

Department of Sports Science and Clinical Biomechanics

# Translation and adaptation of a PRO

Henrik Hein Lauridsen  
Associate Professor



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# Why translate and adapt?

*"Scientists rather use each other's toothbrush than each other's measurement instrument"*

Susan Picavet, 2001



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# Why translate and adapt?

**Too**

- Many validated questionnaires
- E.g. back pain: 82 PROs

→ A lot of work to develop a new questionnaire



Definition of the construct(s)

Development of  
• Items  
• Responses

Pilot-testing

Adjustment

Evaluation

No

OK?

Yes

Field-testing

Adjustment

Evaluation

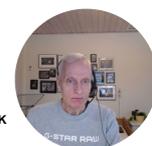
No

OK?

Yes

Evaluation of measurement properties

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## Take home message



Why re-invent the wheel?



Comparability with other studies?



Does your project/study allow for the development a new instrument?



Does your project/study allow for cross-cultural adaptation and validation of an existing instrument? If not – is your PRO valid and reliable?



## Translation vs. cross-cultural adaptation



Translation

Is the process of producing a document from a source version in the target language



Cross-cultural adaptation

Is the process of considering any differences between the source and target culture so as to maintain equivalence in meaning



# Many guidelines

31 methodological strategies/guidelines

Reported in 42 articles/online webpages

## Examples:

- American Association of Orthopedic Surgeons (AAOS)
- The European Organisation for Research and Treatment of Cancer (EORTC) Group
- The European Quality of Life Instrument (EUROQOL) Group
- The European Group for Health Measurement and Quality of Life Assessment (Nottingham Health Profile)
- The Functional Assessment of Cancer Therapy (FACT) Group
- Flaherty et al.
- Herdman et al.
- The International Quality of Life Assessment (IQOLA) Group
- The Johns Hopkins University (Sickness Impact Profile—SIP)
- Mapi Research Institute
- Mathias et al.
- The Medical Outcomes Trust (MOT)
- Rahman et al.
- Spielberger and Sharma
- Swaine-Verdier et al.
- The World Health Organization (WHO)



Epstein J, Santo RM, Guillemín F. A review of guidelines for cross-cultural adaptation of questionnaires could not bring out a consensus. *Journal of Clinical Epidemiology* 2015  
Acquadro C, Conway K, Hareendran A, et al. Literature review of methods to translate health-related quality of life questionnaires for use in multinational clinical trials. *Value Health* 2008



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# Many guidelines

→ No superiority of one method over another

→ 3 guidelines I can recommend

- AAOS guidelines (Beaton, Guillemín)
- Mapi Research Institute's guidelines
- Swaine and Verdier's guidelines



*Independent of the questionnaire  
Well thought through procedures*



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## Translation and cultural adaptation - when and why

| Questionnaire used in:                                    | Results in a change in... |          |                | Adaptations required |                     |
|---|---------------------------|----------|----------------|----------------------|---------------------|
|   | Culture                   | Language | Country of use | Translation          | Cultural adaptation |
| Same population as original                               | -                         | -        | -              | -                    | -                   |
| Immigrants from source country                            | ✓                         | -        | -              | -                    | ✓                   |
| Other country but same language                           | ✓                         | -        | ✓              | -                    | ✓                   |
| New immigrants, not English speaking, from source country | ✓                         | ✓        | -              | ✓                    | ✓                   |
| Other country and other language                          | ✓                         | ✓        | ✓              | ✓                    | ✓                   |



## Translation and cultural adaptation

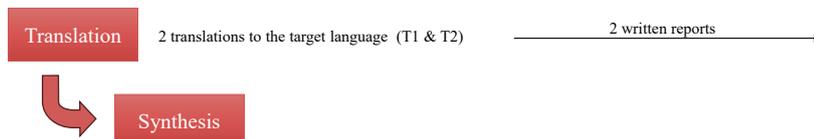
### Translation

#### Requires

- 2 bilingual persons with the "target" language as the primary language
  - One is **informed** about the purpose of the questionnaire → the clinical perspective (T1)
  - One is **uninformed** about the purpose of the questionnaire → the patient perspective (T2)
- 2 written reports



# Translation and cultural adaptation

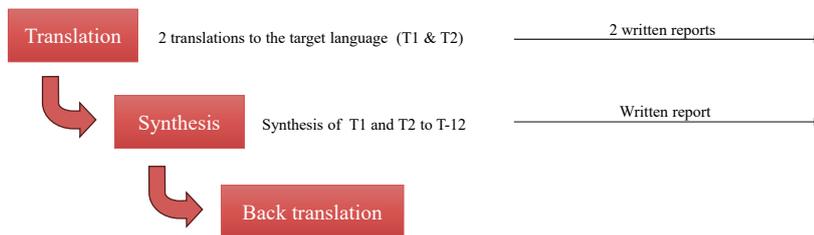


The 2 translators combine the translations to one (T-12)

