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Translating a Telephone Survey on Alcohol and Drug Use:

Processes and Lessons Learned

By

Roberta L. Sangster
Behavioral Science Research Center
Bureau of Labor Statistics

Robert W. Reynolds
Department of Sociology
Weber State University

John Tarnai
Social & Economic Sciences Research Center
Washington State University

This paper discusses the many aspects of concern that confront a researcher when translating a survey into another language. It details the steps within the translation process: recruiting and training translators, first translation and back-translation, pretesting the translated questionnaires, preparing the final questionnaire for use with a computer assisted telephone interview (CATI) system, and implementation of surveys. The study comes from research being conducted by the Social and Economic Sciences Research Center, at Washington State University for the Washington State Department of Social and Health Services (DSHS). The drug and alcohol assessment survey was translated into six languages: Cambodian (Khmer), Vietnamese, Korean, Chinese (Mandarin), Japanese, and Spanish.

Introduction

This paper describes the procedures involved in translating a lengthy survey on aspects of alcohol and drug use, into six separate languages: Cambodian (Khmer), Vietnamese, Korean, Chinese (Cantonese), Japanese, and Spanish. These six languages are the primary languages, other than English, spoken in Washington State. The emphasis in the paper is on what procedures were followed and what was learned about the process of translating a survey into other languages

The procedures discussed in the paper include: Identifying and training translators, translation and back-translation, preparing the questionnaire for use with a computer assisted telephone interview (CATI) system, and pretesting the translated questionnaires. The paper explains the reasons for conducting the translations, the issues and problems encountered during each phase of the translation process, and how the translated questionnaires were used with the CATI system for conducting telephone interviews.

The translations were completed for a study being conducted by the Washington State Department of Social and Health Services, and funded by the Center for Substance Abuse Treatment. Washington State was one of thirteen states that received funding in 1993 to conduct a statewide study of alcohol and drug use and prevalence among state residents. The Social and Economic Sciences Research Center (SESRC), in Pullman, Washington, is currently completing over 500 telephone interviews with statewide residents each month over a one year period. Washington State's population, however, has substantial numbers of Asian and Hispanic residents who do not speak or have a limited ability to speak and understand the English language. To ensure representation of these groups and thus obtain accurate estimates of statewide prevalence rates, it was important that interviews be completed in languages other than English. Consequently the survey was systematically translated into each language. This method was chosen because of the concerns regarding reliability and validity should the translation of the survey depend entirely on bilingual interviewers to translate the survey from English as they conducted the interview. If interviewers translated the interview as they conducted it, there would be a good chance that the questions would be translated differently by each interviewer across languages, as well as across interviews. Having a translated version of the interview would standardize the questions, and give more assurance that the interviews would be consistent across languages. Furthermore, the conceptual difficulty of the questionnaire also precluded simultaneous translation.

A. Identifying and Training Translators

One of the early lessons learned was that recruiting of translators and interviewers is not a straightforward process. Translators for some languages were particularly difficult to find in rural Washington State (Korean). The SESRC advertised for translators both on campus, with posters and classified ads in the campus paper, and through the local town newspapers. Translators needed to be fluent both in English and in the target language. The purpose of the survey and the meaning of the individual questions needed to be thoroughly explained to the translators. Since none of us were conversant, let alone fluent in the target languages, our ability to communicate with the translators was viewed as of paramount importance. Even when fluent in both languages, the specialized vocabulary used in the study was difficult to translate and required someone able to conceive new concepts and flexible enough to translate these ideas into the target language. For example, the Cambodian translators both spoke and wrote English very well. However, one was better at relating concepts into the (spoken) Cambodian language, while the other was better at writing Cambodian.

This flexibility and ability to relate concepts to language was also important for the translators because, for the most part, the translators had a very different cultural background from the writers of the survey instrument. The translators frequently did not share similar biases and background knowledge about drug and alcohol use as the primarily European-American researchers. Because of the cross-cultural context of the research, the researchers were imposing their beliefs about what was important onto members of other cultures (Matsumoto, 1994). Non-European-American's may not necessarily share the feeling that the survey was of importance. This is also a potential problem that the interviewers may encounter during the interviewing phase of the project, that may impact the validity and reliability of the questions and their subsequent analysis.

