

Supplemental File 2

1. Sample size calculation

We determined the target sample size using three complementary considerations: (1) the sample size required for test–retest reliability (ICC), (2) the minimum sample size required to secure adequate numbers in key subgroups, and (3) the sample size required for the primary analyses (confirmatory factor analysis and regression analyses).

Web-based calculators used in the planning stage are shown below.

ICC sample size calculator:

<https://wnarifin.github.io/ssc/ssicc.html>

RMSEA-based CFA sample size calculator:

https://wnarifin.shinyapps.io/ss_sem_rmsea/

Calculation 1: Back-calculation from the test–retest reliability (ICC) requirement

Step 1. Required retest sample size (ICC precision approach).

Using an ICC sample size calculator, we assumed the following parameters:

- Expected reliability (ICC; ρ): 0.65
- Desired precision around ICC ($\pm$ expected): 0.05
- Confidence level: 95%
- Number of repetitions per participant (k): 2
- Expected dropout rate: 20%

This yielded $n = 643$, which was rounded up to **650**.

Step 2. Total baseline sample size to achieve the retest sample size.

We assumed that **25%** of baseline participants would take part in the retest survey, and that there would be an additional **20%** dropout. Based on these assumptions, the total baseline sample size required was $n = 3250$, which was rounded up to **3310** (and then minimally adjusted to align with population distribution when implementing quotas).

Calculation 2: Ensuring $n > 160$ in each subgroup

To ensure robust subgroup analyses, we aimed to secure **more than 160 participants** in each predefined subgroup.

Rationale for $n > 160$

1. To keep the influence of a single observation below 1% (i.e., $n > 100$).
2. A multiple regression-based requirement within subgroups: assuming well-being as the outcome, autonomy and tolerance as main predictors, **12 covariates**, $\alpha = 0.05$, power = 0.80, dropout rate = 0.20, and the smallest observed effect size in the pilot study ($f^2 = 0.15$), the required sample size was $n = 159$, rounded up to **160**.

Estimated subgroup proportions (we used the smaller of two values: an estimate based on national surveys vs. the observed proportion in Ono et al. (2026)):

- Older adults: 20.4% or 23.7%
- Parents raising children: 8.9% or 11.9%
- Family caregivers: 6.8% or 6.6%
- People with disabilities: 8.9% or 8.3%
- LGBTQ+: 8.9% or 8.9%

The smallest subgroup proportion was **family caregivers (6.6%)**. To secure **160** participants in this subgroup (with an expected dropout rate of 20%), the required total sample size was $n = 2421$. The target derived in Calculation 1 exceeded this requirement.

Calculation 3: Sample size required for primary analyses (CFA and regression)

The primary analyses were (i) confirmatory factor analysis (CFA) for the full sample and (ii) examination of associations between well-being and inclusivity-related scores using linear mixed-effects model regression.

- For CFA, we used an RMSEA-based approach with:
- Expected RMSEA: 0.04
- Significance level (α): 0.05 (two-tailed)
- Power ($1 - \beta$): 95%
- Expected dropout rate: 20%
- Degrees of freedom (df): Tolerance of surroundings: 93, Autonomy: 48

The required sample sizes were:

- Tolerance of surroundings (df = 93): **n = 465**
- Autonomy (df = 48): **n = 692**
- Minimum df anticipated in additional supplementary CFA: **n = 1392**

The target sample size from Calculation 1 satisfied all CFA-related requirements above.

For the linear mixed-effects model regressions, a strict *a priori* sample size calculation was difficult because the magnitude and structure of random effects cannot be determined in advance. However, considering the three calculations collectively, we judged that **n = 3310** would be sufficient for the planned analyses.

Therefore, the target sample size was set to $n = 3310$.

2. Quota allocation (age $\times$ sex strata)

To implement population-aligned recruitment, we set caps for **24 strata** defined by age group and sex (12 age groups $\times$ 2 sexes). Recruitment within each stratum was closed once the cap was reached.

Age group	Male	Female
16~19	102	96
20~24	116	109
25~29	119	112
30~34	119	112
35~39	129	125
40~44	142	139
45~49	165	162
50~54	175	172
55~59	149	149
60~64	132	135
65~69	129	135
70~75	182	205

3. Attention check questions

We set two types of attention check questions.

The first set of attention check questions followed the same procedure as Ono et al. (2026). We assessed whether participants were familiar with six terms related to inclusiveness (e.g., social inclusion, diversity and inclusion), using four response options: know well, know, have only heard of, and do not know. We also included two non-existent terms as attention checks to detect satisficing. Participants were explicitly informed that “the third and fifth terms do not exist at all. These are attention check questions to detect inappropriate responses, so please select do not know.” Participants who selected any response option other than do not know for either non-existent term were considered to have failed the attention check questions and were excluded from the analyses.

The second attention check question was embedded in the health status measure. Respondents rated five items (e.g., “I was often ill (my health frequently deteriorated)”) on a four-point scale ranging from “Applies very much” to “Never apply”. We added a sixth item—“My heart had stopped for more than 48 hours (Please select ‘Never apply’).”—as an attention check. Participants who selected any option other than strongly disagree were considered to have failed the attention check question and were excluded from the analyses.

4. Measurement of demographic information

4-1. 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.

4-2. 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”

4-3. 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

4-4. 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

4-5. 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

4-6. 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

4-7. Years of education

<Answer options and scoring rule>

4-8. 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

4-9. 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.

4-10. Health status

<Introductory statement>

Please tell us about your physical condition over the past two months. Select the one option that you feel best describes your situation.

<Items>

1. I was frequently ill (my physical condition often worsened).
2. I often felt physical pain or discomfort.
3. I often felt fatigued.
4. My heart stopped for more than one week (please select “Does not apply at all”)*

* Attention check question

<Answer options and scoring rule>

- Applies very much = 3
- Applies = 2
- Not apply = 1
- Never apply = 0