→ Discrepancies and solutions are written in a report



# Translation and cultural adaptation

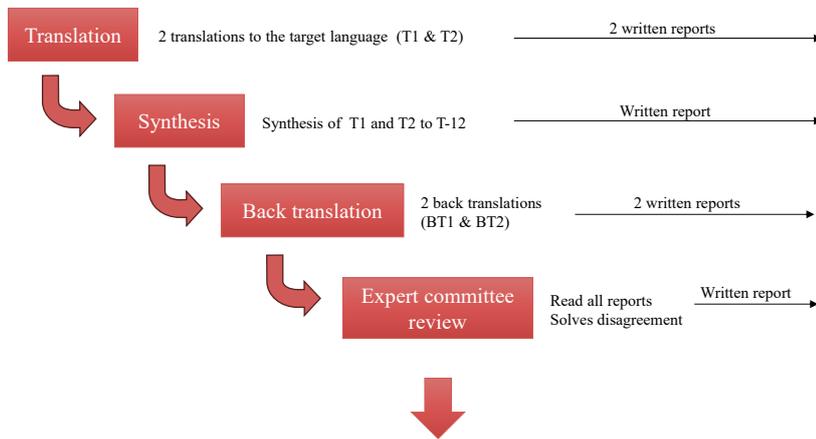


### Requires

- 2 bilingual persons with the "source" language as the primary language
- Blinded to the original version and without medical background
- Content validity
  - Highlight translational unclarity



# Translation and cultural adaptation



## Expert committee

- 1 methodologist
- 1 language professional
- (min.) 2 health professionals
- All 4 translators

## Develop the prefinal version

- Synthesis of all translations
- Used in field testing



## Expert committee meeting

### Conceptual equivalence

- Concepts may be experienced differently in different cultures
- E.g. depression

### Item equivalence

- Are items as relevant and acceptable in both cultures? (use of slang or idioms)
- E.g. Over the past two weeks, how often have you felt down, blue, or hopeless?

### Semantic equivalence

- Do the words mean the same thing?
- E.g. "Hygge" in Danish is difficult to translate into English (often 'coziness' or 'contentment' is used)

### Operational equivalence

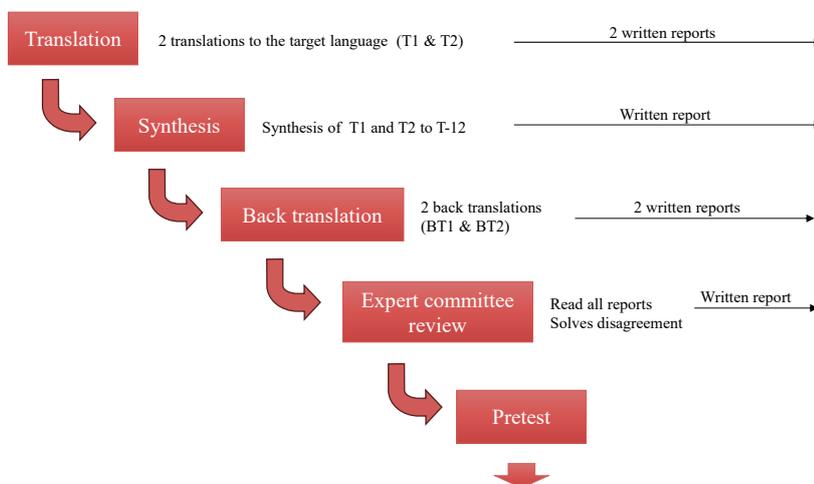
- Can the questionnaire be used in the same way in both cultures?
- E.g. Self-report vs. interviewer assisted; online questionnaire in an area with poor internet

### Measurement equivalence

- Are the psychometric properties the same in the two cultures?



## Translation and cultural adaptation



# Semi-structured interviews

→ Also called cognitive interviews

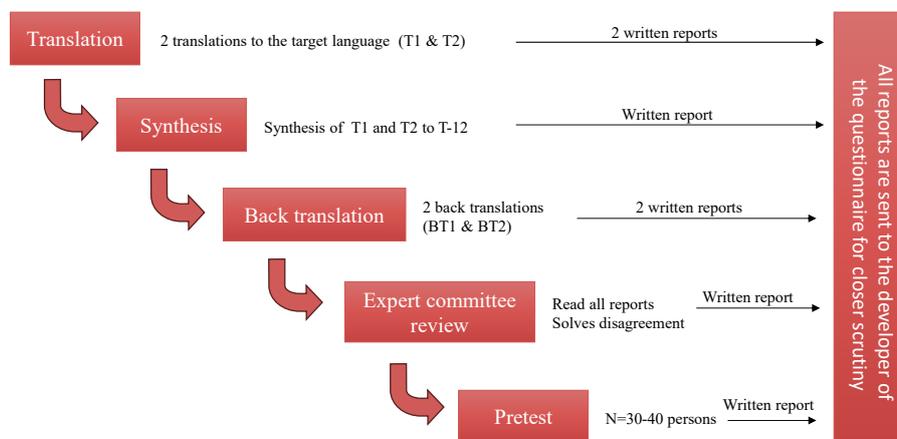
→ 30 – 40 respondents of the target population (can vary)

→ Ask about

- Issues arisen from the translation and adaptation process
- Comprehension of item and answer category
- Unanswered questions
- Use paper version



# Translation and cultural adaptation



## Questions during the lecture

