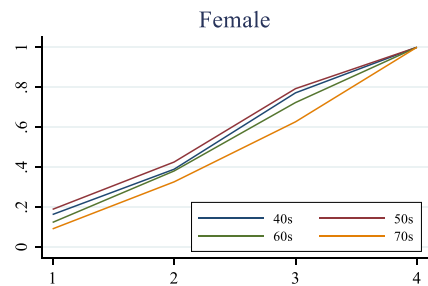
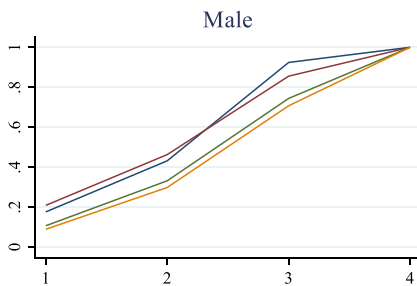
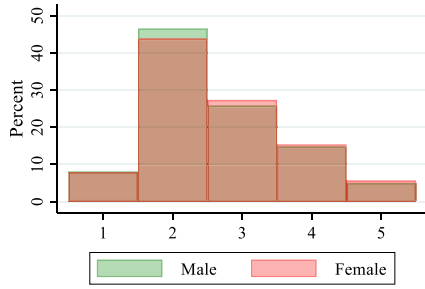


Fig. 19 Frequency of interaction (workmates) (Q37-3)





Each bucket stands for:  
 1: Can count on them very much.  
 2: Can count on them somewhat.  
 3: Cannot say either way.  
 4: Cannot count on very much.  
 5: Cannot count on at all.

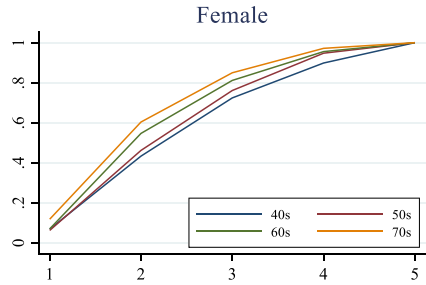
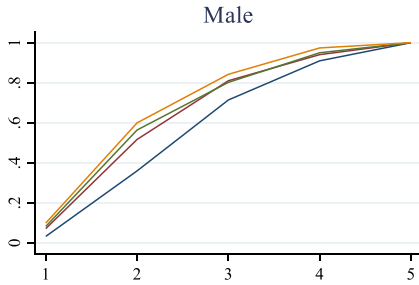
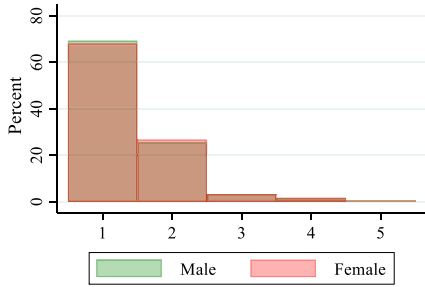


Fig. 20 Those who you can count on (neighbours) (Q35-1)



Each bucket stands for:  
 1: Can count on them very much.  
 2: Can count on them somewhat.  
 3: Cannot say either way.  
 4: Cannot count on very much.  
 5: Cannot count on at all.

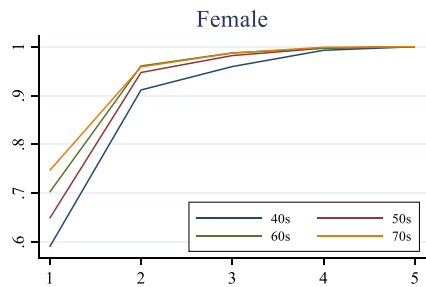
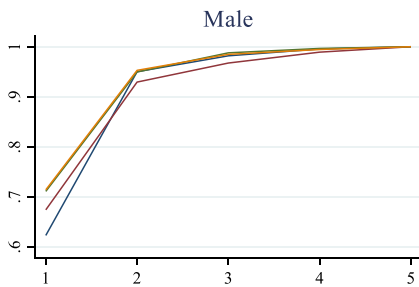
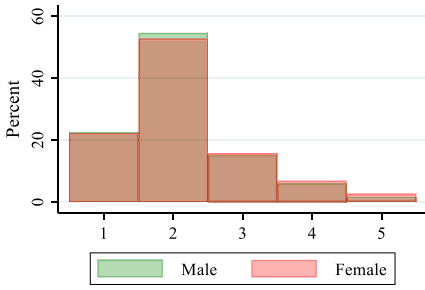
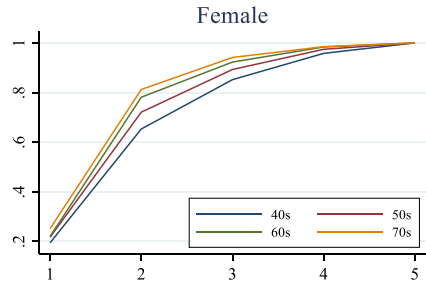
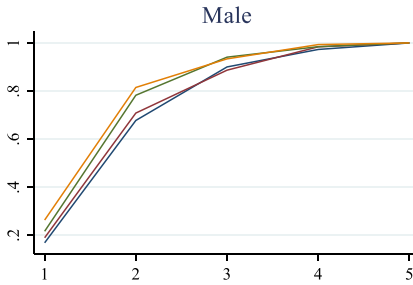


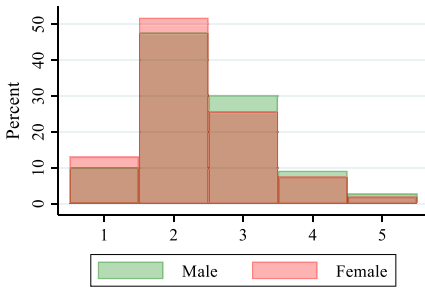
Fig. 21 Those who you can count on (family members) (Q35-2)



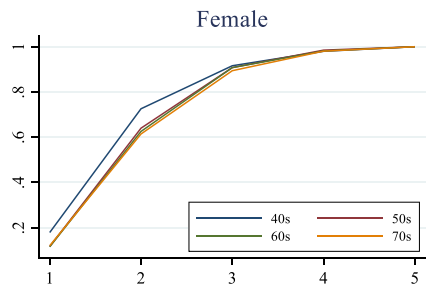
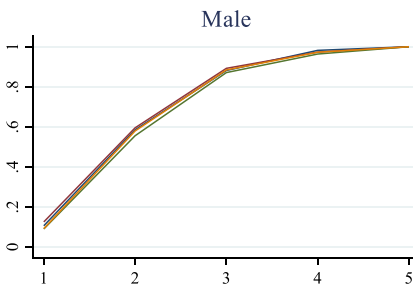
Each bucket stands for:  
 1: Can count on them very much.  
 2: Can count on them somewhat.  
 3: Cannot say either way.  
 4: Cannot count on very much.  
 5: Cannot count on at all.



**Fig. 22** Those who you can count on (relatives) (Q35-3)



Each bucket stands for:  
 1: Can count on them very much.  
 2: Can count on them somewhat.  
 3: Cannot say either way.  
 4: Cannot count on very much.  
 5: Cannot count on at all.



**Fig. 23** Those who you can count on (friends) (Q35-4)

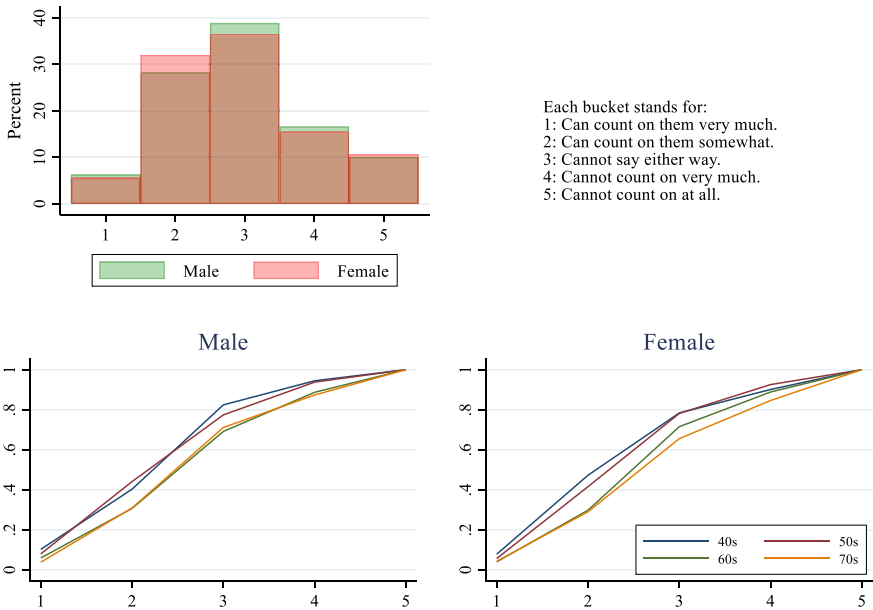


Fig. 24 Those who you can count on (workmates) (Q35-5)

Q35 is much the same as those concerning personal relationship with respect to neighbours. In contrast, with respect to friends, the distribution of answers to the questions concerning social network support do not vary across age groups. This is more clearly so for men. More women in their 40 s, in contrast, have friends whom they can count on very much than those in other age groups. (This may be because they may have a strong network built through childcare activities.) Moreover, young people appear to have more workmates whom they can count on than older people. This is likely because more old people are retired than young people. Figure 25 shows the distributions of answers for *Nagahama* and *Inaba Surveys*. With respect to friends and workmates, on the one hand, the distributions are similar to each other. On the other hand, Nagahama participants tend to have closer ties with neighbours, family members and relatives than the Japanese people as a whole.

- Civic engagement:** In order to measure the amount of social capital representing civic engagement, we ask if a respondent participates in each of the following activities: local community activities, sports, hobbies, and recreational activities, volunteer, NPO, and civic activities, and activities in other types of organizations (Q38). The alternatives for an answer are: (1) almost every week; (2) about two or three days in a month; (3) about one day per month; (4) a few times a year; (5) I am not active. We also measure an individual’s social capital relating to civic engagement by asking his willingness to contribute to the society an individual belongs to. That is, we ask if a respondent is willing to contribute

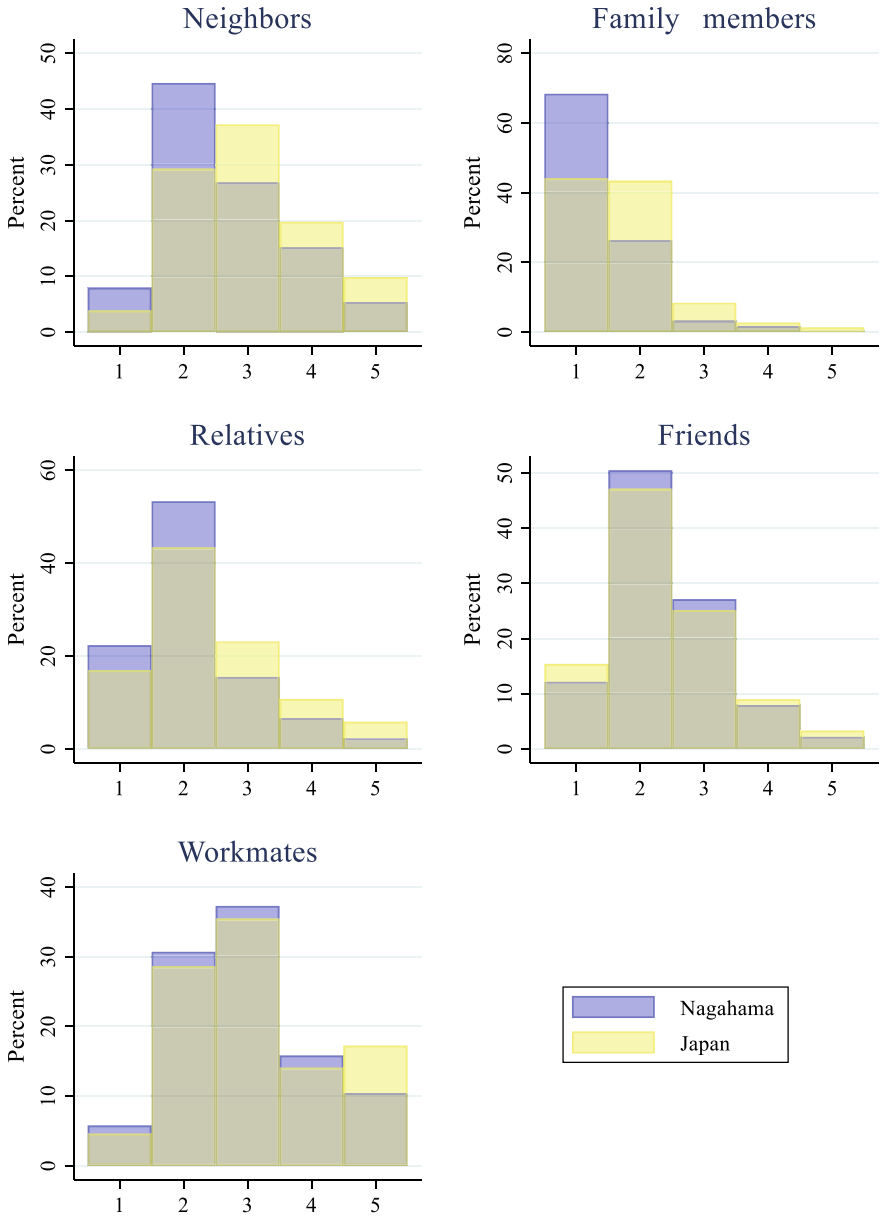


Fig. 25 Those who you can count on (Comparison with Entire Japan) (Q35)

