

# Translation and Adaption of Questionnaires: A Nursing Challenge

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## Abstract

**Background:** Translation of previously developed questionnaires has often been the choice when addressing research to groups whose language is not English. In the translation of health-related questionnaires, it is highly important to assure congruency between the words and their true meaning in the language to which the questionnaire is translated.

**Aim:** To describe the semantic problems encountered in translating a standardized questionnaire from English (the Identity and Experiences Scale) to Norwegian according to the World Health Organizations translation protocol.

**Design:** A mixed-method study was used with the formation of four focus groups and a postal survey.

**Data sources:** Eighteen respondents from a nursing college in Oslo, an aged community in northeast Norway, and a community organization of retired persons in southeast Norway were focus group participants. In sum, 141 persons participated in the postal survey.

**Findings:** A number of semantical challenges in relation to interpretation and understanding of the meaning and use of words in the Identity and Experiences Scale were found.

**Discussion:** Words bearing emotional weight and connected to complex operational concepts were found to be problematic. Various American-English colloquial expressions also caused semantical challenges. Other problems were related to sentence structure and grammar form.

**Conclusion:** Translation, adaptation, and validation of questionnaires or scales for practice and research are very time-consuming and require careful planning and the adoption of rigorous methodological approaches to derive a reliable and valid measure of the concept of interest in the target population.

**Implications for nursing:** Translation quality is a methodological issue that nurses need to take seriously. It is highly recommended that nurses follow and document steps in a procedure of forward translation, qualitative reviews of translated items with regard to clarity, common language and conceptual adequacy, back translation, testing on lay panels, and committee review, or a probable variation of this procedure.

## Keywords

translation, adaptability, equivalence, instruments, WHO translation protocol

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## Introduction

Nurses and nurse researchers desiring to implement health-related questionnaires into their own language have two choices: to develop a new questionnaire or to modify a questionnaire previously validated in another language. Translation of previously developed questionnaires has often been the choice when addressing research questions to groups whose language is not English (Reichenheim & Moraes, 2007; Sousa &

Rojjanasrirat, 2011). In translating a health-related questionnaire into another language, it is highly important to assure congruency between words and their true meaning

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in the language to which the questionnaire is translated (Eremenco, Cella, & Arnold, 2005). Good translation methods do not assure the success of a project; however, badly translated questionnaires can ensure that an otherwise sound project fails. This is due to the fact that the poor quality of translation prevents researchers from collecting comparable data. Further, translation that is not done well can lead to measuring concepts that were not intended to be measured. This can contribute to suspicious research findings that reflect systematic errors of translation rather than substantial differences between groups. Therefore, ensuring valid translation quality can contribute to reduced sampling error, increased questionnaire responses, and increased generalizability of the findings. It can also ascertain respondent's subjective perceptions, especially when the questions are complex and sensitive (Beaton, Bombardier, Guillemin, & Ferraz, 2000; Grifee, 2001).

Importantly, it has been documented that it is not enough to translate a health-related questionnaire literally (Eremenco et al., 2005; Hambleton, 2001; Tang & Dixon, 2002). However, many standardized questionnaires are directly translated from one language to another. The additional challenge for nurses is to adapt instruments, in culturally relevant and comprehensible forms, while maintaining the meaning and intent of the original items. Unfortunately, translation of a study questionnaire is often an afterthought for nurses. Questionnaires are often treated as an unimportant part of study protocol and implemented without attention to the critical issues involved. Many nurses frequently assume constancy in the validity and reliability of established instrument translation (Drennan, 2003; Uysal-Bozkir, Parlevliet, & de Rooij, 2013). Still others are unaware that a translation problem exists. Even those nurses who are aware of the problem may find the translation solution daunting as it requires a considerable investment of time and money (Serber, 2004). Rigorous and systematic efforts to test the effectiveness of specific translation methods are rare, which is related to the fact that there exist few universal standard guidelines for instrument translation (Acquadro, Jambon, Ellis, & Marquis, 1996; Corless, Nicholas, & Nokes, 2001; Van Widenfelt, Treffers, de Beurs, Siebelink, & Koudijs, 2005). In a methods review of 47 articles focused on instrument translation processes, published in cross-cultural nursing research, Maneesriwongul and Dixon (2004) found that translation processes were often inadequate. They conclude that researchers should report evidence of the accuracy and validity of instrument translation.

Due to the increasing need to guarantee good translation quality, especially related to cross-cultural research, the World Health Organization (WHO) has developed a standardized translation protocol.

