

Appendix 1

1. Richness of Strong and Weak Tie scale: Japanese version

<導入文>

ここ2ヶ月でのあなたの人付き合いについて教えてください。以下に列挙するような人はあなたの周りに何人くらいいますか？

＊なお、下記のうちの質問の中の1つの質問でお答えいただいた人数の中に含めた方が、別の質問への回答人数に含まれていても差し支えありません。

<設問>

1. 仕事以外のことで、頻繁に連絡を取り合っている知人・友人
2. 古くからの知り合いで、長く付き合いが続いている知人・友人
3. 仲間意識を持って、同じ目的のために一緒に活動している知人・友人（ただし、仕事だけの関係として割り切って付き合い合っている人は除く）
4. 道端や社内の廊下で会ったときにお互いに挨拶しあう程度の付き合いの人
5. 少し世間話をする程度の付き合いをしている人
6. 同じ地域に住んでいる人の中で、顔と名前くらいは知っている人

<選択肢とスコアリング>

- 0人 = 0
- 1人だけ = 1
- 2人 = 2
- 3-5人 = 3
- 6-9人 = 6
- 10人以上 = 10

2. Trust scale

<Introductory statement>

Please tell us how you have felt about your relationships and interactions with other people over the past two months.

<Items>

1. Generally speaking, people can be trusted.
2. I trust the people living in my local neighborhood or community.
3. I believe that people can be trusted in times of disaster.

<Answer options and scoring rule>

- Strongly agree = 4
- Agree = 3
- Neither agree nor disagree = 2
- Disagree = 1
- Strongly disagree = 0

<Reliability coefficients>

Cronbach's alpha = 0.87 (95%CI 0.86, 0.87)

Intraclass correlation coefficient = 0.71 (95%CI 0.66, 0.75)

3. Measurement for participation in community activities

<Introductory statement>

Please tell us about your participation in social activities over the past six months. For each of the groups listed below, please indicate whether you participate, and if so, what role you typically play. For this question, please focus on your status and role rather than the frequency of your participation.

<Items>

1. Neighborhood associations or residents' association activities
2. Senior citizens' clubs, women's associations, youth groups, children's associations, or PTA activities
3. Community events (festivals, resident mixers, health workshops, parenting salons)
4. Volunteer or civic groups (community development, welfare support, sports coaching, crime/disaster prevention, beautification, environmental conservation, international cooperation, etc.)
5. Sports teams or hobby groups/clubs
6. Health promotion or fitness groups
7. Work-related networking outside of regular business duties (professional associations, merchants' associations)
8. Study groups, research seminars, or academic conferences
9. Political organizations (political parties, support groups, etc.)
10. Religious gatherings (Buddhist service, prayer meetings, etc.)

<Answer options>

- ☐ I do not participate at all.
- ☐ I participate, but do not have a specific administrative or leadership role.
- ☐ I participate with some administrative responsibilities, though I am not a core member.
- ☐ I participate as an organizer or a core member of the activity.

<Variables >

1. Diversity of participation: the total number of activities in which the respondent participated (i.e., any response other than “no participation”).
2. Engagement of participation: Responses were weighted as follows: 2 points for “organizer or core member,” 1 point for “participation with an administrative role,” and 0 points for all other responses. The weighted scores were then summed across activities.

4. Demographic information

3-1. Age, marital status, income, and residential area

These data had been registered in the survey system prior to the survey and were provided to us by the survey company. Age was treated as a continuous variable. Marital status was treated as a binary variable (1 = married, 0 = not married). Annual income was collected as ordinal data comprising 15 categories, ranging from less than 1 million yen to more than 20 million yen, with intervals of approximately 1 million yen. For the analyses, income was treated as a continuous variable using the midpoint of each category (e.g., an income category of 3 million yen or more but less than 4 million yen was treated as 3.5 million yen). Residential area was treated as a nominal variable corresponding to Japan's 47 prefectures.

3-2. Gender identity

Please select your gender identity from the options below (select all that apply). Gender identity refers to how you personally perceive your own gender.

<Answer options and scoring rule>

- Man = “male”
- Woman = “female”
- Transgender man (female-to-male transgender) = “other”
- Transgender woman (male-to-female transgender) = “other”
- Non-binary (neither male nor female) = “other”
- Genderqueer (does not fit into fixed gender categories) = “other”
- Other = “other”

3-3. Sexual orientation (treated as a binary variable)

Please select your sexual orientation from the options below (select all that apply). Sexual orientation refers to the gender(s) to which your romantic or sexual attraction is directed.

<Answer options and scoring rule>

- Heterosexual = 0
- Homosexual = 1
- Bisexual = 1
- Asexual (does not feel sexual attraction toward others) = 1
- Questioning (still exploring one's sexual orientation) = 1

- Other = 1

3-4. Family composition

Please tell us about the family members you currently live with. Please select the one option that best describes your living arrangement.

<Answer options and scoring rule>

- Living alone = 0
 - Living with a spouse/partner = 1
 - Living with parent(s) = 1
 - Living with a spouse/partner and child(ren) = 2
 - Living with parent(s) and a spouse/partner = 2
 - Living with parent(s), a spouse/partner, and child(ren) = 3
 - Living with child(ren) (without a spouse/partner or living separately from a spouse/partner) = 2
 - Living with parent(s) and child(ren) (without a spouse/partner or living separately from a spouse/partner) = 3
 - Other = *
- * We assessed each one and assigned an appropriate value

3-5. Parenting role

Are you currently raising children?

* Here, “children” refers to individuals under the age of 18.

<Answer options and scoring rule>

- Yes = 1
- No = 0

3-6. Caregiving status (treated as a binary variable)

Are you currently providing care for a family member with a disability or illness? Please check all that apply.

* Unlike the question about child-rearing, there is no age restriction on “children” here.

<Answer options and scoring rule>

- Not providing care = 0

- Providing care for a parent living with me = 1
- Providing care for a parent living separately = 1
- Providing care for a child living with me = 1
- Providing care for a child living separately = 1
- Providing care for a spouse living with me = 1
- Providing care for a spouse living separately = 1
- Other = 1

3-7. *Years of education*

<Answer options and scoring rule>

3-8. *Subjective economic status*

How do you view your current financial situation?

<Answer options and scoring rule>

- I have plenty of financial leeway and live without any worries = 0
- I do not have much financial leeway, but I live without too much worry = 1
- I do not have financial leeway and am somewhat worried = 2
- My finances are strained, and I am very worried = 3

3-9. *Disability status (treated as a binary variable)*

Do you currently have any physical or mental disabilities, or intractable diseases? Please check all that apply. It does not matter whether you have a disability certificate or a formal diagnosis. Please check all conditions that you personally recognize as “I have this disability,” or “I suffer from this intractable disease.”

<Answer options and scoring rule>

- None = 0
- I have a disability or intractable disease, but I do not wish to provide details = 1
- Physical disability (impairment of limbs or trunk) = 1
- Visual impairment = 1
- Hearing impairment = 1
- Internal disability (impairment of internal organs such as the heart or kidneys) = 1
- Speech impairment = 1
- Mental disability = 1

- Intellectual disability = 1
- Developmental disability = 1
- Intractable diseases = 1
- Other = 1

<Note>

This variable was designed to capture disability as a subjective and functional experience rather than as the presence of medically diagnosed impairment alone. Accordingly, the response options included “intractable diseases” (“*Nanbyo*” in Japanese), as such conditions are often experienced as functional disabilities in everyday life, even when they do not necessarily correspond to formal institutional certification systems in Japan.