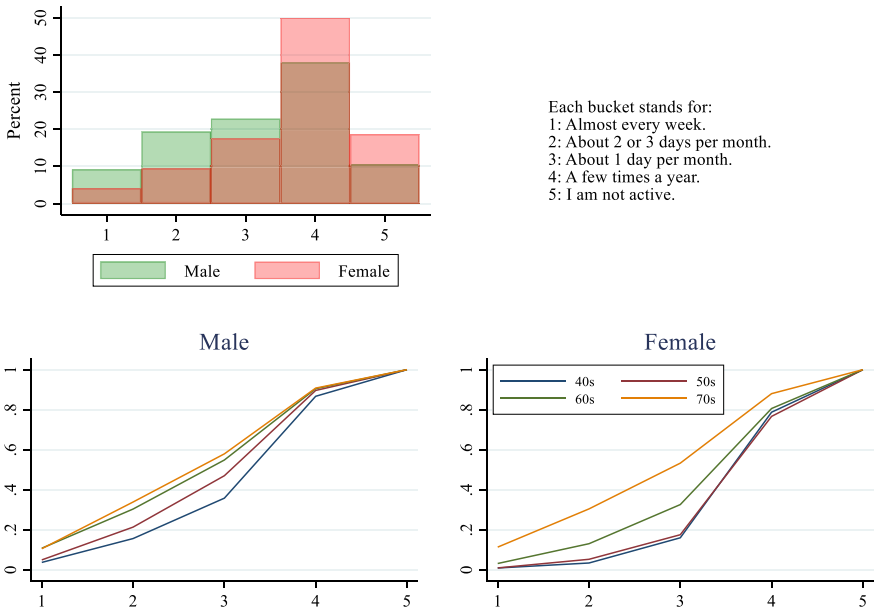


Fig. 26 Participation in community activities (Q38-1)

to fixing community problems, such as the decline of a local shopping street, an increase in abandoned land and housing lots, and local childcare activities (Q40). The alternatives for an answer are: (1) yes; (2) yes, if possible; (3) not very much; (4) not at all; (5) I do not know. We ask if a respondent have donated money to a NPO or an organization conducting charitable activities during the past year (Q36). The alternatives for an answer are: (1) none; (2) 1–999 yen; (3) 1,000–4,999 yen; (4) 5,000–9,999 yen; (5) 10,000–49,999 yen; (6) more than 50,000 yen. Figure 26 shows that men tend to participate in community activities more than women. As Figs. 28 and 29 show, people who do not participate in voluntary and other activities are more than those who do. As Fig. 27 shows, in contrast to abovementioned activities, people are divided into groups who are strongly committed and are not at all interested. Figure 30 shows the distributions of answers for *Nagahama* participants and for Japanese people as a whole.<sup>3</sup> The distributions are not very different with respect to recreational activities, volunteer activities, and other activities. In contrast, more people in the *Nagahama Survey* participate in community activities than Japanese people as a whole. Figure 31 shows that people are not strongly willing to make donations,

<sup>3</sup> Since the alternatives in the *Inaba survey* are different from those in the *Nagahama Study*, the alternatives in the *Inaba survey* are recombined to be consistent with those in the *Nagahama Study* for this comparison.

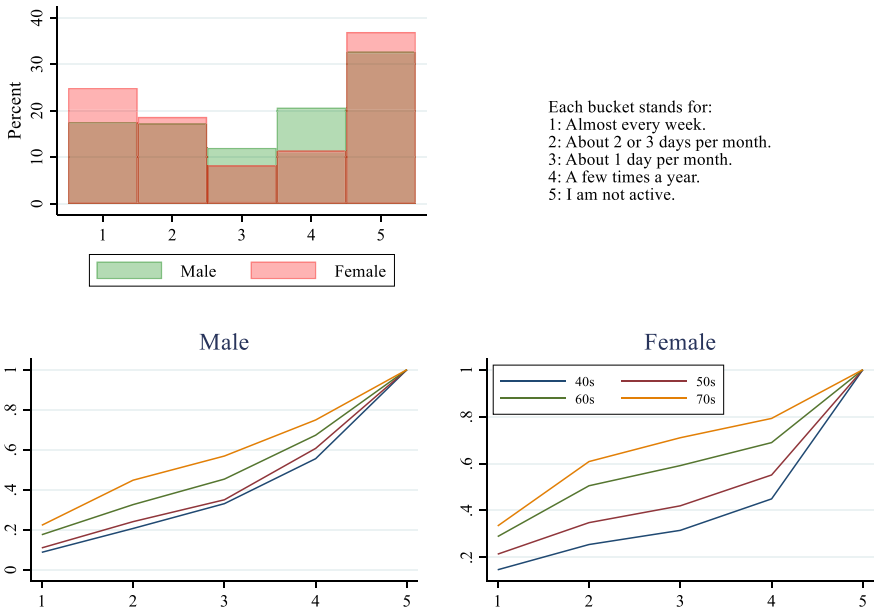


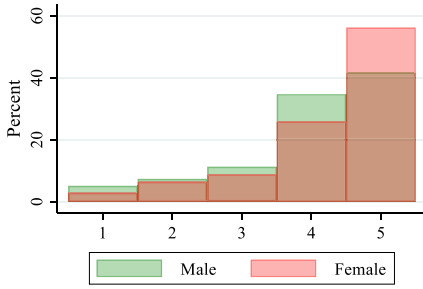
Fig. 27 Participation in recreational activities (Q38-2)

which is a usual characteristic of Japanese people as Fig. 32 shows.<sup>4</sup> With respect to the willingness to contribute to fixing community problems, very few people are either unwilling or willing strongly. Young people and old people are not so different: see Fig. 33. We also measure an individual’s trust in various social institutions. That is, we ask to what extent a respondent trusts the National Diet, the government, local governments, courts, police, and financial institutions (banks, securities companies, etc.) (Q41). The alternatives for an answer are: (1) strongly yes; (2) somewhat yes; (3) cannot say either; (4) not very much; (5) not at all; (6) I do not know. As Figs. 34, 35, 36, 37, 38, and 39 , show, people’s trust in the National Diet and government have similar distributions. Their trust in local governments, courts, police, and financial institutions have similar distributions. These distributions are not very different across different age groups.

4. **Trust and cooperative norms:** In order to measure the amount of social capital representing trust and cooperative norms, we ask if a respondent thinks either that most people can be trusted or that he needs to be very careful in dealing with people<sup>5</sup> (Q30). We also ask his view on this question when he was 15 years

<sup>4</sup> Since the alternatives in the *Inaba survey* are different from those in the *Nagahama Study*, the alternatives in the *Inaba survey* are recombined to be consistent with those in the *Nagahama Study* for this comparison.

<sup>5</sup> This question is commonly adopted in the literature on social capital. For example, it is used from the beginning of the *World Value Survey* started in 1981. See Inglehart et al. (2014) for details.



Each bucket stands for:  
 1: Almost every week.  
 2: About 2 or 3 days per month.  
 3: About 1 day per month.  
 4: A few times a year.  
 5: I am not active.

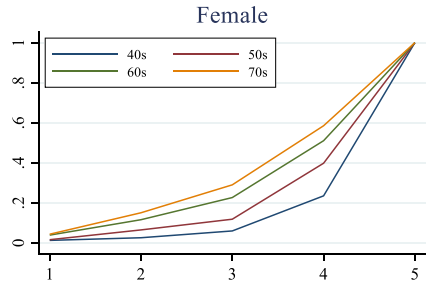
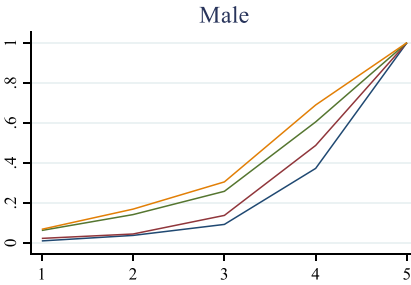
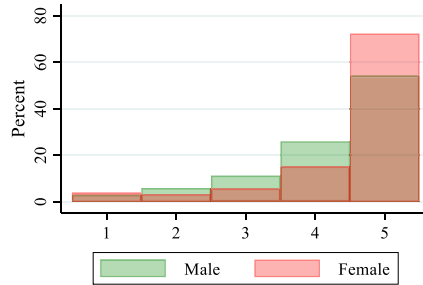


Fig. 28 Participation in volunteer activities (Q38-3)



Each bucket stands for:  
 1: Almost every week.  
 2: About 2 or 3 days per month.  
 3: About 1 day per month.  
 4: A few times a year.  
 5: I am not active.

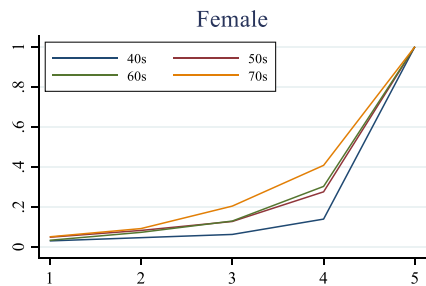
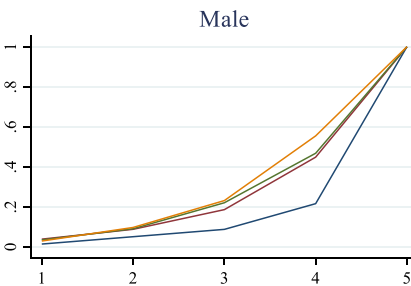


Fig. 29 Participation in other activities (Q38-4)

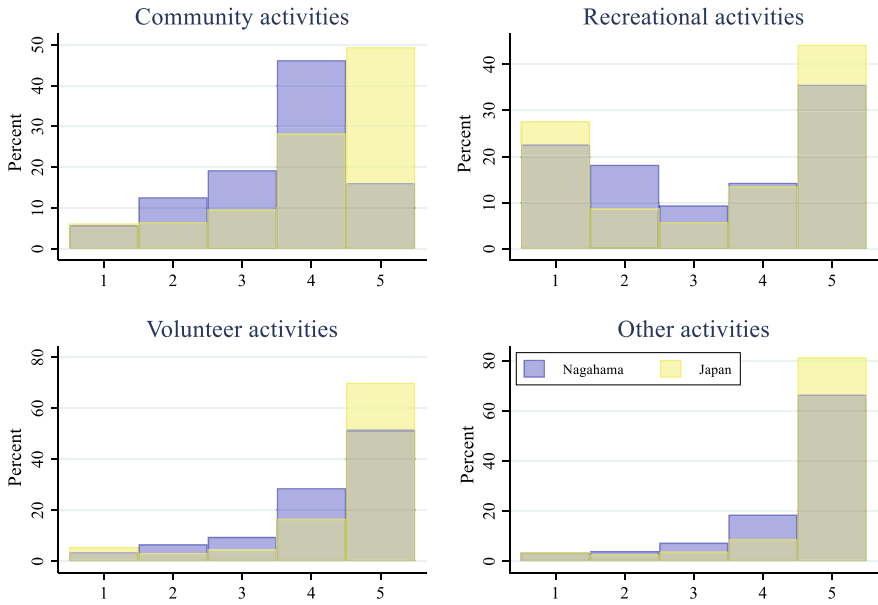


Fig. 30 Participation in various activities (comparison with entire Japan) (Q38)

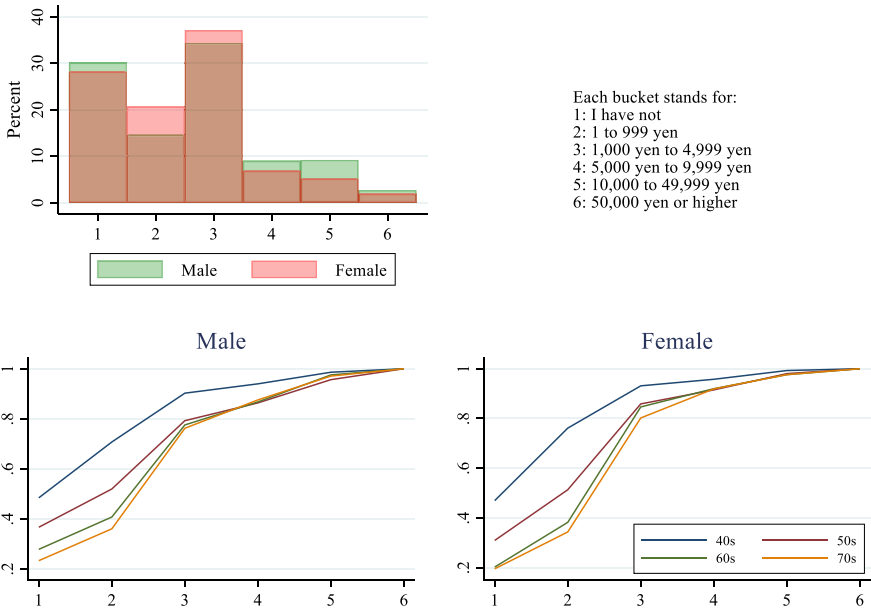


Fig. 31 Donation (Q36)



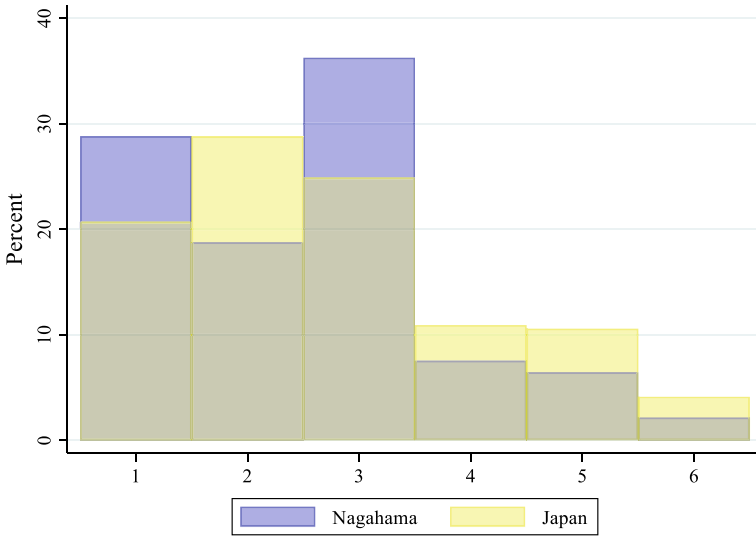
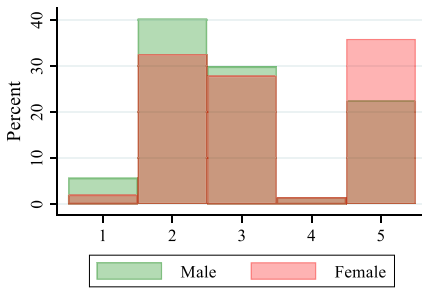


Fig. 32 Donation (Q36), comparison with entire Japan



Each bucket stands for:  
 1: Yes, absolutely.  
 2: Yes, if possible.  
 3: No, not very much.  
 4: Absolutely not.  
 5: I do not know.