## Purpose

The purpose of this study was to describe the semantic problems encountered in translating a standardized questionnaire from English (the Identity and Experiences Scale [IES]) to Norwegian according to the WHO translation protocol.

## Theoretical Framework

### *Identity Process Theory and the IES*

The IES evolved from the identity process theory developed by Whitbourne (1986; Whitbourne, Sneed, & Skultety, 2002). For an overview of the individual items on this scale, refer to Table 1. The identity process theory evolved from the merging theories of Piaget (1977) and Erikson (1963) with the proposition that two processes—identity assimilation and identity accommodation—describe how the individual negotiates new experiences associated with the aging processes throughout adulthood. Identity is conceptualized as a broad biopsychosocial self-definition that encompasses the individual's self-representation in the areas of physical functioning, cognition, personality, relationships, occupation, and social roles, which are broadly defined. This theory assumes that normal, healthy adults attempt to maintain positive views of themselves in these realms.

Identity assimilation is a process that individuals use to maintain a sense of self-consistency even in the face of discrepant experiences or information about one's self. Most relevant to aging adults are perceptions of age-related changes in physical appearance and functioning. These areas are most likely to be threatened by identity-discrepant information. People who predominately use assimilative processes approach new experiences in a fixed and formulated way. They seek out information that is consistent with their current identity schema as loving, competent, and good. When people are forced to recognize unacceptable aspects of themselves, it can cause negative effect (Whitbourne, 1996).

Identity accommodation is a process of changing the self in response to experiences. Those who use identity accommodation are influenced and easily shaped by new experiences because their own identities are unstable and incoherent. This lack of internal constancy leads individuals to use identity accommodation, which results in self-doubt and low self-esteem. They are highly responsive to external influences, looking outside themselves for inner guidance. People who predominately use identity accommodation are theorized to overact and overgeneralize consequences of age-related changes in their physical and cognitive functioning.

Identity balance represents a dynamic balance between the opposing processes of identity assimilation and accommodation (Whitbourne, 1999). Identity

**Table 1.** IES English Items, Comments, and Norwegian Translation.

English scale items	Comments	Norwegian translation
I try to be flexible but also maintain my goals I am challenged but not overwhelmed by change (c)	No comments Multiple meanings. More than one variable action. Add “and” between “challenged” and “not.” Change made	Jeg forsøker å være fleksibel, men også målrettet Jeg blir utfordret, men ikke satt ut av spill ved forandringer
I feel I can handle disappointments about myself (c) I try to keep a steady course in life but am open to new ideas (c, d)	Ambiguous meaning—what kind of disappointments? Rhetoric problem, “steady course.” American colloquial. “Direction” clearer in Norwegian. Change made	Jeg føler at jeg kan håndtere personlige skuffelser Jeg prøver å følge en stø kurs i livet, men er åpen for nye tanker
I have had my share of experiences in which I have learned about myself (c)	Rhetoric—“share of experiences”—American colloquial. Omit “share.” Change made	Jeg har hatt en rekke personlige erfaringer som har bidratt til at jeg har lært mer om meg selv
I feel confident in “who” I am but am willing to learn more about myself	No comments	Jeg er tilfreds med hvem jeg er, men villig til å lære mer om meg selv
I often take stock of what I have or have not accomplished (c)	Rhetoric—“take stock,” American colloquial. Change wording to “I often think what I have or have not accomplished.” Change made	Jeg gjør ofte opp status for hva jeg har, eller ikke har oppnådd
I have a clear sense of my goals but am willing to consider alternatives (a, b, c, e)	Compound words “clear sense.” Word “perceive” is better. Change made. Ambiguous meaning—goals. Word “aim” better. Change made	Jeg har en klar fornemmelse av mine mål, men er villig til å vurdere alternativer
I am always looking for ways to improve myself I am not afraid to confront my failures (b, c, e)	No changes Failures give a negative connotation. Similar words “failures” and “weak sides” discussed	Jeg ser alltid etter muligheter til å forbedre meg Jeg er ikke redd for å bli konfrontert med mine feil og svake sider
I am influenced by my experiences but also feel that I can control life (c)	Ambiguous meaning—what kind of experiences? Contains negative undertones. Multiple meanings. More than one variable action. Add “and” between “experiences” and “feel” Change made	Jeg er preget av mine erfaringer, men føler også at jeg har kontroll over livet
I have many doubts and questions about myself (b, e)	Ambiguous meaning—“doubts.” Words “uncertainty” and “doubts” discussed	Jeg har mye usikkerhet og mange spørsmål omkring meg selv
I often wonder whether others like me or not I am very influenced by what others think (a, b, c)	No comments “Very” considered a strong word	Jeg lurur ofte på om andre liker meg eller ikke Jeg er meget påvirket av hva andre mener
I often wonder about how my life could be different than it is (c)	Ambiguous meaning “life”—personal life or life in a larger perspective? Grammatical change “how” to “often.” Change made	Jeg lurur ofte på hvordan livet kunne sett annerledes ut
At times I seriously question “who” I am I behave according to what I think others want from me (a, c, e)	No comments Similar words “want” and “expect” discussed. Ambiguous meaning “behave”	Jeg tviler til tider på hvem jeg er Jeg oppfører meg slik jeg tror at andre ønsker det av meg
I feel that it is hard to decide on which course I want in life (c, d)	Ambiguous meaning “course,” “direction” better. Change made. Postal survey—unanswered question	Jeg føler at det er vanskelig å bestemme hvilken kurs jeg ønsker i livet
I need people to tell me they like me (c, d)	Question quite similar to question “wonder whether they like me or not.” Grammatical change “tell me what they think about me.” Change made. Postal survey—unanswered question	Jeg trenger at folk forteller at de liker meg