The willingness of members from different ethnic communities to participate as translators and interviewers varied as well. In particular, it was very difficult to recruit translators and interviewers from the Korean community, even though it was one of the largest communities in the local area. Whereas it was relatively easier to recruit translators and interviewers that spoke Spanish, the ethnic background of the translators was Colombian and Puerto Rican, while the largest population of Hispanic Americans in Washington State are Mexican-American. Our concern was that while the language would be very similar,

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the nuances may not. This was sometimes evident during the pretests and appropriate modifications were made at that time (See McKay and Lavallee, 1993, for a discussion).

Skill levels in writing and grammar varied by individual. Applicants consisted mostly of international students attending college in America or college students who were immigrants or refugees. We found that word usage and grammar skills varied based on the reason the person came to America (student, immigrant, refugee), when the person left the home country (recently versus many years ago), and at what age (as a child or an adult). For example, because of the difficulty experienced in getting applicants for the Korean translation, our choice of selection for translators was limited (translation "you take who you can get"). As a result, we hired a Korean translator who left South Korea as a young girl (9 or 10 years old). The majority of her written Korean was learned in the primary grades. Her spoken language skills developed mainly from interaction within her family network. She originally began as the translator of the survey. Subsequently, we found that it was better for her to back-translate because her grammar skills were weak and the back-translator tended not only to back-translate the survey, but edit the translation as well!

B. First-Translation and Back-Translation Process

We used Bernard's (1989) model for the translation process of the survey. The simple model has three main components. The questionnaire is first written in English. The second step is for the questionnaire to be translated into the second language (Translation). The final stage is for the translated version of the questionnaire to be translated back into English (Back-translation) by a second translator. Once the back-translation is finished, the text is compared to the original script. The translators then meet and negotiate changes (Negotiation). The goal of the negotiation process is to have the final translation match as near as possible to the English version (Literal translation).

Translators initially met with one of us and the questionnaire was jointly reviewed. We discussed the intent and content of questions, as well as the interviewer instructions. Individual words that were new to the translators were discussed, so that their meaning would be clear. Some words, such as "high," are specific to drugs, but not to alcohol in Asian cultures, whereas the questionnaire used it in both contexts.

These nuances and subject specific vocabulary such as "halfway house" or "detox," were the hardest to comprehend and to translate.

The translation process began with the first-translator receiving a copy of a section of the survey to translate. The survey is broken into 15 parts (See Figure 1). By handing out one or two sections at a time we were able to track the progress of the translations. As sections were completed the first-translators brought the sections into the SESRC and received new sections to translate.[1] The completed sections were logged in, copied and the copy was given to the back-translator. When the back translation was completed an SESRC staff person compared the back-translation to the original text of the survey. Any discrepancies were noted so that they might be discussed during the negotiation phase. The speed with which first-translators completed their worked varied greatly. This in turn influenced how quickly the back-translators were able to begin their work. The back-translator began as soon as a section of the questionnaire was translated. This method decreased the overall translation time, but made it more difficult to ensure that changes being made to the English version were reflected in the translation. The English version was not finalized when the negotiation stage started, and in fact, changes to the English version were introduced during the translated version pretest. Because of the differences between the time to translate and back-translate some of the languages, the six translations were completed at different times, some taking several weeks longer than others. This considerably increased the cost of some translations compared to others.

Along with increasing the speed of the overall process, and based on the experience with the Korean translator who left Korea as a young girl mentioned earlier, we recommend that the back-translation occur as the translation is being completed. Not only does this speed up the translation process, the interaction between the translators will likely help in the assessment of the quality of the translation as it progresses. Ideally, of course you would have someone who is an expert in translating do your translation. When considering this option, be sure the expert is also comfortable using the common language usage that even those with little education can understand. However, hiring two experts for

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[1] The translators worked at home.

each language would cost considerably more than hiring local immigrants, refugees, or visiting students to do your translation work.