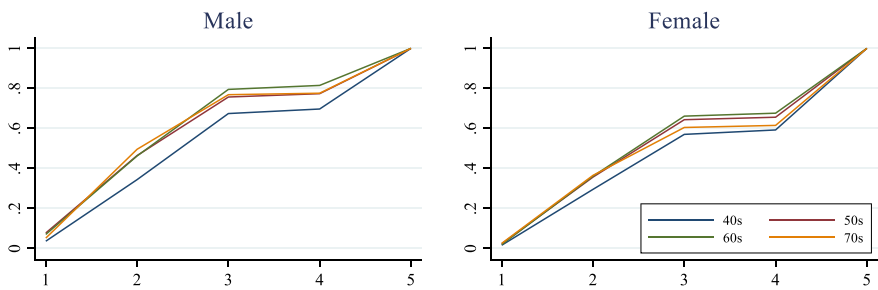
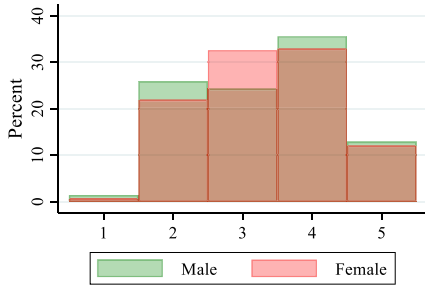


Fig. 33 Readiness to contribute to community problems (Q40)



Each bucket stands for:  
1: I strongly trust them.  
2: I somewhat trust them.  
3: Cannot say either way.  
4: I do not trust them very much.  
5: I do not trust them at all.

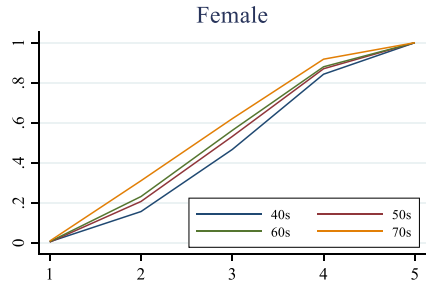
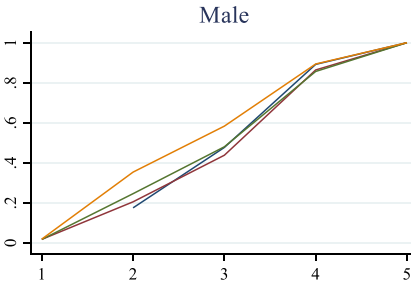
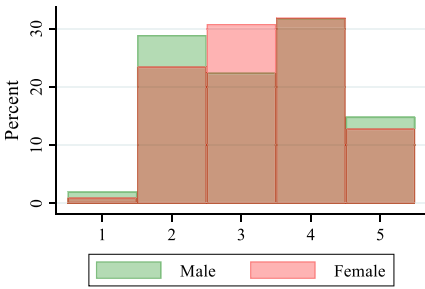


Fig. 34 Trust in the Diet (Q41-1)



Each bucket stands for:  
1: I strongly trust them.  
2: I somewhat trust them.  
3: Cannot say either way.  
4: I do not trust them very much.  
5: I do not trust them at all.

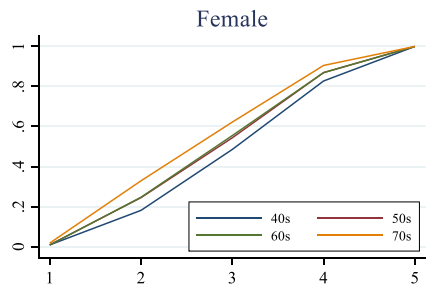
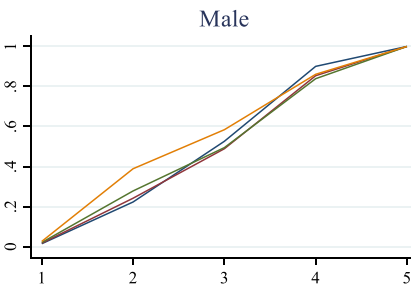
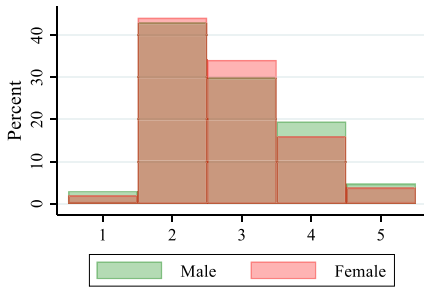


Fig. 35 Trust in the government (Q41-2)



Each bucket stands for:  
 1: I strongly trust them.  
 2: I somewhat trust them.  
 3: Cannot say either way.  
 4: I do not trust them very much.  
 5: I do not trust them at all.

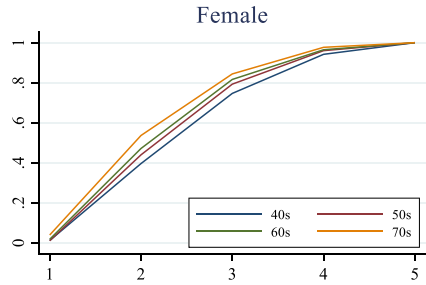
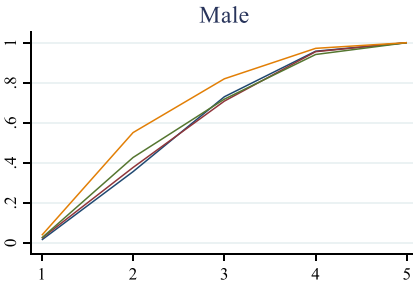
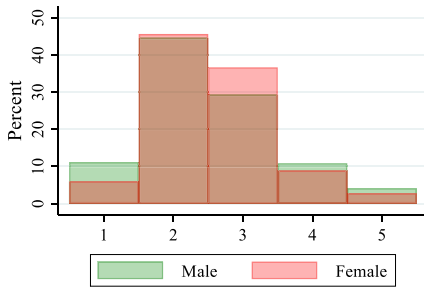


Fig. 36 Trust in local governments (Q41-3)



Each bucket stands for:  
 1: I strongly trust them.  
 2: I somewhat trust them.  
 3: Cannot say either way.  
 4: I do not trust them very much.  
 5: I do not trust them at all.

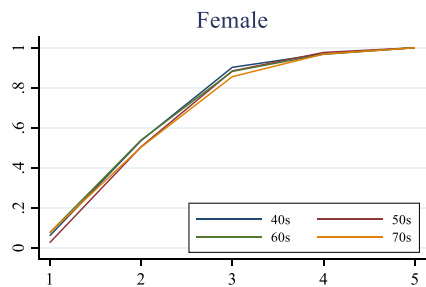
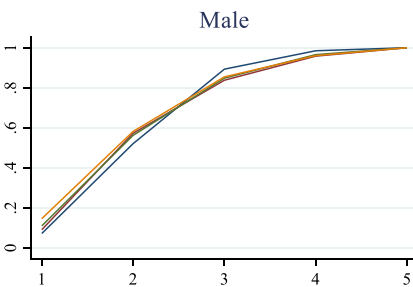
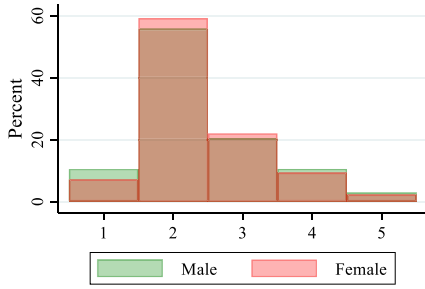


Fig. 37 Trust in courts (Q41-4)



Each bucket stands for:  
1: I strongly trust them.  
2: I somewhat trust them.  
3: Cannot say either way.  
4: I do not trust them very much.  
5: I do not trust them at all.

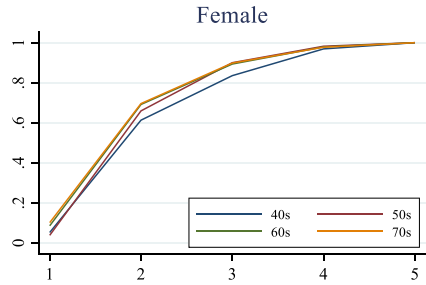
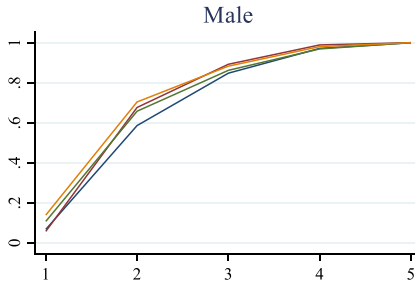
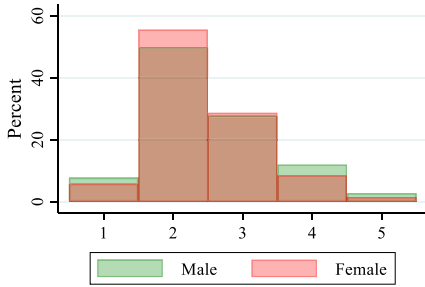


Fig. 38 Trust in police (Q41-5)



Each bucket stands for:  
1: I strongly trust them.  
2: I somewhat trust them.  
3: Cannot say either way.  
4: I do not trust them very much.  
5: I do not trust them at all.

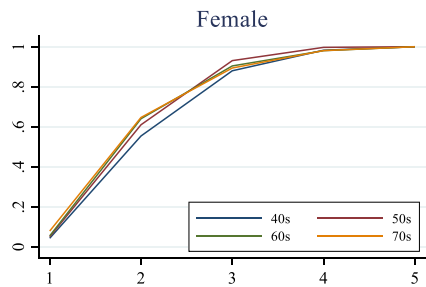
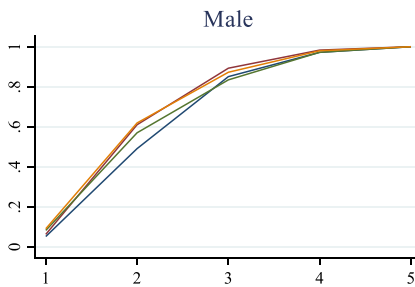


Fig. 39 Trust in financial institutions (Q41-6)

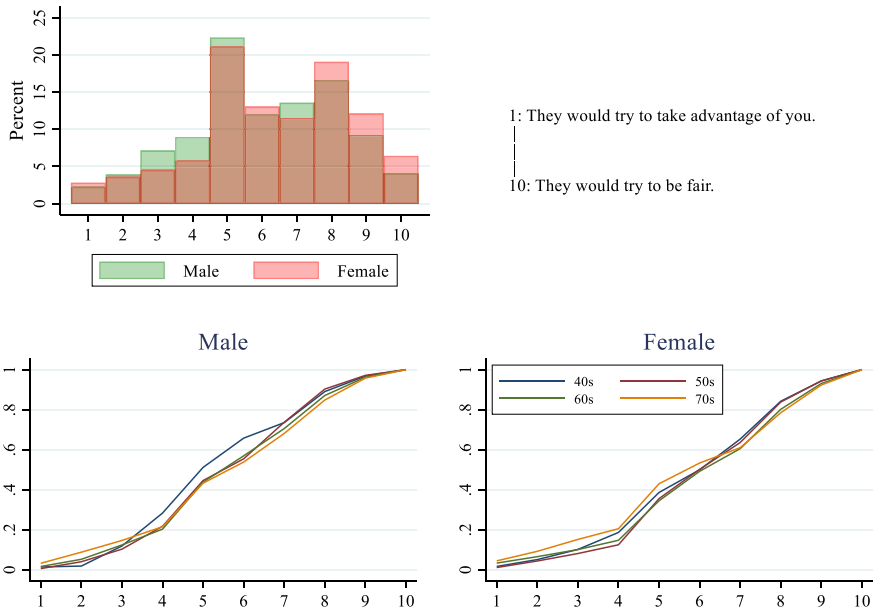


Fig. 40 General trust (Q32)

old (Q31). Similarly, we ask if a respondent thinks either that others would try to take advantage of him if they got a chance or that they would try to be fair (Q32). For these questions, respondents are asked to rate his view from 1 through 10. We also measure social capital relating to trust and cooperative norms by means of reciprocity, or a social norm rewarding a positive action by returning a positive action similar in kind. That is, we ask if a respondent agrees that if he helps out others who need help, they will help me out when he is in need of help (Q42-1). We also ask if a respondent agrees that he is willing to carry a larger burden than now in order to let future generations, including children and grandchildren, have the same standard of living and same level of public services as he is having now (Q42-2). The alternatives for an answer to these two questions are: (1) strongly yes; (2) yes; (3) cannot say either; (4) no; (5) definitely, no; (6) I do not know. As Fig. 40 shows, the distribution of answers to Q32 does not vary between men and women very much. As Figs. 40, 41, 43 and 44 show, the distributions of answers to questions Q30, Q32, and Q42 are similar. That is, they tend to trust people, to find that people do not take advantage of others, and to think that good deeds are reciprocal. These views do not vary much across age groups. Figure 42 shows the distributions of answers to Q30 for Nagahama participants and for Japanese people as a whole.<sup>6</sup> The

<sup>6</sup> For this question, the *Nagahama Study* requires an answer on a scale of 10, while the *Inaba Survey* requires an answer on a scale of 9. For this reason, the 5th and 6th alternatives in the *Nagahama Study* are combined for comparison.

