FUKUSHIMA MEDICAL UNIVERSITY

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Questionnaire Development and Pilot Study

Which questions to include?

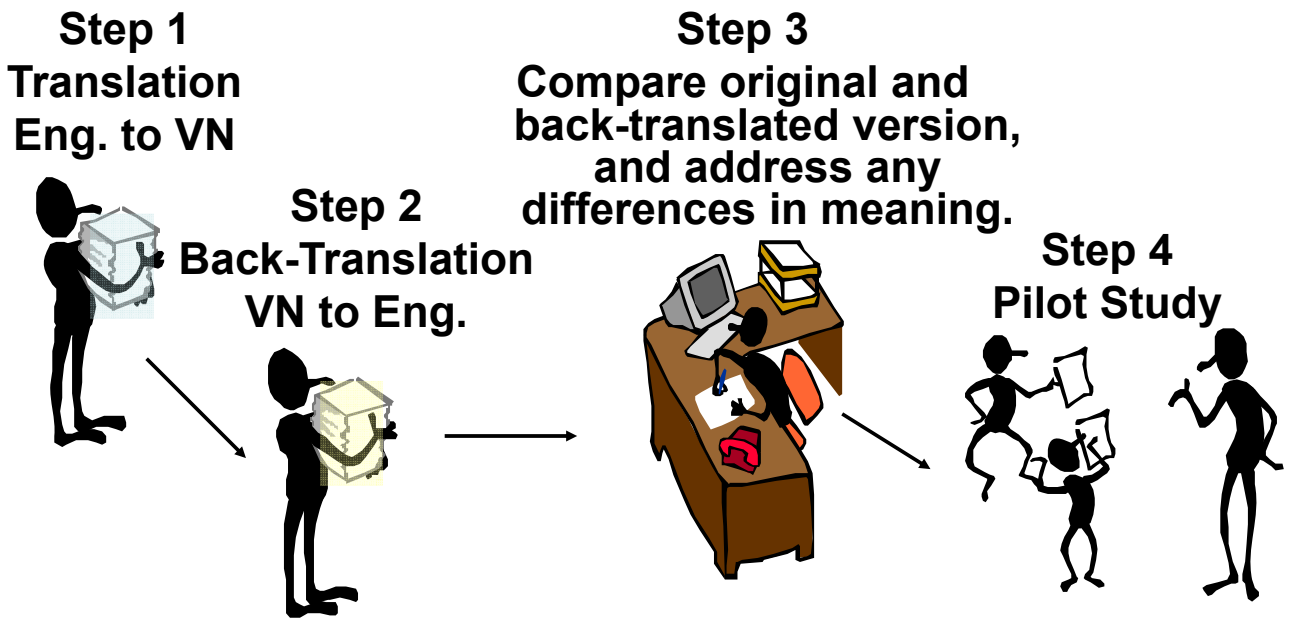
- Check previous studies to decide which items to include.
- Try to find “standardized” questions.

When borrowing a set of questions, DO NOT CHANGE its wordings, layout, response categories, etc.

- Only the questions related to study aims should be included.
  (You should have a clear idea what results you want to obtain.)

- Temptation to include additional questions should be resisted.
  (Lengthy questionnaire → Lower response rate. Waste of time and money)

Back-translation



Formulating questions

QUESTIONS

* Type of questions

• Open-ended question

How have you been feeling this past week?

• Close-ended question

How have you been feeling this past week?

1. Very well 2. Well 3.Not well 4. Not well at all

* Define your questions clearly.

e.g. Do you have your health checked regularly?

→ Have you had a health checkup last year?

* Use informal and simple wordings.

e.g. What is your subjective health?

→ What do you think about your health?

* Avoid long questions.

* Avoid leading questions.

e.g. Is your health behavior good?

* Be careful of sensitive questions.

(Especially for reproductive health research.)

RESPONSES

- Continuous or discrete number
- Yes / No
- Rating

  1. Very well 2. Well 3. Not well 4. Not well at all
- Categorical

  1. 0-4 years old 2. 5-9 years old 3. 10-14 years old

- Likert scale

  "I feel totally exhausted all of the time."