Translators relied on dictionaries for clarification of unfamiliar terms. While this proved to be helpful to understand new terms, dictionaries could not be relied on to produce understandable text. We found that the translators would simply insert a dictionary term for an unfamiliar English word. Frequently it was better to describe something that was unfamiliar to the translator and use that description (a conceptual translation) rather than use the dictionary term. It is logical when you think about this. If the translator had to use a dictionary because the term was unfamiliar, the concept behind the term is likely to be equally unfamiliar. Using a dictionary term for the word does not alleviate the problem since the respondent would also be likely to use a dictionary in order to understand the meaning of the term. Other times we found that while the word might be in the dictionary, the usage would not be correct. Thus, we learned it was better to encourage the translators to talk to us about any terms that were unfamiliar.

An insight we gained from the translator's use of dictionaries was that a literal translation is difficult to understand. Allowing for a conceptual interpretation of the meaning of the term or using examples, produced a more comprehensible translation. This corresponds with Matsumoto's (1992) premise that researchers may be placing importance on beliefs that someone from another culture find of little importance. This premise is somewhat supported by the need to use descriptions rather than terms to make the concept understandable in other languages. Because we realized this during the translation of the survey, the translations that lagged behind the others were given permission to use more conceptual translations in their work. These translations proved to encounter less problems during the pretest.

Negotiation

Once the back-translations were completed, the English version and the back-translated version of the questionnaire were compared for discrepancies. These discrepancies were then the focus of the negotiation sessions. During the negotiation sessions between the first-translator and back-translator, an SESRC staff person would be present to ensure that the meaning of the words and questions were clear to both translators, who would then discuss the best translation. The age and education of the translators were a factor in the negotiation process. For example, the Chinese translators were both women, one a

graduate student in her late twenties and the other an undergraduate in her late teens. Differences in age and education are cultural measures of status among the Chinese. We found that the younger woman would not speak up without encouragement, and that the older one tended to domineer the negotiation.

Revisions of the Translations

The translations were edited considerably due to the fact that the "final" copy of the survey instrument underwent six revisions after the translations had commenced. This proved to be both expensive and time consuming. Probably more so for the Chinese, Korean, Vietnamese, and Cambodian translations, which were hand-written, than the Vietnamese and the Spanish translations which were typed using word-processor programs written for the respective languages.

One tool we used for editing the hand-written translations was paper correction tape. The translators tried using "White-out" but it had to dry before it could be written on and when dry it was often too rough to write on. Paper correction tape has a smooth texture that is easily written on. It comes in single space and double space widths which made it very adaptable for our needs.

We also became "masters of cut and paste." When large edits were made we cut out the parts of the translated survey that were still useful. We then pasted up a new page, writing in the revisions where needed. This made for a much edited "final" copy that had to be photo copied one page at a time rather than sending it through the paper feeder on the copy machine.[2] The hand-written translations of the survey doubled and sometimes tripled the size of the survey instrument, which in English constitutes nearly an inch of paper when printed on one side.

The editing was much easier with the word-processor versions. However, we found we lost control of the translations at times because we had to rely on the translators to get the document printed. We found that problems with printers and losing files could create problems we had not anticipated. We ran behind schedule on the pretest for the Spanish version while we searched for someone who had a printer capable of printing the final sections of the translated survey. Two sections in the Vietnamese translation were deleted because the translator thought we were finished with the sections. However, because of the

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[2] Much thanks to our SESRC clerical staff who assisted in this arduous process.

many changes in the survey instrument those sections had to be reproduced. A lesson learned here is to be sure to have the equipment or ability to produce the document when you need it. It is a good idea to have the translator give you a copy of the translation on diskette as it progresses. However, this does not guarantee you will be able to get the document printed if they are using a program you do not possess. It is best to keep a printed copy as well. Another issue to consider is to be sure the translator is faster at typing then they are at writing their language. We sometimes wondered if it might have been quicker to have them write the survey in long-hand.   Most important of all is to <u>make</u> <u>sure</u> the English version of the survey is <u>finalized</u> before translation work begins!

Interesting Attributes Encountered

We encountered different characteristics of the languages as the translation process progressed. We learned that the Cambodian written language comes from the Sanskrit. It is far removed from the spoken language. In fact, many Cambodian people would not understand the written language when it is spoken if they did not know how to read and write the language. Disparity in the education among the Cambodian refugees who came to Washington is fairly extreme. The Washington Cambodian population include the Montaguard and Mhong peoples (Mountain people). The translators forged new ground by blending the written into the spoken language so that the outcome was a text that could be used in "normal" conversation. This translation was a complex task for the translators who spent many hours talking with each other and pouring over their dictionary. That we are able to conduct interviews in Cambodian is a tribute to their dedicated effort.