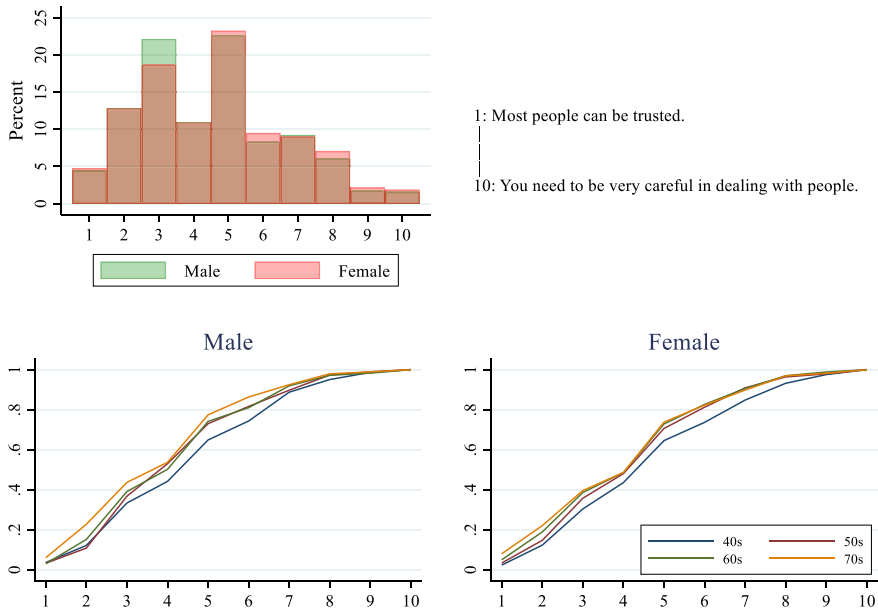


Fig. 41 General trust (Q30)

distributions are similar except that a much larger portion of Japanese people as a whole believe that others cannot be trusted at all than Nagahama participants. This may be because the Nagahama community is small and because its residents are more uniform. As Fig. 45 shows, older people think that they trust others more than when they were young. This agrees with our finding above on social capital relating personal relationships.

### 3.3 Attitudes Towards Risk

We intend to capture one’s risk attitudes by means of a straight self-evaluation and a risk-taking activity. In addition, we measure them by means of one’s tendency towards healthcare and involvement in risky asset holdings.

1. **Direct risk:** In order to capture one’s self-evaluation on his risk attitudes, we ask if a respondent thinks either that he is fully prepared to take risks concerning all matters or that he always tries to avoid taking risks (Q15). A respondent is asked to rate his view from 1 to 10. We also intend to measure an individual’s risk aversion by a probabilistic thought experiment. That is, we ask which of the following two lotteries a respondent prefer. The first is a lottery by which he can receive 60,000 yen without fail. The second is a lottery by which he can receive 120,000 yen with a 30% chance (Q16). Moreover, we further ask a respondent who prefers the sure lottery to specify the minimum probability with which he

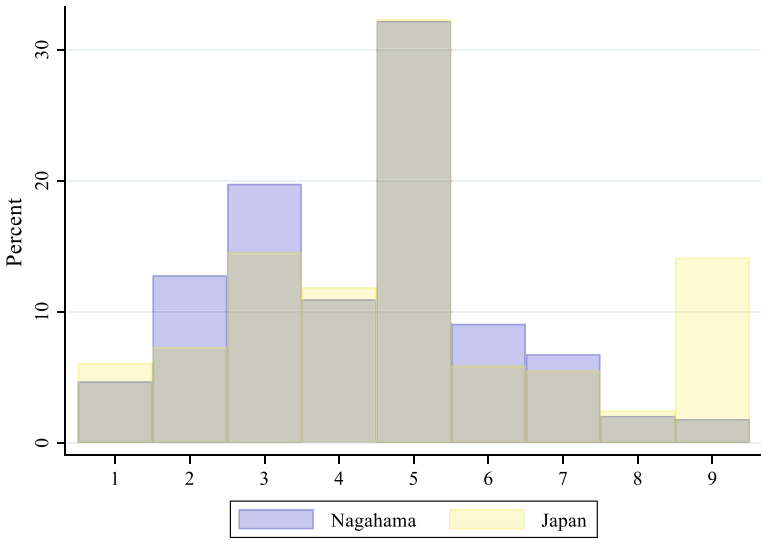
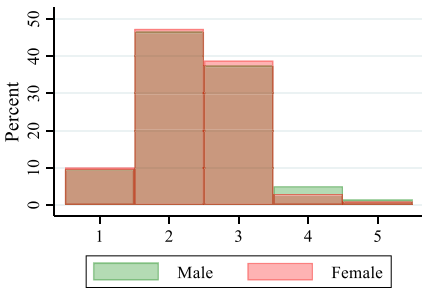


Fig. 42 General trust (Q30), comparison with entire Japan



Each bucket stands for:  
 1: I strongly agree.  
 2: I agree.  
 3: Cannot say either way.  
 4: I disagree.  
 5: I definitely disagree.

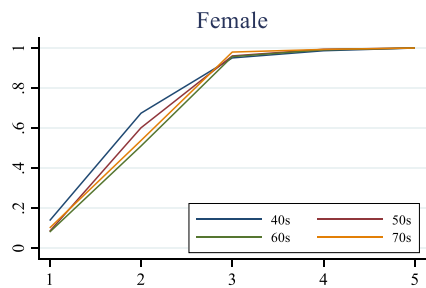
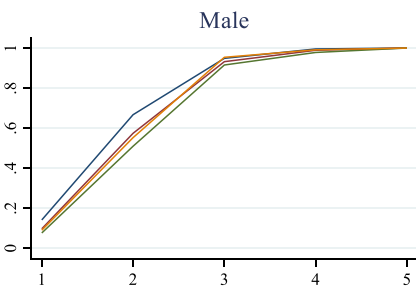
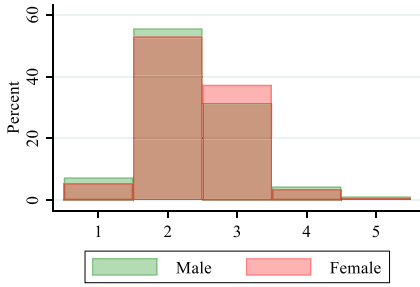


Fig. 43 Attitudes on reciprocity (Q42-1)



Each bucket stands for:  
 1: I strongly agree.  
 2: I agree.  
 3: Cannot say either way.  
 4: I disagree.  
 5: I definitely disagree.

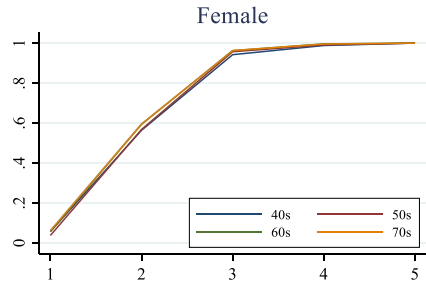
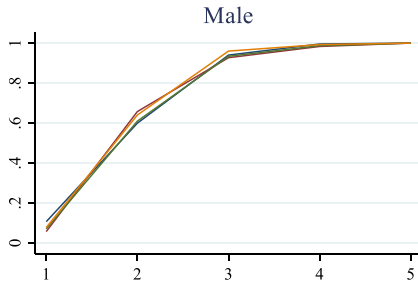
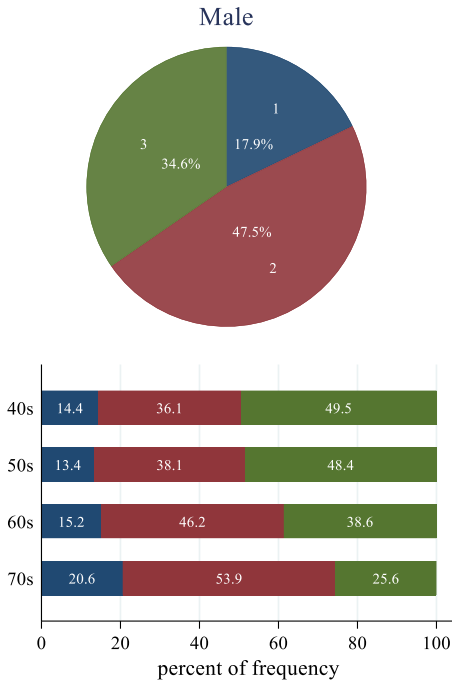


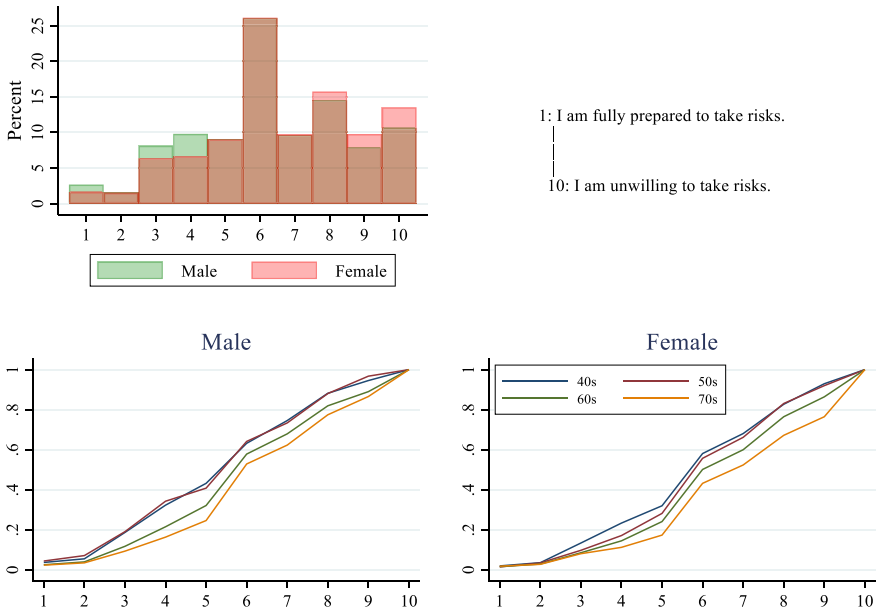
Fig. 44 Attitudes on future generations (Q42-2)



Each part corresponds to the following answers:  
 1: I am now more trusting  
 2: I have not changed.  
 3: I am less trusting.

Fig. 45 Change in general trust (Q31)





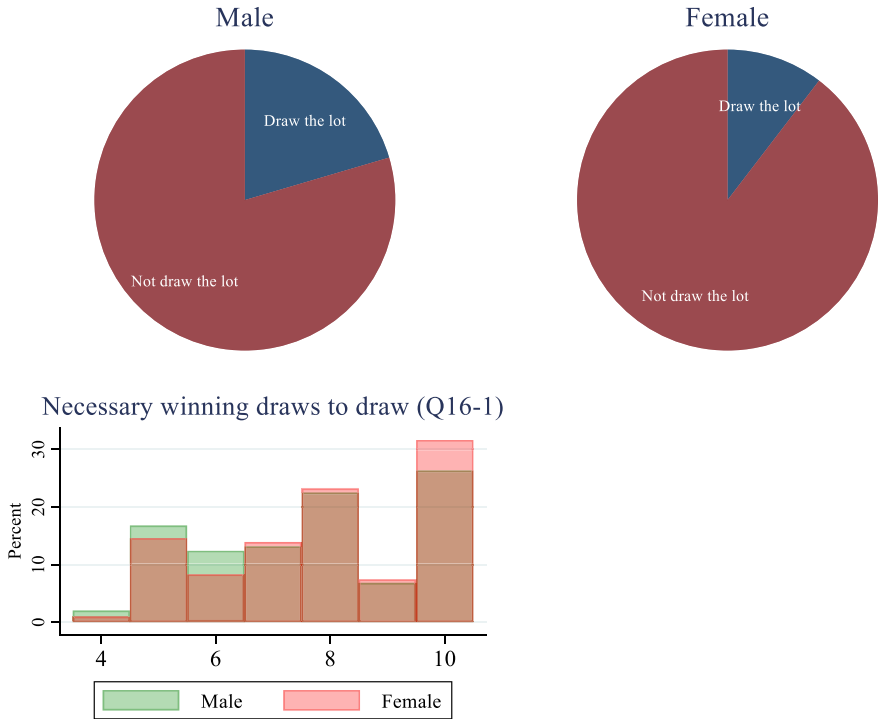
**Fig. 46** Attitude toward risks (Q15)

would rather take the risky lottery. As Fig. 46 shows, people tend to be fairly risk averse; very few people think of themselves to be prepared to take a risk while many more people think of themselves as unwilling to take risks. At the same time, males are more willing to take risks than females. Moreover, older groups of people are less willing to take risks than younger, which is natural. As for the lottery of Q16, those who choose to take a chance of receiving 120,000 yen with probability 30% (which implies the expected value of 36,000 yen) over 60,000 yen are fairly risk loving. As Fig. 47 shows, men are much more inclined to take a chance than women. These findings from Q15 and Q16 are consistent, which suggests that the answers to Q15 accurately measure one’s risk aversion.

2. **Health risk:** Attitudes toward regular healthcare may be an indicator of one’s risk aversion. With this consideration, we ask several questions concerning a respondent’s regular healthcare. Answers to health-related questions are expected to be affected by one’s health. In order to control those effects, we measure a respondent’s personal evaluations on his physical health<sup>7</sup> (Q5) and on his mental health; the latter is captured by the standard measure called K6<sup>8</sup> (Q27). The first question for measuring a risk aversion by means of health attitudes is if a respondent visits a dentist regularly (Q18). The alternatives for an

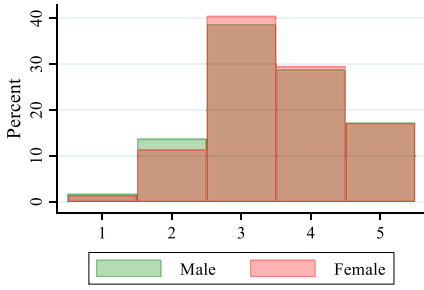
<sup>7</sup> This is often called self-rated or self-assessed health, which has been widely used to measure an individual’s general health status and has been shown to be a powerful predictor of future morbidity and mortality. For example, see Mossey and Shapiro (1982) and Idler and Angel (1990).

<sup>8</sup> For details, see Kessler et al. (2002).



**Fig. 47** Lottery drawing (Q16, Q16-1)

answer are: (1) he visits only when he has a problem with his teeth; (2) he visits regularly. Furthermore, we ask those who make regular visits how often they do (Q18-1). The alternatives for an answer are: (1) at least every three months; (2) once every half year; (3) once every year; (4) once every two years; (5) once or less every three years. We also ask at what age he started making regular dentist visit (Q18-2). The second question is if a respondent regularly takes a health examination or a complete medical checkup (Q19). The alternatives for an answer are: (1) yes; (2) no. Moreover, we ask at what age he started a regular health examination (Q19-1). The third question is if a respondent takes nutritional supplement (Q22). The alternatives for an answer are: (1) yes; (2) no. We also ask those who answer yes how much money he spends month (Q22-1). The alternatives for an answer are: (1) up to 1000 yen; (2) 1,01–3,000 yen; (3) 3001–5000 yen; (4) 5001–10,000 yen; (5) 10,000–20,000 yen; (6) more than 20,000 yen. Figures 48, 49, and 50 illustrate the distributions of answers to these questions. As Fig. 48 shows, a majority of people answer (to Q5) that they do not have health problems; younger people are in general healthier. As Fig. 49 shows, few people have mental problems; this does not differ across age groups. As Fig. 50 shows, about one third of people visit dentists regularly for check-ups. More women make regular visits, which is consistent with the above finding



Choices  
 1: Very poor.  
 2: Rather poor.  
 3: Neither good nor poor.  
 4: Fair.  
 5: Very good.