Table 1. Continued.

English scale items	Comments	Norwegian translation
I rely on others because I lack confidence in my judgment (a, d, e)	Similar words “rely” and “trust” discussed. Postal survey unanswered question	Jeg stoler på andre fordi jeg mangler tillit til min egen vurderingsevne
I wonder what others think of my behavior	No comments	Jeg lurer på hvordan andre vil tenke om min oppførsel
I often change my mind as I consider different alternatives in life (c)	Some meant they would have difficulty answering this question. Multiple meanings—more than one variable action—“change” and “consider”	Jeg ombestemmer meg ofte fordi jeg overveier forskjellige muligheter i livet
I am not very interested in advice from others (c)	Grammatical change—“receiving advice.” Change made	Jeg er ikke veldig interessert i råd fra andre
I spend little time wondering “why” I do things (c)	Ambiguous meaning—“things.” Postal survey—three missing responses	Jeg bruker lite tid til å lure på hvorfor jeg gjør ting
I have very few doubts or questions about myself (c)	Ambiguous meaning—“questions.” Postal survey—three missing answers	Jeg er svært lite usikker på og har få spørsmål om meg selv
I don’t spend much effort reflecting on “who” I am (a, e)	Words effort, labor, and time discussed. Postal survey—three missing responses	Jeg bruker ikke mye anstrengelse på å reflektere over hvem jeg er
Generally, I try to avoid change in my life or how I see myself (a, c, e)	Ambiguous meaning—“see myself.” Multiple meaning—more than one variable action. How is “avoid change in life” and “see oneself” related? Postal survey—four missing responses	Jeg prøver generelt å unngå forandring i livet og i vurderingen av meg selv
I don’t think very deeply about my goals because I know what they are	No comments. Postal survey—three missing responses	Jeg tenker ikke svært grundige over mine mål, da jeg vet hva de er
I prefer to think only about the “good” in myself	Grammatical change—quotation marks around “good” omit. Change made	Jeg foretrekker å tenke bare på det gode i meg selv
I like to see myself as stable, consistent, and unlikely to change (c)	Some focus groups members stated they would not know how to answer this question.	Jeg liker å se på meg selv som stabil, konsekvent og nærmest uforanderlig
I try not to get into situations that cause me to question myself (a, b, c)	Ambiguous meaning “question myself.” Change “myself” to “behavior.” Change made. Similar meaning behind “not get into situations” and “avoid situations” discussed. Ambiguous meaning “situations”	Jeg prøver å unngå situasjoner der jeg må stille spørsmål ved meg selv
I don’t think about my mistakes or shortcomings	No comments	Jeg tenker ikke på mine feil og mangler
When it comes to understanding myself, I’d rather not look too deeply (c)	Grammatical change, last part of sentence reversed to first part of sentence. Word “too” excessive, omit. Change made	Når det dreier seg om å forstå meg selv, vil jeg helst ikke gå i dybden

Note. IES = Identity and Experiences Scale; a = forward translation; b = expert group; c = focus groups; d = postal survey; e = back translation.

balance is a flexible approach that allows individuals to change in response to identity-salient discrepancies, through identity accommodation. Identity-balanced individuals are in the best position to age successfully, because they can flexibly adapt and integrate age-related changes, while simultaneously retaining a sense of inner consistency and stability.