However, the Vietnamese and Cambodian interviewers report that because the translated interview is written in formal language, respondents sometimes have difficulty understanding what is being asked for certain questions. This is particularly true for recent immigrants with relatively low levels of formal education. Interviewers have found they sometimes need to paraphrase and provide additional explanations for what is being asked in a question.

The "most recent birthday" method of respondent selection within a household is a fairly well established technique. All of the translations included this technique to randomly select one adult from each household contacted. We have found, however, that this method is very difficult to use with the

Vietnamese and Cambodian households, because birthdays are not celebrated in those countries. Thus, when the interviewer asks to speak to the person with the most recent birthday, this is generally misunderstood as the "person born most recently." As a result, the interviewer often ends up speaking with the youngest person in the household. In households where there are several eligible adults, one person often doesn't know the birth dates of everyone, since birth date has no special significance. Interviewers have had to ask the person they are speaking with to ask others in the household if they know the birth dates of eligible adults in the household.

C. Preparing the Final Questionnaire for Use with a Computer Assisted Interview System (CATI)
Creating the Interviewer's Notebook

The next task was to create a version of the translation the interviewer that could use while completing the interview. Not only did the survey need to be easily read, the interviewer needed to be able to follow the complicated skip patterns of the survey instrument.[3] We decided the only way for this to occur was to have the interviewer use the CATI system being used for the English language version of the questionnaire. Interviewers would read the translated text from the paper version of the questionnaire, and enter the responses into a CATI system terminal as the interview was being conducted. By entering the data as the interview progressed the skip patterns would be calculated for the interviewer.

The translations were copied and placed into a two or three inch binder. The sections of the survey were separated by heavier gage colored paper with heavy gage tabs on the side to denote the 15 sections. The sections were labeled using the terms shown in Figure 1. The interviewers also marked the translations with highlight pens in different ways they felt would help them to follow the skip patterns when completing the interviews. The interviewers were also responsible for assuring the translation matched the CATI system. Since the survey instrument had under gone six revisions while the survey was being translated --- questions were changed, added and deleted -- we were concerned that the skip patterns might have changed and not been corrected or that a question might need to be added or deleted from the translation. Matching the survey questions with the CATI system also gave the interviewers their first

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[3] One calculation takes the computer nearly a minute to process.

experience with the translated version of the questionnaire. In a few cases the interviewers worked with the translators to make a few edits to the translation that made the interviewers more comfortable with the translations, although we preferred to limit this as much as possible. We told the interviewers to wait until after the pretest to edit the translation. However, to avoid mutiny, the survey was edited in a few places in order for some of the interviewers to agree to do the pretest. Once the process of matching the translation to the CATI system was completed we began the pretests.

D. Pretesting the Translated Questionnaires
Methodology

By the time we were ready for the pretest of the translations, the survey instrument was in use with the general population. It was timed to take from 20 minutes to one hour, and sometimes as long as one and one half hours to complete. The time variation depends on how many sections the respondent might skip over within the 15 part survey. For example, if respondents answers "no" to alcohol use, they skip out of a rather long section on alcohol use. If they also say "no" to all eight of the drug use screening questions the respondent skips out of the questions about use for each of these drugs and jumps over the DIS Diagnosis Section and three sections dealing with different treatment issues. The same holds true for the four sections on mental health and for a large part of the section regarding health and disability assessment. The only sections of the survey where everyone completes the full section are the introduction, demographics, and risk factors for alcohol and drug abuse. This allows for great variation in the time an interview will take. Recognizing this we designed a pretest that would test the entire questionnaire.

We did this using "role play" where participants completed different sections of the survey instrument. We would have preferred to test the entire survey with each role-play participant. However, this was too taxing for both the interviewer and the role-play participant. Instead the survey was broken down so that three role players, person one, two or three, knew what sections he or she was supposed to say "yes" to when the question was asked. Figure 2 gives a break down of how that worked. Having these participants role play the different sections at least provided a test of the entire survey instrument.

All of the pretest interviews were monitored by one of the translators who noted any problems with the translations as the pretest progressed. Each role-play participant was paid a twenty dollar stipend.