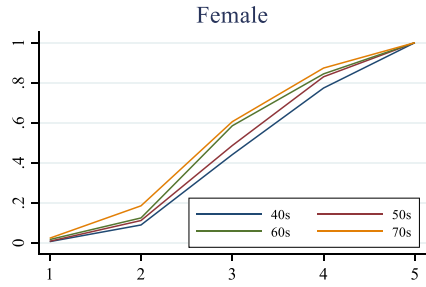
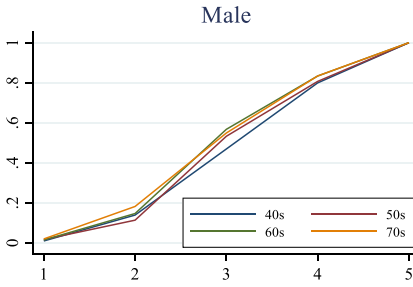


Fig. 48 Self-rated health (Q5)

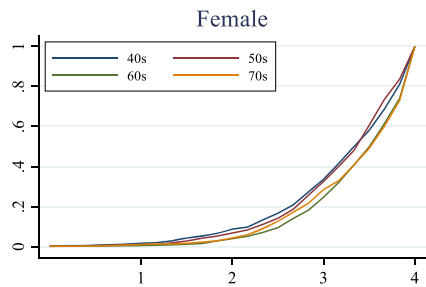
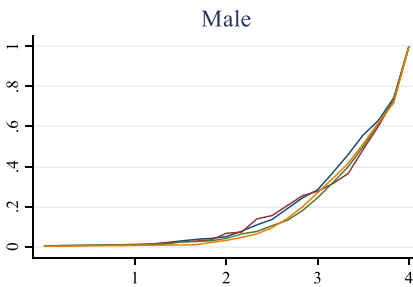
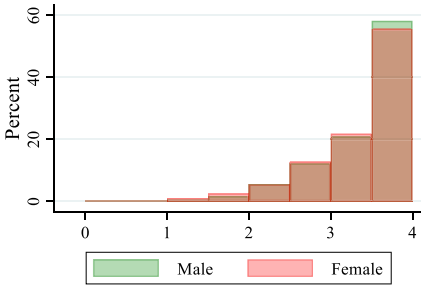
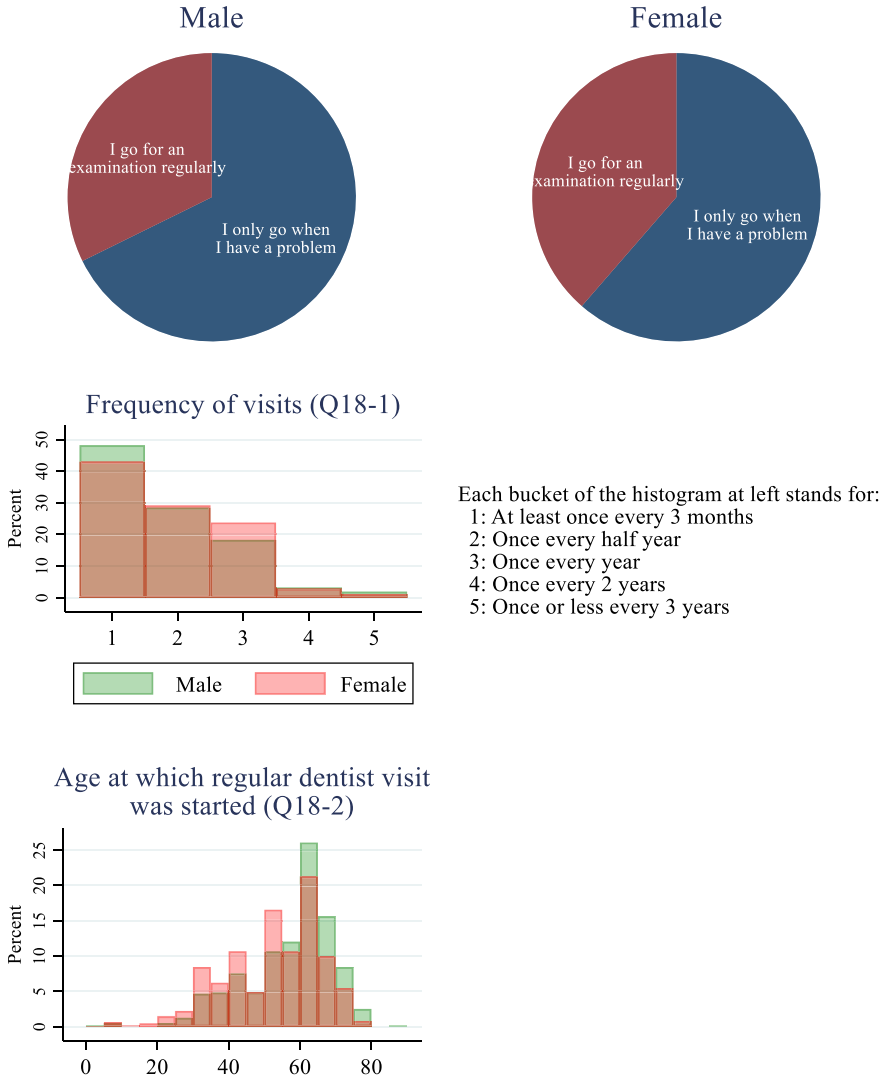


Fig. 49 K6 index (mental health) (Q27)



**Fig. 50** Dentist visit (Q18)

that women are generally more risk averse (Q15). As the third and fourth panels show, males more often visit dentists and start taking dental care at a later stage of life than females; these may capture the fact that more males neglect daily care when they are young, which will cause problems when they become old. As Fig. 51 shows, interestingly, men and women are not so different with respect to regular medical check-ups; this may be because fewer women are employed than men, who are given regular medical check-ups at their workplaces under the law. As a result, the question on regular medical check-ups (Q19) may not be

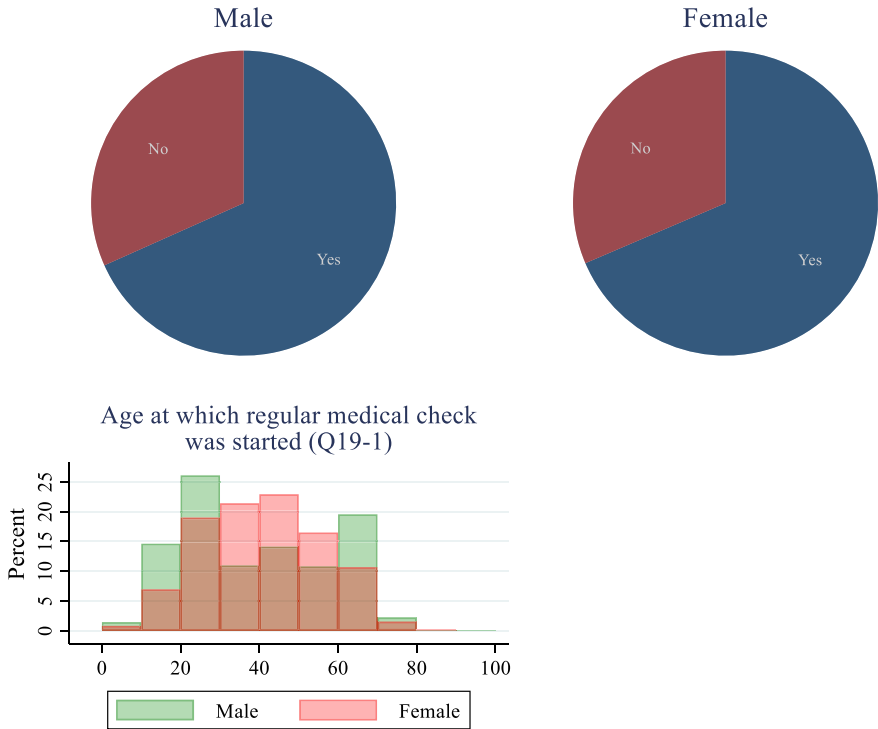


Fig. 51 Medical checkup (Q19)

as good a measure for risk aversion as that on regular dental check-ups (Q18). Another interesting finding on health risk aversion is that the use of nutritional supplements may serve as a measure for risk aversion. As Fig. 52 shows, more women take nutritional supplements than men, which is consistent with our finding that women are more risk averse (Q15). Moreover, the group of people above and in their 50 s take more nutritional supplements than the younger group. These findings suggest that the question on supplements may constitute a good measure for risk aversion once age and health are controlled.

3. **Financial risk:** With respect to financial risks, we ask if a respondent has purchased risky financial assets such as shares, bonds, and foreign currencies (Q26). The alternatives for an answer are: (1) yes, and he owns currently; (2) yes, but he does not own any now; (3) no; (4) I do not want to answer or know. Moreover, we ask those who answer yes at what age they started purchasing those risky assets (Q26-1). As Fig. 53 shows, more men are involved in financial asset than women. This suggests that women might be more risk averse in this respect as well. At the same time, in many households, husbands are main income earners, who might control financial decisions. If this factor can be controlled, the question on risk assets holding may provide a measure for risk aversion.

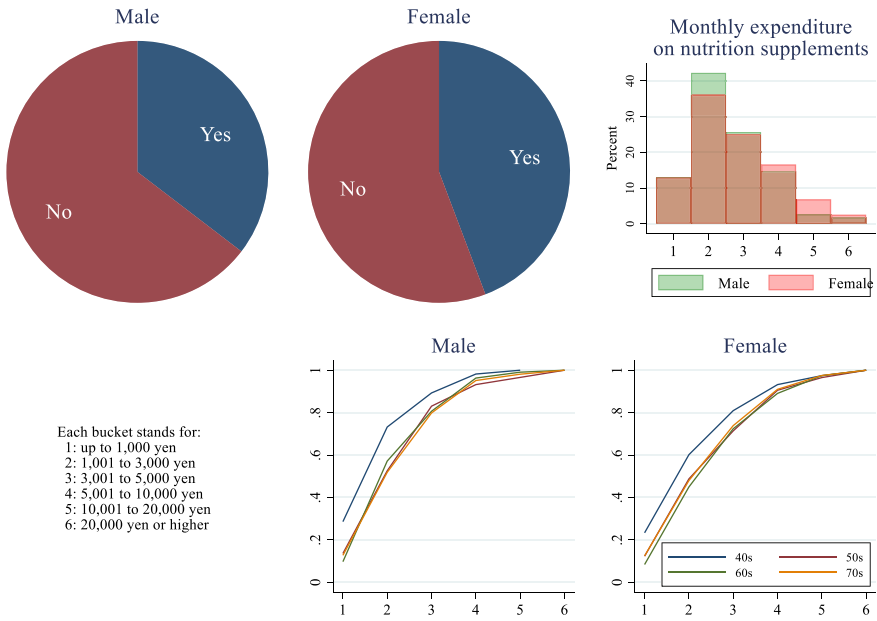


Fig. 52 Ingestion of nutritional supplements (Q22)

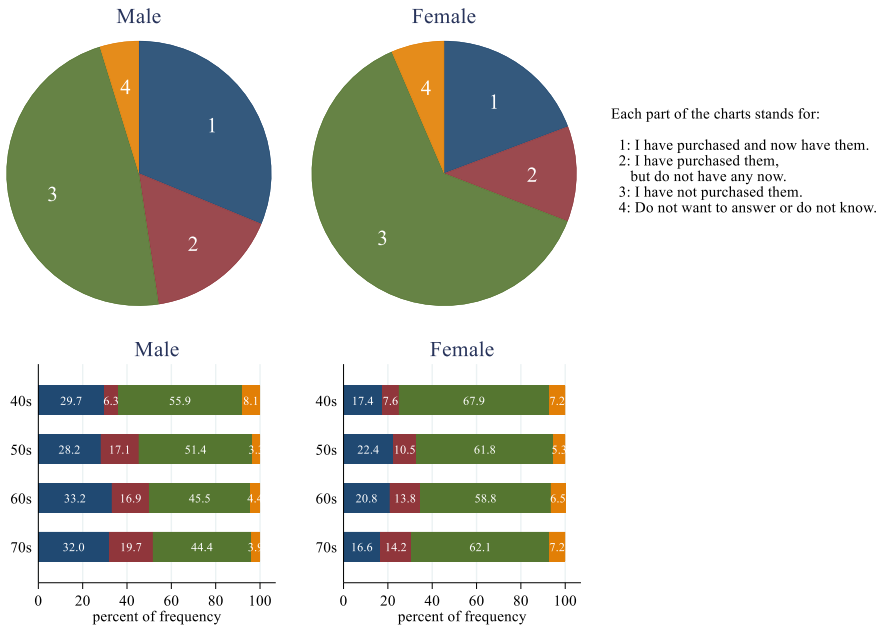


Fig. 53 Possession of risk assets (Q26)