  1. Strongly agree 2. Agree
  3. Disagree 4. Strongly agree

- Consider carefully whether to include "don't know" or "others".
- 4-point scale or 5-point scale with a neutral point?

strongly agree	1	2	3	4	5	strongly disagree

List questions in an appropriate order

- Start with basic demographic information.
  e.g. Age, sex, residential region, etc.
- Place the “sensitive” questions in the end.
  e.g. Reproductive items, income, education, etc.
- Watch out for chronological order and order of importance.
- Watch out for placing the questions that may influence the answers for other questions.
  e.g. Past medical history influences subjective health.

Something wrong with the questions…

- Have you had health checkup?
- What is your hobby (e.g. reading, traveling, etc.)?
- How many times have you had abortions or miscarriages?

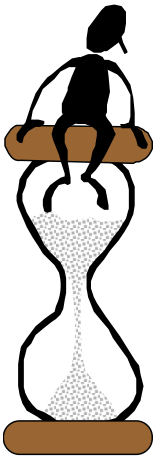
Something wrong with the order of questions…

1. Tell us your household annual income.
2. How old are you?
3. Do you drink alcohol?
4. Do you smoke?
5. Do you visit a gynecologist when you have gynecological symptoms?
6. How many times have you been pregnant?
7. Tell us about the timing and contraceptive use around the time you became pregnant. (MAIN QUESTIONs)
8. How is your general health condition?
9. Which school did you graduate?
10. What is your occupation?

Method of administration

- Face-to-face (personal) interview
  - X Personnel cost
  - O Intimacy increases willingness to participate
- Self-administered survey
  - X Skipped questions, misunderstanding
  - O Good for sensitive topics
- Mail survey
- Telephone survey
- Web survey

Amount of questions



* Self-administered survey
  10-20 min
* Personal interview
  Less than 60 min

Layout

- Make sure that there is enough space to circle or write answers.
- Make sure which question to answer is clear.
- Watch out for letter fonts and size, paper color and quality, etc. Try to make a “friendly” questionnaire that is easy to read and fill in.

Cover letter

State:

- Who you are.
- What the purpose of the survey is.
- How the study results are used.
- How study subjects' privacy is kept.
- How and when the questionnaire should be returned.
- Name of the contact person, address, e-mail, telephone/fax number
- Signature or an official seal of the person or institution responsible for the questionnaire.

Manuals

- Where and how the questionnaires are distributed and collected (interviews are conducted)?
- How and who explain about the survey and obtain informed consent.
- How can respondents' privacy be kept when they are filling the questionnaire (during an interview).

- For self-administered questionnaire, how do you check for missing answers?
- If you are distributing little gifts or thank you letters, how and when should they be distributed.
- Who is responsible for answering questions regarding the survey? If the person is away from office, who is going to take his/her place?
- What should be prepared: desks, chairs, pencils, erasers, envelops, stamps, etc.

For advanced learners

If an appropriate standardized questions were not found for the main items:

1. Develop your original questions
2. Test the questionnaire to check wordings, layout, if questions are understood correctly, time to complete, etc.
3. Conduct pilot studies to examine reliability and validity of the questions
4. Finalize the questionnaire

Reliability and validity

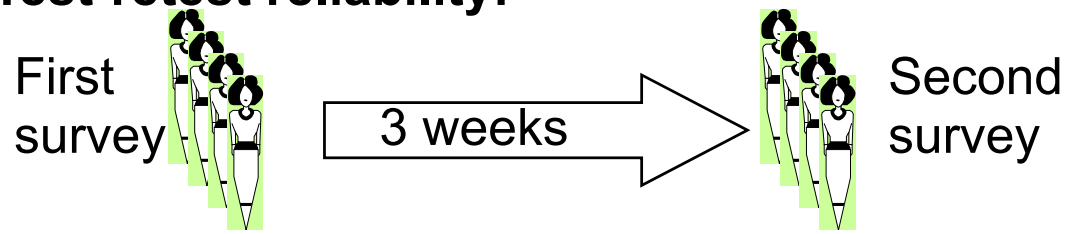
Developing a question to ask pregnancy intention in Japanese

When you learned of your pregnancy, how did you feel?
(1) Pregnancy was at the right time
(2) Pregnancy was too soon
(3) I wanted a child but the pregnancy was too late
(4) I did not want to have a (any more) child even in the future