The translators and interviewers found volunteers who spoke the target language. This method required the role-play participants to respond "yes" to behaviors and disorders whose conceptionalizations were largely western in orientation and foreign to many of the role-play participants. The person that contacted the participant explained that "role playing" required the participant to say "yes" to behaviors or psychological disorder questions that was not part of their normal behavior. The participants also received a letter that briefly explained what was required of the role-play participant and what questions they would be asked to say "yes" to in order to role-play through the related questions. Just prior to beginning the pretest, we would call the participant and go through what we had asked them to do again. Fortunately most of the role-play participants were college students who had learned about some of the psychological disorders and drug use problems in introductory courses they had completed in college. Some of the role-play participants, however were family members of the translators or interviewers who had less knowledge of the conditions they were asked to portray. This resulted in a less-than-perfect pretest because the interviewer would have to stop and remind the respondent he or she was role-playing and that they were supposed to say "yes" to certain questions.

The merit of this pretest was that the interviewer was at least able to go through all of the survey's sections and test the full translation. In addition, it was sometimes the first time the interviewer had been able to practice the survey! Unlike the typical setting where the interviewers practice the survey instrument calling each other, our interviewers had no one available to call to practice the interview. Instead, they read the interview out loud to practice saying the interview and entered made-up data into the CATI system to get used to doing both at the same time.

In addition to the role-play pretest, each interviewer completed two random calls to respondents we had found in the English pretest that spoke the target languages. As we had anticipated, these calls went very quickly with the respondents skipping out of most of the sections. However, this pretest allowed us to note where refusals occurred or areas where the respondent seemed offended by the wording of the questions. Once the pretest was completed any problem areas were corrected by once again going through the negotiation process.

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Pretest Results

Literal translation proved to be a problem when the translations were pretested. Spanish, Japanese, and Vietnamese translations were the first three translations to be completed, and these were literal translations (used the wording as close as possible to the original text). We learned that the interviewers found the literal translations difficult to say which made it difficult for the respondent to understand the questions. The literal translation disrupted the normal speaking pattern of the languages. As McKay and Lavallee (1993:6) state, the literal translation tends to make the translation "incomprehensible, or at least, stilted or awkward." In contrast, in the Cantonese, Cambodian, and Korean translations, which were completed somewhat later, the translators were allowed to negotiate to maintain the meaning of the question, but given permissible to state the question in a more normal conversational pattern for the language and use commonly used words rather than exact translations of the word.

Furthermore, we found that the deferments and formal apologies used in the other languages for asking personal and sensitive questions were missing and had to be added to the interview so that the respondent would not be offended and refuse to complete the survey. For example, the reference to "you" is not polite in Korean. We had to go back and delete the term to make the interview acceptable to the respondent. Also, the use of examples and modifiers added to the difficulty in translating the survey. Some examples tended to simply not translate, while others were at best foreign to the different cultures. The examples tended to get very long in the translation, which added to the length of an already long survey. While conceptual translation benefits comprehension, it adds to the length of the survey.   Marin and Marin (1991) have an excellent discussion about the benefits and costs of "decentering" a survey (modifying the survey to accommodate both languages). However, decentering would have been difficult to accomplish in this instance given we had seven languages to deal with for this particular questionnaire.

E. Conclusion

We have drawn five general conclusions from our experience with the translation of a survey instrument into six languages. First, the translation process takes time, so be sure to leave enough time

for this process, after the English version has been finalized. Avoid translating a questionnaire that has not been completely written. Consider adapting the English version to the translation if necessary (decentering). Second, avoid the use of slang and technical terms that may not be possible to translate into other languages. Third, use questions, phrases, and examples that are culturally sensitive and that fit the life experiences of the people that are being interviewed. Keep modifiers and examples to a minimum. Fourth, avoid literal translations that, while being grammatically correct and closely following the wording of the original text, may be too formal for the average language speaker and may convolute the language to borderline incomprehensibility. Also be sure to ask the translators to point out where questions might be offensive or missing important polite phrases necessary to not offend the listener. Finally, as with any survey instrument, thorough pretesting of all aspect of a translated questionnaire is the only way to ensure that questions and instructions are being understood by respondents.

F. References

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