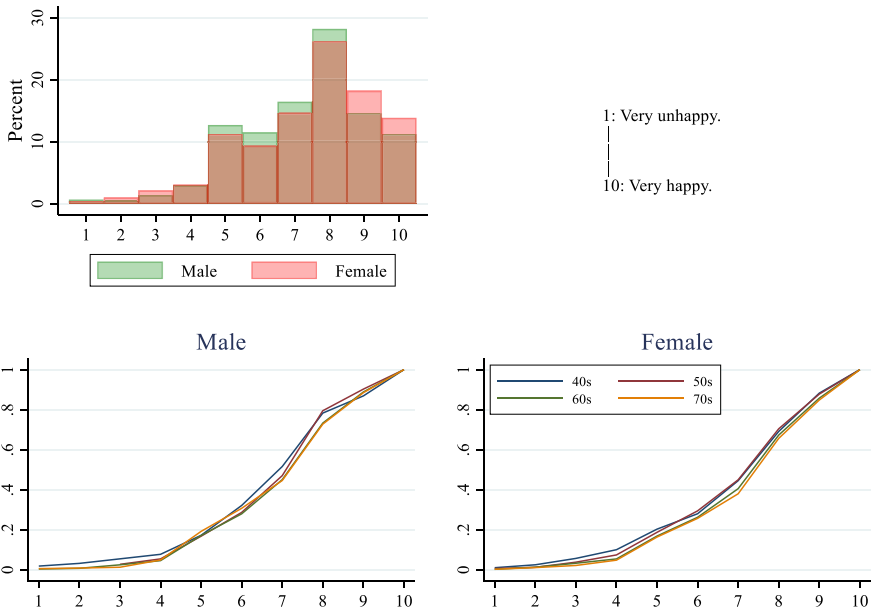


Fig. 54 Happiness (Q28)

### 3.4 Happiness

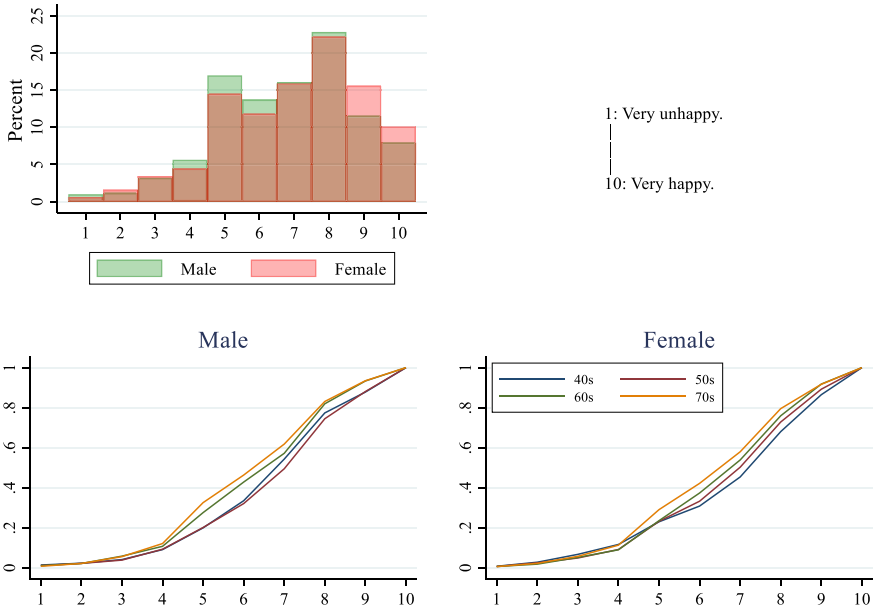
We ask about various personal perceptions on life, concerning happiness, fairness and views on medical systems. With respect to one’s happiness, we ask how happy a respondent is (Q28) and how happy he thinks will be in five year (Q29). A respondent is asked to rate his happiness from 1 through 10. Figures 54 and 55 illustrate the distributions of answers to the questions on happiness. As Fig. 54 shows, more people are happy than not. Women tend to be happier than men. These findings do not vary much across age groups. As Fig. 55 shows, this does not change much between future and present happiness, although older people have less happy views on their future than younger people, which is natural.

### 3.5 Fairness and Medical System

We also ask about what sorts of things respondents find fair and unfair by presenting several situations (Q25):

Q25-1. A certain store has been selling snow shovels for 1800 yen. The morning after a large snowstorm, the store raises the price to 2400 yen.

Q25-2. A company has been making a fair profit. As a recession goes on, the unemployment rate has risen, which made it easier to replace workers if they quit.



**Fig. 55** Future happiness (Q29)

For this reason, the company decides to reduce salaries and wages by 10% for all its employees.

Q25-3. A small factory is making kitchen tables. Because of changes in the price of materials, the cost of making each table has decreased by 2400 yen. But the factory does not lower the price for the tables.

Q25-4. The only store in a small rural town began to sell a new chocolate product for 800 yen. But a store in a nearby town that is about one-hour drive away sells the same chocolate for 500 yen.

These questions reflect the concept of fairness in market activities developed as a part of Yano’s market quality theory (Yano 2008, 2009). A respondent is asked to rate each of these statements. The alternatives for an answer are: (1) completely fair; (2) acceptable; (3) unfair; (4) very unfair. In Japan, the cost for national medical insurance is an important factor in fiscal debt. We ask about one’s views on Japanese medical system. Towards this end, we first ask the monthly medical expense for a respondent (Q20). We then ask if a respondent is aware of the “High-Cost Medical Expense System”, under which the government pays for a medical expense exceeding a set amount of payment (Q21). The alternatives for an answer are: (1) yes; (2) no. Moreover, we ask which of the following statements represents his view closest (Q23).

Q23-1. The level of medical care should be improved with the burden increased accordingly.



Q23-2. The level of medical care should be left unchanged with the burden remaining exactly at its present level.

Q23-3. The level of medical care should be reduced with the burden reduced in the future.

Finally, we ask about a respondent's view on the introduction of expensive new medical technologies by asking which of the following statements represents his view closest (Q24).

Q24-1. Medical insurance premiums should be increased to include high cost medical care, so that everyone can receive it.

Q24-2. It should be excluded from public medical care insurance so that people who want it can receive it at their own expense.

Figures 56, 57, 58, and 59 illustrate the distributions of answers to the questions on fairness. As they show, more people find the situations described in Q25-1 and Q25-2 to be more disturbing than those in Q25-3 and Q25-4. Q25-1 is concerned with wind-fall profits, whereas Q25-2 with opportunistic behaviour, leading to intentional wage cuts by firing existing workers. It is highly interesting that, except for Q25-2, older people have significantly stronger views on unfair practices than younger people; views do not vary across gender. It is an important research theme to investigate why this is the case; our survey teaches us little on this theme. Figures 60 and 61 illustrate the distributions of answers to Q23 and Q24. It is difficult to interpret answers to the questions on medical system (Q23). The first and second panels in Fig. 60 describe

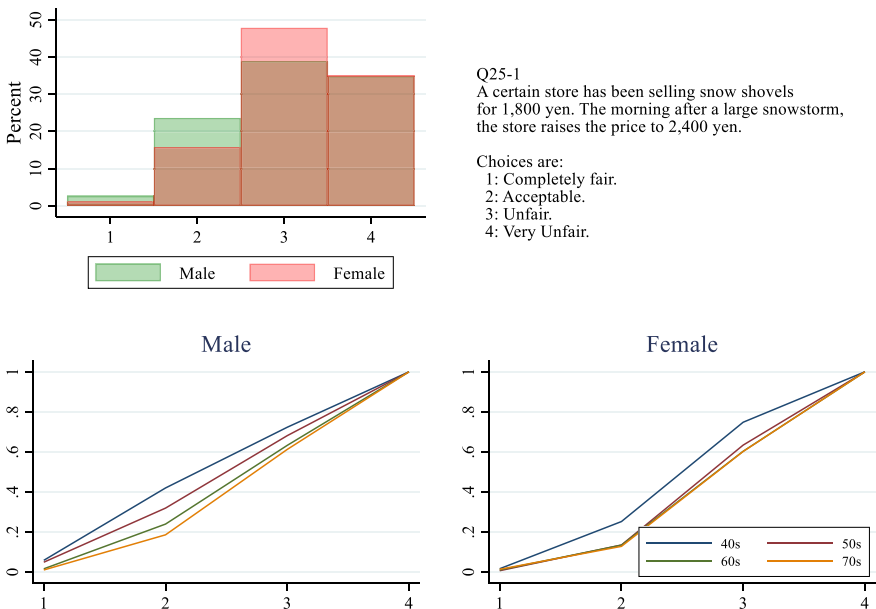
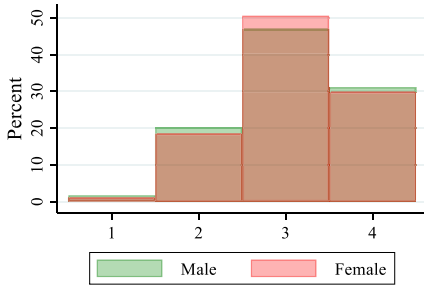


Fig. 56 Sense of fairness (Q25-1)



Q25-2  
A company is making a small profit. However, due to a recession unemployment is high, so it is easy to hire people. The company, therefore, decides to reduce salaries and wages by 10% for all its employees.

- Choices are:  
1: Completely fair.  
2: Acceptable.  
3: Unfair.  
4: Very Unfair.

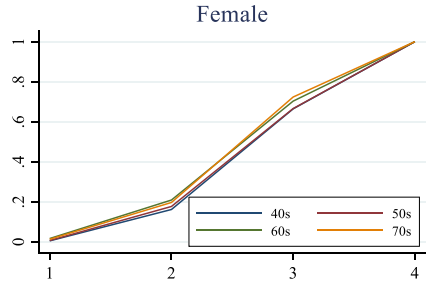
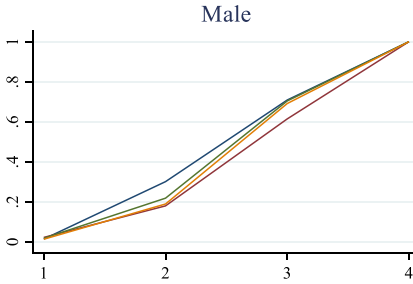
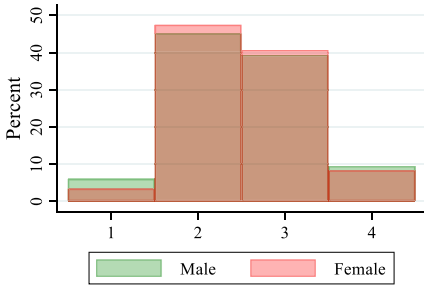


Fig. 57 Sense of fairness (Q25-2)



Q25-3  
A small factory is making kitchen tables. Because of changes in the price of materials, the cost making each table has decreased by 2,400 yen. But the factory does not lower the price for the tables.

- Choices are:  
1: Completely fair.  
2: Acceptable.  
3: Unfair.  
4: Very Unfair.

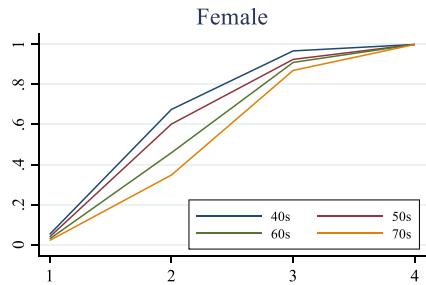
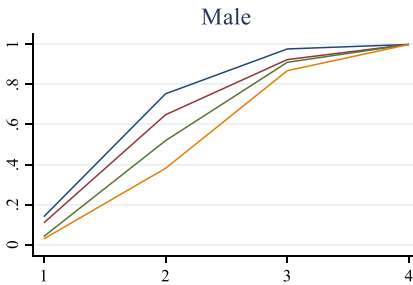
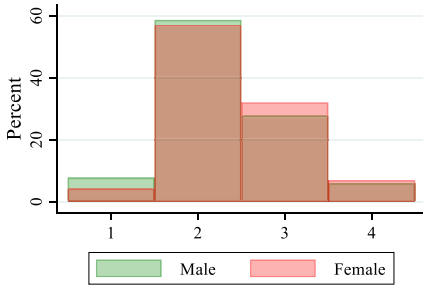


Fig. 58 Sense of fairness (Q25-3)



Q25-4  
The only store in a small rural town began to sell a new chocolate product for 800 yen. But a store in a nearby town that is about 1 hour drive away sells the same chocolate for 500 yen.

- Choices are:  
1: Completely fair.  
2: Acceptable.  
3: Unfair.  
4: Very Unfair.

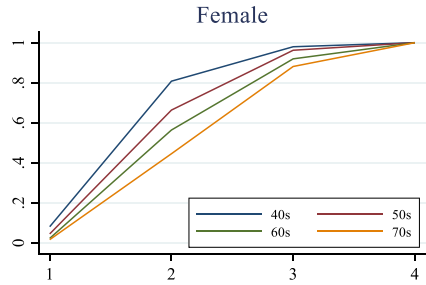
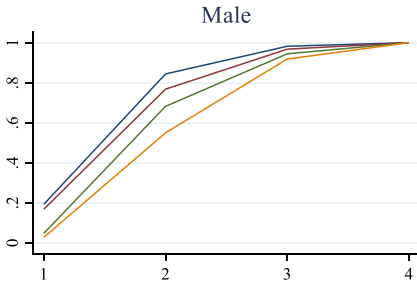
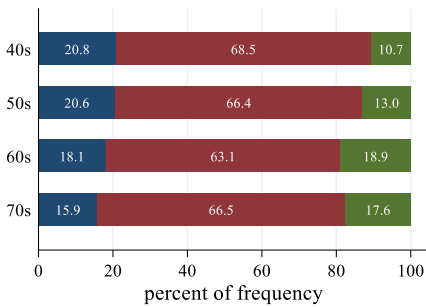
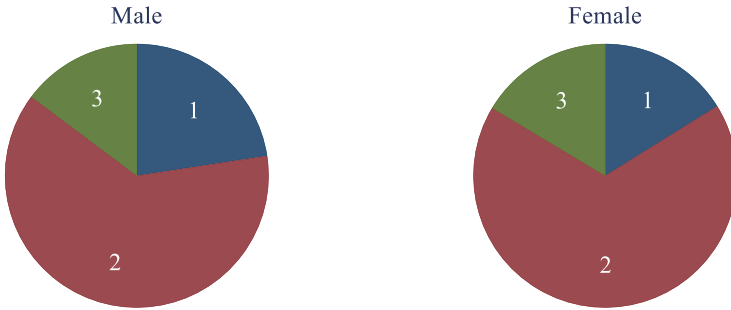
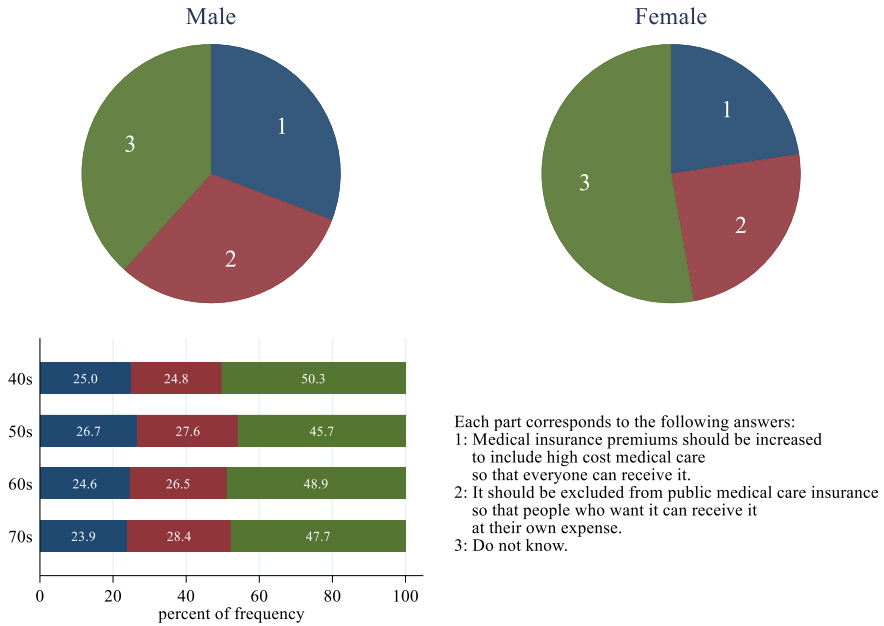


Fig. 59 Sense of fairness (Q25-4)



- Each part corresponds to the following answers:  
1: I want the level of medical care to be improved, if the burden is increased accordingly.  
2: I want the level of medical care to be left unchanged, and the burden to remain at its present level.  
3: I want the level of medical care to be reduced so as to lower the burden in the future.