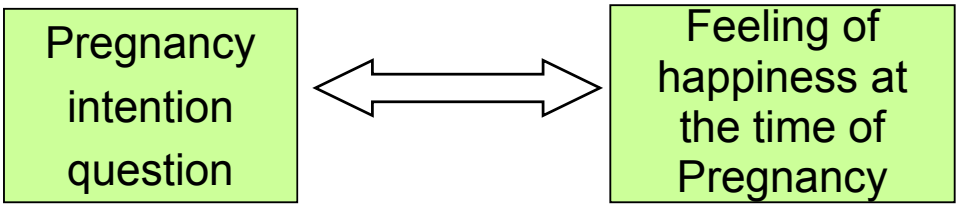
(1) and (3) = Intended Pregnancy
(2) = Mistimed Pregnancy
(4) = Unwanted Pregnancy

* Based on the definitions of intended, mistimed and unwanted pregnancies used in the National Survey of Family Growth (NSFG) in the United States

Reliability = Reproducibility
Test-retest reliability:



Validity = Is your data *true*?
Convergent validity:



* The same method was applied in the NSFG.

Test-retest reliability of pregnancy intention question

Experience of unintended pregnancy		Second survey	
		Yes	No
First survey	Yes	27	4
	No	3	22

Expected Agreement	Agreement	Kappa	Std. Err.	Z	Prob>Z
87.50%	50.38%	0.7481	0.1335	5.60	0.0000

Kappa

= Measure which quantifies the extent of agreement.

(The extent to which the observed agreement exceeds that which would be expected by chance alone.)

Interpretation of kappa:

< 0.00	Poor agreement
0.00-0.20	Slight
0.21-0.40	Fair
0.41-0.60	Moderate
0.61-0.80	Substantial
0.81-	Almost perfect

Feeling of happiness among three types of pregnancy intention

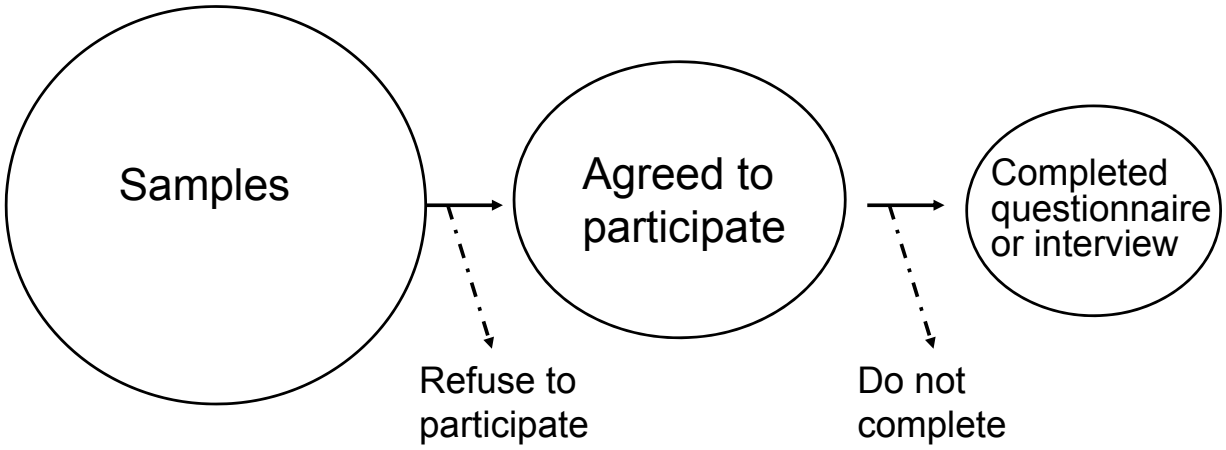
	Intended N=153	Mistimed N=36	Unwanted N=8
Feeling of happiness at the time of pregnancy [Median (min, max)]	*10 (1, 10)*	*8 (3, 10)*	*5 (4, 8)*

Purposes of a pilot study

- To revise the questionnaire.
- To check *acceptability* of the survey.
- To *rehearse* in the real survey setting.
- (To see preliminary results of the pilot study data, and calculate *sample size* for the main survey.)

Acceptability

1. Is the response rate high enough?



2. Are there any questions with too many missings?

Number of missings for each questions in the questionnaire

	Missing [N (%)] (Total N=86)
Sociodemographic items	
Age	2 (2)
Marital status	5 (6)
Education	8 (9)
Occupation	8 (9)
Income	12 (14)
.	
.	
.	

Rehearsal

Example. Reproductive tract infection survey in Nghe An

We conducted a pilot study and found:

- Lab staff can diagnose RTIs accurately.
- Survey staff were allocated as planned.
- Actual number of pregnant women was much higher than the registered number!
- Some drugs were difficult to obtain in Nghe An.
- 14 out of 39 survey equipment were not prepared on time. (e.g. Survey staff misunderstood “swabs”.)

etc. etc.