Whitbourne et al. (2002) developed the IES scale based on her theory. This is a 33-item self-report questionnaire consisting of three 11-item subscales measuring identity assimilation, identity accommodation, and identity balance. Each item is rated on a response scale of 1 (*not like me at all*) to 7 (*completely like me*). The instrument was first tested in a sample of 173 healthy American community-residing respondents (108 females and 65 males) ranging from 42 to 85 years and later in a sample of 173 aged community-residing American adults (108 females and 65 males). Internal consistency reliability (Cronbach's alpha) for these combined data sets were .88, .85, and .72 for identity balance, identity accommodation, and identity assimilation, respectively (Sneed & Whitbourne, 2003; Whitbourne et al., 2002). The development of the IES is described elsewhere (Whitbourne et al., 2002, pp. 30–39).

## Method

WHO has accrued considerable experience in translating health measures and has also established a standardized translation protocol (WHO, 2003). This translation protocol aims to achieve different language versions of instruments that are conceptually equal in various cultures.

### *The WHO Translation Protocol*

The translation protocol has a number of steps that include a forward translation, a panel of experts, back translation, pretesting, and creation of the final version. First, one or two translators translate the source instrument into the target language. These translators should have a clear understanding of the instrument and the population who will use the instrument. This increases the likelihood that the instrument is translated appropriately, and the language used in the translated document matches closely the language of the target group. A bilingual group (expert group) then reviews the translation, looking for any inconsistencies between the source language and the translated document. The group discusses and resolves issues related to the maintenance of the integrity of the source instrument, in terms of semantic, conceptual, and technical equivalence. The number of experts in the bilingual group can vary. In general, WHO advises that the expert panel should include the original translator, experts in the field of health, as well

as experts with experience in instrument development and translation (WHO, 2003).

### *Monolingual Groups, Back Translation, and Teamwork*

A group of monolingual persons, unfamiliar with the instrument, then "tests" the instrument by reviewing the translation for comprehensibility. The monolingual group is asked to comment on whether the style of questioning and format of the questionnaire are acceptable. The presentation of the instrument to the monolingual group is of considerable importance because they rely on the target language and have no prior idea regarding the concepts the questions were designed to address. Monolingual review can be done in a focus group situation, where focus groups discuss the instrument in the session. Ideally, a member of the bilingual panel should moderate such monolingual focus groups. The bilingual group then considers the comments of the monolingual group and incorporates them into the translated document. The translated document is then back translated into the original language by the back translator. This translator should be briefed about his or her place in the translation methodology being used and should be told that he or she is translating a measure concerned with health. This ensures the translator's work is appropriate to the methodology, without introducing bias into the process. The back translator does not see a copy of the original English version before completing the translation. The bilingual group then considers the original and back-translated documents and agrees upon any significant differences in creating the final version. As can be seen, the communication triad of translator, bilingual and monolingual users, intervenes at different points throughout the steps. Consequently, the translation process is a result of a multidisciplinary teamwork. To ensure some consistency, this should be led by one team member taking responsibility for the entire project.

### *Translation of the IES From English Into Norwegian*

In this study, forward translations of the IES, from English into Norwegian, was performed independently by two bilingual persons. One translator was a professor in theology, who was proficient in both Norwegian and English, and had previous expertise in translating quantitative instruments. The other translator was an associate professor in nursing, who was also proficient in Norwegian and English, and had previous expertise in translation work. She was also familiar with issues related to identity. The author, a professor in nursing, with expertise in instrument development, met with the forward translators until agreement was reached on the forward translation of the instrument. An expert panel consisting of three persons reviewed the translation.



These members included a lecturer in nursing with a background in nursing and gerontology, an associate professor in nursing and sociology, and an associate professor in nursing with expertise in the use of instruments in nursing research. This group was moderated by the author. Pretesting was carried out by focus group interviewing and in a postal survey. Back translation was conducted by a bilingual person, whose native language was English. The expert panel, and the back translator, discussed discrepancies between the original and the back translation until consensus was reached.