Fig. 60 Attitude towards medical system (Q23)



**Fig. 61** Attitude towards very expensive medical technology (Q24)

that most males and females want to maintain the status quo of medical standards and burdens, but the percentage of males who want to raise both medical standards and burden is higher than that of females. The third panel shows that the older age group people are in, the less they want to raise both medical standards and burden. Question Q24 is concerned with so-called mixed medicine in Japan, strictly separating medical treatments on national health insurance and those on private expense; it is not permitted that a person pays part of treatments on particular illness on his own. As Fig. 61 shows, people’s views are mixed.

## Appendix: The Nagahama Survey

### Questionnaire on Social and Economic Behavior

After answering, please send the questionnaire to the Zero-ji Health Promotion Club in the attached envelope. **Participation in this survey is optional**, but it is important to gain the cooperation of as many people as possible in order to conduct more accurate research, so please help us out. If the method of answering is not clear, please submit your inquiry to the Zero-ji Health Promotion Club.

## I-We would like ask about you and your home.

1. Please tell us how many children now live with you.

	None	1	2	3	4	5 or more
Before elementary school	5,430	376	128	15	3	2
	(91.2%)	(6.3%)	(2.2%)	(0.3%)	(0.1%)	(0.0%)
Elementary and junior-high school students	4,735	579	510	122	6	2
	(79.5%)	(9.7%)	(8.6%)	(2.1%)	(0.1%)	(0.0%)
High school students	5,446	421	80	6	0	1
	(91.5%)	(7.1%)	(1.3%)	(0.1%)	(0.0%)	(0.0%)
University, graduate school, and vocational school students	5,653	245	53	3	0	0
	(94.9%)	(4.1%)	(0.9%)	(0.1%)	(0.0%)	(0.0%)
Employed	3,986	1,368	475	94	27	4
	(67.0%)	(23.0%)	(8.0%)	(1.6%)	(0.5%)	(0.1%)
Others (full-time home maker, unemployed)	5,367	433	115	31	2	6
	(90.1%)	(7.3%)	(1.9%)	(0.5%)	(0.0%)	(0.1%)

2. Do you live with your parents or your spouse’s parents?

[1] Yes	[2] No
1,638	4,239
(27.5%)	(71.2%)

3. How many grandchildren do you have?

( )	Tens place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
	Ones place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

4. Do you live with any of your grandchildren?

[1] Yes	[2] No
996	4,953
(16.7%)	(83.2%)

5. How would you rate your general health status?

Very good	Fair	Neither good nor poor	Rather poor	Very poor
1,011	1,734	2,364	716	88
(17.0%)	(29.1%)	(39.7%)	(12.0%)	(1.5%)

6. Which of the following describes the last school you graduated from?

[1] Primary education institution (prewar elementary school)	Includes prewar ordinary primary schools and beginners course of national elementary schools.	5	(0.1%)
[2] Junior high school or other lower secondary education institution	Includes postwar middle schools, plus prewar higher elementary schools, advanced course of national elementary schools, youth schools, and elementary course in senior high schools.	1,059	(17.8%)
[3] High school or other upper secondary education institution	Includes postwar high schools, plus prewar secondary schools, teachers' college, preparatory courses, girls' high schools, technical colleges (technical college preparatory courses, and technical maintenance schools) etc.	2,625	(44.1%)

[4] University	Includes postwar universities and college level institutions, plus prewar universities, higher course in senior high schools, university preparatory courses, regular courses in teachers' colleges, higher normal schools, women's higher normal schools, vocational schools etc.	684	(11.5%)
[5] Graduate school		27	(0.5%)
[6] Two-year college		748	(12.6%)
[7] Technical college		422	(7.1%)
[8] Higher technical college		60	(1.0%)
[9] Do not want to answer.		43	(0.7%)

6-1. [Answer if you answered [4] University or [5] Graduate school above.] Which of the following did you specialize in?

Literature	Education	Law	Economics	Science
101	133	49	125	22
(1.7%)	(2.2%)	(0.8%)	(2.1%)	(0.4%)
Medicine or dentistry	Pharmacology	Engineering	Agriculture	Others
6	10	120	19	122
(0.1%)	(0.2%)	(2.0%)	(0.3%)	(2.1%)

7. Please report the year you completed your last education.

[1] Showa (1925 - 1988); [2] Heisei (1989 – present)		
( ) year	Tens place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
	Ones place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

8. Tell us about your present work. Which of the following describes your form of employment?

[1] Am not employed (full-time housemaker, student, retiree, etc.)	2,608	(43.8%)
[2] Employee (person employed by or working for a company, organization etc. (person who is formally employed by an employer))	2,052	(34.5%)
[3] Self-employed (restaurant, wholesale/retail shop owner, farming etc.)	515	(8.7%)
[4] Independent professional (physician, lawyer, accountant, tax accountant, author, etc.)	49	(0.8%)
[5] Family worker (restaurant, retail store, farming etc.)	192	(3.2%)
[6] Works at home without an employment relationship with a company	88	(1.5%)
[7] Contract worker, sub-contractor (person with no employment relationship)	116	(2.0%)
[8] Do not want to answer.	41	(0.7%)

8-1. [Answer if you selected [2] Employed person above.] Which of the following describes your position in your company?

[1] Full-time employee (regular employee) -- below manager level	469	(7.9%)
[2] Full-time staff member or employee (regular employee) -- manager level	256	(4.3%)
[3] Full-time employee (regular employee) -- executive level	41	(0.7%)
[4] Contract employee	140	(2.4%)
[5] Temporary or part-timer	1,026	(17.2%)
[6] Dispatched worker	44	(0.7%)
[7] Commissioned	61	(1.0%)
[8] Do not want to answer.	5	(0.1%)

9. Which of the following describes the work that you usually perform?



[1] Agricultural, forestry, and fishery work	290	(4.9%)
[2] Mining work	1	(0.0%)
[3] Sales work (manager, inside employee, outside employee of retailer or wholesaler, real-estate agent, etc.)	329	(5.5%)
[4] Service work (barber, hair-dresser, restaurant, hotel worker and janitor, etc.)	380	(6.4%)
[5] Administrative and managerial work (elected member of national or regional government, section chief or higher in a company, organization, or public agency)	99	(1.7%)
[6] Clerical work (ordinary clerical work, accounting work, operator or other clerical worker etc.)	483	(8.1%)
[7] Transportations and communications work (driver, conductor on a train, bus, ship, or aircraft, telegraph or radio operator etc.)	58	(1.0%)
[8] Manufacturing, construction, maintenance, or movers and delivery work	426	(7.2%)
[9] Data processing technologist (System engineer, programmer, etc.)	6	(0.1%)
[10] Specialized or technical work (Excluding data processing technologist (corporate researchers, engineers, medical doctors and health care service providers, lawyers and legal staff, teachers, artists, etc.)	428	(7.2%)
[11] Security work (Self-defense force member, police officer, fire-fighter, security guard, etc.)	6	(0.1%)
[12] Others	655	(11.0%)
[13] Do not want to answer.	38	(0.6%)

10. What are the average number of hours that you work for wages a week? Please answer including overtime hours. If you work at 2 or more wage-earning jobs, please answer indicating the total number of hours you work.

About ( ) hours	Tens place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
	Ones place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

**II- We would like to ask about your income, assets, etc.**

Please answer on your household as a whole.

11. Which of the following corresponds to your household's annual income before you pay taxes and social insurance premiums.? Please include all the side-job income and various benefits.

① No more than 2 million yen	② Greater than 2 million and no more than 4 million yen.	③ Greater than 4 million and no more than 6 million yen.	④ Greater than 6 million and no more than 8 million yen.
680	1,739	930	523
(11.4%)	(29.2%)	(15.6%)	(8.8%)
⑤ Greater than 8 million and no more than 10 million yen.	⑥ Greater than 10 million and no more than 15 million yen.	⑦ Greater than 15 million yen.	⑧ I do not know. / I do not want to answer.
350	229	58	1,128
(5.9%)	(3.9%)	(1.0%)	(19.0%)

12. Which of the following corresponds to your household's total present bank deposits, shares, and investment trusts?

① No more than 2 million yen	② Greater than 2 million and no more than 4 million yen.	③ Greater than 4 million and no more than 6 million yen.	④ Greater than 6 million and no more than 8 million yen.	⑤ Greater than 8 million and no more than 10 million yen.
727	462	393	250	361
(12.2%)	(7.8%)	(6.6%)	(4.2%)	(6.1%)
⑥ Greater than 10 million and no more than 15 million yen.	⑦ Greater than 15 million yen.	⑧ Greater than 20 million yen.	⑨ I do not know. / I do not want to answer.	
378	295	791	2,002	
(6.4%)	(5.0%)	(13.3%)	(33.6%)	

Please answer on yourself

13. Which of the following corresponds to your personal annual income before you pay taxes and social insurance premiums.? Please include all the side-job income and various benefits.

① No more than 2 million yen	② Greater than 2 million and no more than 4 million yen.	③ Greater than 4 million and no more than 6 million yen.	④ Greater than 6 million and no more than 8 million yen.
3,043	1,376	329	155
(51.1%)	(23.1%)	(5.5%)	(2.6%)
⑤ Greater than 8 million and no more than 10 million yen.	⑥ Greater than 10 million and no more than 15 million yen.	⑦ Greater than 15 million yen.	⑧ I do not know. / I do not want to answer.
63	29	5	709
(1.1%)	(0.5%)	(0.1%)	(11.9%)

14. Which of the following corresponds to the present total bank deposits, shares, and investment trusts in your own name?

① No more than 2 million yen	② Greater than 2 million and no more than 4 million yen.	③ Greater than 4 million and no more than 6 million yen.	④ Greater than 6 million and no more than 8 million yen.	⑤ Greater than 8 million and no more than 10 million yen.
1,527	674	407	238	348
(25.7%)	(11.3%)	(6.8%)	(4.0%)	(5.8%)
⑥ Greater than 10 million and no more than 15 million yen.	⑦ Greater than 15 million yen.	⑧ Greater than 20 million yen.	⑨ I do not know. / I do not want to answer.	
332	176	377	1,624	
(5.6%)	(3.0%)	(6.3%)	(27.3%)	

**III-We would like to ask about your inclinations and attitudes concerning your behavior.**

Anything that may result in some form of loss in the future is called “risk”. For example, if you take a trip outside the country, you might have an accident if you are unlucky. If you clearly decide to set out on such a trip aware that such an incident may occur, you are taking such a risk. If you do not set out on a trip, you are not taking any risk at all.

15. Do you think that you are the type of person who is fully prepared to take risks concerning all matters? Or do you try to avoid taking risks? Please indicate the level between ① “I am unwilling to take risks” and ⑩ “fully prepared to take risks” that most closely indicates your type by covering the number in black.

I am unwilling to take risks ←-----→ I am fully prepared to take risks									
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
705	513	859	543	1,460	506	428	388	85	110
(11.8%)	(8.6%)	(14.4%)	(9.1%)	(24.5%)	(8.5%)	(7.2%)	(6.5%)	(1.4%)	(1.9%)

16. You have a choice between receiving 60,000 yen for sure and drawing a lottery that will give you 120,000 yen if you win, but not a penny if you lose. The lottery contains three “winners” out of ten. Would you draw the lottery, or would you not draw the lottery and receive 60,000 yen?

[1] Draw a lot	772	(13.0%)
[2] Not draw a lot	4,904	(82.4%)

16-1. [Answer if you answered “[2] Not draw a lot” above.] Of the 10 lots, what is the minimum number of winning draws per 10 draws would there have to be for you to draw a lot?

④ 4	⑤ 5	⑥ 6	⑦ 7	⑧ 8	⑨ 9	⑩ 10
59	713	445	641	1,077	339	1,407
(1.0%)	(12.0%)	(7.5%)	(10.8%)	(18.1%)	(5.7%)	(23.6%)

17. Which do you choose, "Receive 60,000 yen today" or "Wait for one week and receive 60,050 yen"?

[1] Receive 60,000 yen today.	3,727	(62.6%)
[2] "Wait for one week and receive 60,050 yen"	1,425	(23.9%)

17-1. [Answer if you answered, "[1] Receive 60,000 yen today"] What is the least you would have added to the 60,000 yen to make you wait one week? Answer to the nearest unit of 10 yen.

( ) yen	
10 Thousands place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
Thousands place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
Hundreds place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
Tens place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

18. Do you visit a dentist regularly?

[1] I only go when I have a problem with my teeth.	3,582	(60.2%)
[2] I go for an examination regularly.	2,069	(34.8%)

18-1. [Answer if you answered, "(2) I go regularly" above"] How often do you go?