“The” sample size calculation

Sample size: Cross-sectional Cohort/RCT

- Two by Two Table
- Dose-Response
- R by C Table
- Matched Case Control
- Screening
- Person Time
  - 1 Rate
  - Compare 2 Rates
- Continuous Variables
  - Mean CI
  - Median/%ile CI
  - t test
  - ANOVA
- Sample Size
  - Proportion
  - Unmatched CC
  - Cohort/RCT

Start | Enter | Results | Examples | Help

Clear | Calculate

Sample Size:X-Sectional, Cohort, & Randomized Clinical Trials		
Two-sided confidence level(%)	95	(1-alpha) usually 95%
Power (1-beta or % chance of detecting)	80	Usually 80%
Ratio of Unexposed to Exposed in sample	1.0	For equal samples, use 1.0
Percent of Unexposed with Outcome	5	Between 0.0 and 99.9
Please fill in 1 of the following. The others will be calculated.		
Odds ratio		
Percent of Exposed with Outcome	10	Between 0.0 and 99.9
Risk/Prevalence Ratio		
Risk/Prevalence difference		Between -99.99 and 99.99

Start | Enter | Results | Examples | Help

Sample Size:X-Sectional, Cohort, & Randomized Clinical Trials

Two-sided significance level(1-alpha):	95
Power(1-beta, % chance of detecting):	80
Ratio of sample size, Unexposed/Exposed:	1
Percent of Unexposed with Outcome:	5
Percent of Exposed with Outcome:	10
Odds Ratio:	2.1
Risk/Prevalence Ratio:	2
Risk/Prevalence difference:	5

	Kelsey	Fleiss	Fleiss with CC
Sample Size - Exposed	437	436	475
Sample Size-Nonexposed	437	436	475
Total sample size:	874	872	950

Sample size: Mean Difference

- Proportion
- Two by Two Table
- Dose-Response
- R by C Table
- Matched Case Control
- Screening
- Person Time
  - 1 Rate
  - Compare 2 Rates
- Continuous Variables
  - Mean CI
  - Median/%ile CI
  - t test
  - ANOVA
- Sample Size
  - Proportion
  - Unmatched CC
  - Cohort/RCT
  - Mean Difference

Start | Enter | Results | Examples | Help

Clear | Calculate

Sample Size For Comparing Two Means

Confidence Interval % (two-sided)		95		*Enter a value between 0 and 100, usually 95%*
Power		80		*Enter a value between 0 and 100, usually 80%*
Ratio of sample size (Group 2/Group 1)		1		
	Group 1		**Group 2**	Enter means OR difference on next line
Mean	10	and	12	**or Difference**
Std. Dev.	3		4	*Enter Std. Deviation OR Variance of each group*
Variance				

Start | Enter | Results | Examples | Help

Sample Size For Comparing Two Means

Input Data

Confidence Interval (2-sided)	95%
Power	80%
Ratio of sample size (Group 2/Group 1)	1

	Group 1	Group 2	Difference*
Mean	10	12	-2
Standard deviation	3	4	
Variance	9	16	

Sample size of Group 1	50
Sample size of Group 2	50
Total sample size	100

Web survey

Schedule management service

densuke

いいね！ 1.8万　ツイート　G+1 972

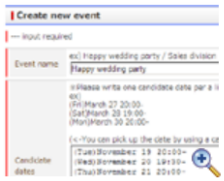
Create new event

Query

No registration needed!

Other options…
- Epi Info
- Survey Monkey

Great help for managing the schedule



STEP1
Create new event

STEP2
Regist an attendance

You can put a password

When you adjust the schedule for many persons, it's hard to decide the date. You have to notify a candidate schedule, hear attendance of each person, and manage to judge the best day.

Create new event

Please confirm, and press Create button

Event name	test survey
Candidate dates	Gender (Female ○ Male ×) Did you have a health checkup during the past one year? (Yes ○ No ×) How is your general health condition?(Very good ◎ Good ○ Bad △ Very bad ×)
Event explanation	This is a short survey about your health.
Email	agotoo@hotmail.com
Password	No need
Choices	◎○△×

前に戻る　Create

http://e.densuke.biz/list?cd=VBBWb69EhuYhL2Nz