

TUS General Testing and Special Cross-Cultural Comparison Study

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General Testing of the TUS-CPS Questionnaire

- The English-language TUS has routinely been evaluated through the use of “standard” survey pretesting techniques
 - The Census Bureau has conducted cognitive interviewing for several cycles of the TUS-CPS
 - The 2003 TUS Cessation Supplement (TUSCS-CPS) was evaluated through -
 - Cognitive interviewing*
 - Behavior coding*

For 2003 TUSCS-CPS: Develop translations that exhibit *Cross-Cultural Comparability*

Challenges:

- ❑ Produce multiple language versions--
 - **Spanish**
 - **Mandarin**
 - **Cantonese**
 - **Korean**
 - **Vietnamese**

- ❑ Not a simple matter--
 - **Back translation is no longer “in vogue”**
 - **Rather – make use of multi-step process (Census Bureau, ZUMA) ->**

Eight-Step Translation Process

- ❑ **Step 1: Translation by committee**
- ❑ **Step 2: Review by Survey Language Consultants**
- ❑ **Step 3: Initial Adjudication by staff**
- ❑ **Step 4: Cognitive Interviewing**
- ❑ **Step 5: Second Adjudication**
- ❑ **Step 6: Telephone-based Pilot Test, with Behavior Coding**
- ❑ **Step 7: Final Adjudication**
- ❑ **Step 8: Documentation of final version, testing results**

(Step 4): Cognitive Interviewing

- ❑ Empirical, one-on-one interviews, to detect subtle, covert sources of response error
- ❑ 41 cognitive interviews conducted in Spanish, Mandarin, Cantonese, Korean, Vietnamese
- ❑ Conducted by bilingual Westat staff or subcontractors who were specially trained in cognitive interviewing
- ❑ Interviews featured cognitive probes: *"In your own words, what is 'snuff'?"*
- ❑ Findings were analyzed qualitatively (looked for trends, clear misunderstanding) - and compared across versions

Cognitive Interviewing Results: Translation problems

- 1) Some were minor:
 - *Spanish* – add '*cierta*' (certain) to: '*Nunca*' (never); '*Un poco*' (a little)...
- 2) Some were not:
 - *Korean*: Is it true that there is no one who smokes cigarettes, cigars, or pipes anywhere inside of your home?
 - *Vietnamese*: In your opinion, how easy is it for a minor to buy cigarettes. in your community?

Problems were addressed through realignment of versions; re-translation of terms or phrases

(Step 6): Pilot Test + Behavior Coding

- ❑ Conducted 418 telephone surveys
 - 125 English
 - 51 Spanish
 - 57 Mandarin
 - 67 Cantonese
 - 66 Korean
 - 52 Vietnamese
- ❑ Respondents were recruited via random-digit-dialing; list sample of non-English-speakers; surname list; “snowball” sampling (n = 12)

Pilot Test – Respondent Demographics

- ❑ All had smoked 100+ cigarettes in lifetime
 - 76% Everyday; 13% Some-day; 12% Former
- ❑ Mean age = 49; ranged from 41 (English) to 51 (Spanish)
- ❑ Asian subgroups were 90% male
- ❑ Pilot required much longer in non-English languages
 - 26 minutes, English
 - 39 minutes, Vietnamese

Pilot Test – Behavior Coding Step

- ❑ Behavior coding:
 - Introduced by Cannell et al./ U Michigan
 - Systematically code *overt* problems in interviewer-respondent interaction according to a coding scheme -
 - Question *read incorrectly/skipped*
 - Respondent *Interrupts* question reading
 - Respondent requests *Clarification*
 - Respondent provides *Uncodeable Response*
- ❑ 27 TUS questions were selected for analysis, based on importance of item, and effective sample size

Results (a): Interviewer-Based Problems

Questions were mis-read by interviewers with non-trivial frequency:

English:	6%
Spanish:	15%
Mandarin:	17%
Cantonese:	16%
Korean:	13%
Vietnamese:	16%

- In English: Positive relationship ($r=.6$) between mis-reads and respondent-related codes (problems)
- In other languages, this relationship was near zero
- Interviewer wording changes sometimes fixed problems, and sometimes produced problems for respondents

Results (b): Translation Problems

Despite previous steps, some subtle translation problems persisted:

“Have you smoked at least 100 cigarettes in your entire life?”

Produced requests for clarification in 35% of Chinese interviews - WHY...?

- *“In your entire life”* meant, literally, “from birth to death”
- This produced a (hypothetical) query about the future -
- So, we changed the translations to the equivalent of “Up until now...”

Results (c): Problems of Cultural Adaptation

Not clearly related to literal translation, but to other differences between groups - For example, Asians:

- Were not as familiar with “snuff”
- Sometimes didn’t recognize implicit “rules” of survey interaction, such as “say *Yes or No*” -- and instead provided long explanations
- Didn’t automatically understand purpose of a 0-10 scale

We attempted to “fix” problems: Define snuff; add “you can say True or False, or Yes or No”; add instruction for 0-10 scale

Results (d): Generic Problems Affecting All Groups

—
“How soon after you wake up do you typically smoke your first cigarette of the day?”

- Respondents in all groups tended to provide uncodeable answers, such as *“Before breakfast”* or *“As soon as I open my eyes.”*
- Interviewers need to be prepared to probe, neutrally: *“How many minutes or hours would you say it usually is?”*

Discussion/Recommendations

- ❑ We advise a multi-step translation process -
 - Not perfect, but should provide comparable questions without gross error
 - Each step serves as a “sieve” to catch problems missed in prior step
- ❑ Don't assume that interviewers will read questions correctly
 - Interviewer variance/non-compliance can itself be a major source of non-comparability
 - This is an issue of interviewer selection/training

Discussion/Recommendations

- ❑ Members of some groups are not familiar with implicit rules of questionnaire-based interaction
 - They attempt to provide a response that is appropriate for naturalistic conversation (not what survey researchers want!)
- ❑ Some problems can't be fixed through translation
 - If Chinese respondents don't know the tar/nicotine content of their cigarettes, because it isn't listed on the pack, there is no re-translation that will solve the problem

Dissemination of the TUS-CPS Translations

- ❑ Translated versions, methodology reports are available at:

[http://riskfactor.cancer.gov/studies/tus-cps/
translation/questionnaires.html](http://riskfactor.cancer.gov/studies/tus-cps/translation/questionnaires.html)

- ❑ A manuscript describing translations, development, and testing, was recently accepted by *Nicotine and Tobacco Research*:

Willis G, Lawrence D, Hartman A, Kudela M, Levin K & Forsyth B. (in press). Translation of a Tobacco Survey into Spanish and Asian Languages: The Tobacco Use Supplement to the Current Population Survey