① At least once every 3 months	② Once every half year	③ Once every year	④ Once every 2 years	⑤ Once or less every 3 years
925	603	463	61	29
(15.5%)	(10.1%)	(7.8%)	(1.0%)	(0.5%)

18-2. [Answer if you answered, "I go regularly" above"] How old were you when you began to go regularly?

From about ( )	
Tens place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
Ones place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

19. Do you regularly have a health examination or take a thorough medical checkup ? Exclude a check up by our Nagahama Survey

[1] Yes	3,930	(66.0%)
[2] No	1,809	(30.4%)

19-1. [Answer if you answered, “[1] Yes” above] About how old were you when you began to receive health examinations regularly?

From about ( )	
Tens place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
Ones place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

20. How much do you pay as medical expense every month (fees paid at your expense to medical treatment organizations and pharmacies)? Exclude visits because of injuries. If you visit more than one hospital, please answer by reporting the total amount.

About ( ) thousands yen	100 Thousands place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
	10 Thousands place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
	Thousands place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

21. Have you heard of the high medical expense system (the system in which the government pays the part of medical payments at hospitals and pharmacies that exceed a certain amount)?

[1] Yes	[2] No
5,202	590
(87.4%)	(9.9%)

22. Do you normally take nutritional supplements?

[1] Yes	[2] No
2,395	3,385
(40.2%)	(56.9%)

22-1. [Answer if you answered “[1] Yes” above.] About how much money do you pay for nutritional supplements every month?

① up to 1,000 yen	② 1,001 to 3,000 yen	③ 3,001 to 5,000 yen	④ 5,001 to 10,000 yen	⑤ 10,000 to 20,000 yen	⑥ 20,000 yen or higher
306	896	598	382	136	55

(5.1%)	(15.1%)	(10.0%)	(6.4%)	(2.3%)	(0.9%)
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23. Which of the following policies concerning medical care fees most closely resembles your thoughts?

① I want the level of medical care to be improved, even if the burden is increased accordingly.	1,028	(17.3%)
② I want the level of medical care to be left unchanged, and the burden to remain at its present level.	3,718	(62.5%)
③ I want the level of medical care to be reduced so as to lower the burden.	896	(15.1%)

24. Expensive medical care technology, like some new medicines that cost tens of millions of yen a year, is being developed. Which statement concerning such high cost medical care most closely represents your thoughts on this topic?

① Medical insurance premiums should be increased to include high cost medical care so that everyone can receive it.	1,442	(24.2%)
② It should be excluded from public medical care insurance so that people who want it can receive it at their own expense.	1,523	(25.6%)
③ Don't know.	2,756	(46.3%)

25. Do you think the cases described on the following table are fair?

	Completely fair	Acceptable	Unfair	Very unfair
(1) A certain store has been selling snow shovels for 1,800 yen. The morning after a large snowstorm, the store raises the price to 2,400 yen.	96 (1.6%)	1,054 (17.7%)	2,593 (43.6%)	2,019 (33.9%)
(2) A company is making a small profit. However, due to a recession unemployment is high, so it is easy to hire people. The company, therefore, decides to reduce salaries and wages by 10% for all its	73 (1.2%)	1,076 (18.1%)	2,794 (46.9%)	1,709 (28.7%)

employees.				
(3) A small factory is making kitchen tables. Because of changes in the price of materials, the cost making each table has decreased by 2,400 yen. But the factory does not lower the price for the tables.	242 (4.1%)	2,655 (44.6%)	2,286 (38.4%)	494 (8.3%)
(4) The only store in a small rural town began to sell a new chocolate product for 800 yen. But a store in a nearby town that is about 1 hour drive away sells the same chocolate for 500 yen.	304 (5.1%)	3,282 (55.1%)	1,749 (29.4%)	374 (6.3%)

26. Have you purchased risky financial assets such as shares, bonds, or foreign-currency denominated assets etc. in addition to your bank deposits? Do you now have such assets?

[1] I have purchased and now have them.	1,325	(22.3%)
[2] I have purchased them, but do not have any now.	756	(12.7%)
[3] I have not purchased them.	3,326	(55.9%)
[4] Do not want to answer or do not know.	341	(5.7%)

26-1. [Answer if you answered “[1] I have purchased and now have them.”, or “[2] I have purchased them, but do not have any now.”] How old were you when your first purchased risky financial assets such as shares, bonds, or foreign-currency denominated assets etc.?

( ) years of age	
Tens place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]
Ones place	[ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ]

27. During the last 30 days, about how often did you feel ...

	Never	Few times	Sometimes	Usually	Always
(5) ... nervous?	2,614	1,642	1,101	204	111
	(43.9%)	(27.6%)	(18.5%)	(3.4%)	(1.9%)



(6) ... hopeless?	3,836	1,197	507	86	45
	(64.4%)	(20.1%)	(8.5%)	(1.4%)	(0.8%)
(7) ...restress or fidgety?	2,900	1,896	747	93	37
	(48.7%)	(31.8%)	(12.6%)	(1.6%)	(0.6%)
(8) ... so depressed that nothing could cheer you up?	2,799	1,937	724	149	66
	(47.0%)	(32.5%)	(12.2%)	(2.5%)	(1.1%)
... that everything was an effort?	2,899	1,942	661	133	46
	(48.7%)	(32.6%)	(11.1%)	(2.2%)	(0.8%)
... worthless?	3,769	1,253	493	101	72
	(63.3%)	(21.0%)	(8.3%)	(1.7%)	(1.2%)

28. How happy are you now? “Please indicate the number between ① “very unhappy” and ⑩ “very happy” that most closely describes you by covering the number in black.

very unhappy←-----→very happy									
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
28	47	109	177	679	582	883	1,559	991	756
(0.5%)	(0.8%)	(1.8%)	(3.0%)	(11.4%)	(9.8%)	(14.8%)	(26.2%)	(16.6%)	(12.7%)

29. How happy do you think you will be five years from now? “Please indicate the number between ① “very unhappy” and ⑩ “very happy” that most closely describes your opinion by covering the number in black.

very unhappy←-----→very happy									
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
42	82	192	276	875	711	915	1,283	818	540
(0.7%)	(1.4%)	(3.2%)	(4.6%)	(14.7%)	(11.9%)	(15.4%)	(21.6%)	(13.7%)	(9.1%)

**IV- We would like to ask about your relationships with the region in which you live.**

30. Generally speaking, would you say that most people can be trusted? Or that you need to be very careful in dealing with people? “Please indicate the number between ① “Most people can be trusted.” and ⑩ “You need to be very careful in dealing with people” that most closely describes your opinion by covering the number in black.

Most people can be trusted ← ----- → You need to be very careful in dealing with people									
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
271	739	1,143	632	1,334	528	525	391	118	104
(4.6%)	(12.4%)	(19.2%)	(10.6%)	(22.4%)	(8.9%)	(8.8%)	(6.6%)	(2.0%)	(1.8%)

31. How has the consciousness that motivated you to answer Question 30 above changed from the time you were 15 years old?

[1] I am now more trusting	[2] I have not changed.	[3] I am less trusting.	[4] Don't know.
750	2,062	1,814	1,134
(12.6%)	(34.6%)	(30.5%)	(19.1%)

32. Do you think that most people “would try to take advantage of you (your weaknesses) if they got the chance.”? Or do you think that “they would try to be fair”? Please indicate the number between ① “would try to be fair” and ⑩ “would try take advantage of you (your weaknesses)” that most closely describes your opinion by covering the number in black.

would try to take advantage of you ← ----- → they would try to be fair									
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
146	204	296	376	1,189	702	672	1,010	618	313
(2.5%)	(3.4%)	(5.0%)	(6.3%)	(20.0%)	(11.8%)	(11.3%)	(17.0%)	(10.4%)	(5.3%)

33. To what degree do you interact with your neighbors?

① I have someone with whom I cooperate in my daily life, for example, by giving each other advice or loaning each other daily necessities.	1,313	(22.1%)
② I associate with some neighbors by regularly chatting with them.	3,053	(51.3%)
③ I only associate with them at the minimum level of exchanging greetings.	1,367	(23.0%)
④ I do not associate with them at all.	47	(0.8%)

34. How many people do you interact with on friendly terms?

① I am acquainted with or interact with many of my neighbors (generally 20 people or more).	1,501	(25.2%)
② I am acquainted with or interact with some of my neighbors (generally from 5 to 19 people).	3,045	(51.1%)
③ I am acquainted with or interact with very few of my neighbors (4 people or fewer).	1,205	(20.2%)
④ I do not even know who lives next door.	42	(0.7%)

35. To what degree do you think you can count on neighbors, relatives, and workmates to seek for help to deal with daily problems and concerns?

	Can trust them very much	Can trust them somewhat	Cannot say either way	Cannot trust very much	Cannot trust at all
Neighbors	456 (7.7%)	2,576 (43.3%)	1,547 (26.0%)	876 (14.7%)	310 (5.2%)
Family members	3,941 (66.2%)	1,519 (25.5%)	188 (3.2%)	92 (1.6%)	23 (0.4%)
Relatives	1,290 (21.7%)	3,080 (51.7%)	894 (15.0%)	383 (6.4%)	131 (2.2%)
Friends and acquaintances	700 (11.8%)	2,911 (48.9%)	1,564 (26.3%)	462 (7.8%)	125 (2.1%)
Workmates	241 (4.1%)	1,278 (21.5%)	1,552 (26.1%)	659 (11.1%)	433 (7.3%)

36. During the past year, have you donated money to a non-profit organization or an organization conducting charitable activities?

[1] I have not	[2] 1 to 999 yen	[3] 1,000 yen to 4,999 yen	[4] 5,000 yen to 9,999 yen	[5] 10,000 to 49,999 yen	[6] 50,000 yen or higher
1,650	1,074	2,075	432	369	124
(27.7%)	(18.0%)	(34.9%)	(7.3%)	(6.2%)	(2.1%)

37. How often do you usually interact with friends, relatives, and workmates?

	Daily (from daily to weekly)	A certain number of times (once a week to a few times a month)	Rarely (few times in several years)	Never
Friends and acquaintances (excluding classmates or workmates)	694 (11.7%)	2,833 (47.6%)	1,858 (31.2%)	212 (3.6%)
Relatives	693 (11.6%)	2,901 (48.7%)	1,933 (32.5%)	129 (2.2%)
Workmates	562 (9.4%)	967 (16.2%)	1,524 (25.6%)	1,022 (17.2%)

38. Do you participate in the following activities? If you do participate, how often do you participate?

	Almost every week	About 2 or 3 days per month	About 1 day per month	A few times a year	I am not active.
Local community activities [Residents association, town association, women's association, seniors club, youth association, children's groups]	327 (5.5%)	715 (12.0%)	1,090 (18.3%)	2,618 (44.0%)	912 (15.3%)
Sports, hobbies, recreational activities [Various sports, artistic and cultural activities, lifetime learning, etc.]	1,271 (21.4%)	1,027 (17.3%)	531 (8.9%)	806 (13.5%)	2,006 (33.7%)
Volunteer, NPO, civic activities [Community improvement, beautification, disaster and crime prevention, environment, international aid, etc.]	199 (3.3%)	375 (6.3%)	536 (9.0%)	1,607 (27.0%)	2,892 (48.6%)
Activities of other organizations [Chamber of commerce, professional associations, religion, political etc.]	188 (3.2%)	220 (3.7%)	404 (6.8%)	1,012 (17.0%)	3,621 (60.8%)

39. Do you want your children's or grandchildren's generations to continue to live in the region where you now live?

① I do	② I do not	③ I don't know.
2,942	830	1,553
(49.4%)	(13.9%)	(26.1%)

40. Do you want to contribute to fixing community problems such as the decline of a local shopping street, an increase in abandoned land and houses, and local child-care activities?

① Yes, absolutely.	② Yes, if possible.	③ No, not very much.	④ Absolutely not.	⑤ I don't know.
180	1,952	1,590	83	1,763
(3.0%)	(32.8%)	(26.7%)	(1.4%)	(29.6%)

41. How much do you personally trust each of the following institutions?

	I strongly trust them	I somewhat trust them	Cannot say either way.	I do not trust them very much	I do not trust them at all	Don't know.
National Diet	43 (0.7%)	1,161 (19.5%)	1,484 (24.9%)	1,689 (28.4%)	616 (10.4%)	614 (10.3%)
Government	67 (1.1%)	1,267 (21.3%)	1,395 (23.4%)	1,593 (26.8%)	677 (11.4%)	592 (9.9%)
Local governments	117 (2.0%)	2,260 (38.0%)	1,688 (28.4%)	885 (14.9%)	211 (3.5%)	425 (7.1%)
Courts	347 (5.8%)	2,014 (33.8%)	1,517 (25.5%)	427 (7.2%)	145 (2.4%)	1,098 (18.4%)
Police	428 (7.2%)	3,015 (50.6%)	1,114 (18.7%)	505 (8.5%)	128 (2.2%)	403 (6.8%)
Banks, securities dealers and other financial institutions	327 (5.5%)	2,740 (46.0%)	1,449 (24.3%)	493 (8.3%)	97 (1.6%)	493 (8.3%)

42. Do you agree with the following ideas?

	Strongly agree	Agree	Cannot say either way	Disagree	Definitely disagree	Do not know.
If I help others, someone will help me when I am in difficulty.	537 (9.0%)	2,564 (43.1%)	2,090 (35.1%)	196 (3.3%)	56 (0.9%)	230 (3.9%)
In order to let our future generations, including children and grandchildren, have the same standard of living and level of public services as we now receive, an increase of some degree in the burden we now bear is acceptable.	331 (5.6%)	2,907 (48.8%)	1,918 (32.2%)	210 (3.5%)	44 (0.7%)	258 (4.3%)

This concludes this questionnaire. Thank you very much for your cooperation.

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Professor Matsuda has consistently devoted himself to researching human genetics and genomics by integrated omics analysis of human disorders through various positions he has engaged. He has experience working in France for ten years with international collaborators. He is also promoting international collaborations with Asian countries, including China, Korea, and Thailand, as well as with France, Canada, and the UK.

Professor Matsuda is Chevalier de l'Ordre National du Mérite.

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