### Design

This study is based on a mixed-method design with sequential exploration, based on exploring conceptual understandings of the Norwegian translation of the IES scale. First, a qualitative approach was used with focus group interviews. This was followed by quantitative approach with a written postal survey. The purpose of using both approaches was the desire to combine the results of both approaches as a method. This was done in hope of gaining in-depth understanding rather than using one approach alone. It was assumed that the qualitative approach would provide a richer understanding due to personal discussions. Likewise, a quantitative approach with a larger sample could add to this understanding as inferred by the number of missing answers (nonresponse) and varied written comments. Further, it was deemed that both approaches could give various perspectives of the target population and provide support in wording items as unambiguously as possible. Both methods were implemented in the development of the final questionnaire and done to increase the trustworthiness of the translation process.

### Research Question

The major research question in this study was focused on how understandable are the individual items of the Norwegian translation of the IES scale among focus group and postal survey participants?

### Focus Group Protocol and Sample

The focus group methodology, used in this study, is based on the WHO standardized protocol for focus group work (The WHOQOL Group, 1998a, 1998b; WHO, 1997). These guidelines recommend groups with both healthy and sick individuals, together with a group of health professionals. Two groups were recruited from members of staff research groups at one college of nursing in the Oslo area ( $n=6$ ,  $n=5$ ). Two other groups were recruited from an aged community in northeast Norway ( $n=2$ ) and from a community organization of

retired persons in southeast Norway ( $n=5$ ). Altogether, four groups were conducted with convenience samples during September–November 2017.

The author sent out information regarding the study and copies of the IES and focus group guidelines to participants who had given verbal agreement of their interest in focus group participation. Guidelines asked participants to consider the relevancy, understandability, and conceptual clarity of the words, items, and response categories on the questionnaire and suggest changes. A formal written consent was signed, and participants answered a few questions regarding age, gender, civil status, and length of employment.

The author served as moderator for three of the focus groups, and a retired person from a community in north-east Norway served as the moderator for one group. The moderators directed the discussion and summarized major points. Regarding the training of the moderators and fidelity issues, the author who served as the moderator for most groups is an experienced researcher and sensitive to ethical issues. She discussed with the other moderator issues related to building and securing a trusting relationship with participants. She also discussed, in detail, the information letter to potential respondents. Such information included the aims of the study, focus group procedure including risks and benefits, and voluntary participation. Issues of confidentiality were also discussed. Permission to tape-record the sessions was verbally obtained at the beginning of each interview by the moderators. If participants desired the tape recorder be turned off for any reason, this was also affirmed. Discussion also included encouraging openness and honesty in responding to the interview questions and underlining there existed no right or wrong answers to the questions. Providing time and opportunities for questioning was also encouraged.

Discussions in each group lasted from 30 minutes to an hour. Refreshments were served during the discussions. According to the topic for the interviews, the moderator discussed each item on the questionnaires. Participants were asked whether the translated questions/words were (a) understandable and clear, (b) difficult to answer, (c) confusing, and (d) relevant. Participants were additionally asked to suggest changes. The moderator also tried to probe any thoughts or feelings related to answering the questions and response categories. Upon completion of the group, the moderator made short summaries of the discussion points and asked for further comments. Finally, basic sociodemographic data were gathered. All participants received the author's name, address, and telephone number, in case there was need for contact. Upon completion of the interviews, the moderators wrote a summary of major points and functional issues related to the group gathering. Furthermore, all audiotapes were also reviewed by

the author to ensure that the second moderator complied with fidelity training.

### *Postal Survey Sample*

A postal study explored whether this mode of administration resulted in other challenges not discussed in the focus group interviews. The postal survey took place during December 2017 and January 2018. A questionnaire packet, consisting of sociodemographic characteristics and the IES, was sent to adults who were part of a university alumni register at a university college in Oslo. The author had no connection with the names on this register. A secretary at the college, responsible for the register, addressed and sent out the questionnaire packets. An invitation to take part in the study was included together with a return envelope. Inclusions criteria consisted of those who were willing to fill out the questionnaire and return the questionnaire, either alone or with the help of another. A total of 530 questionnaires were sent to people representing many geographical areas in Norway. Two envelopes were returned due to a change in address. Two persons sent back the questionnaire unfilled, one due to poor health and the other due to poor eyesight. Altogether, 146 persons (26.6%) filled out the questionnaires. Those taking time to fill out and return the questionnaires were regarded as giving their informed consent to take part in the study.

### *Ethical Considerations*

The author conferred with Susan Whitbourne, author of the IES, to question whether a Norwegian translation of the instrument existed. It is recommended that professionals wanting to translate and adapt a particular instrument obtain permission from the “instrument’s foreign publisher to ensure ethical test usage” (Gudmundsson, 2009, p. 35). As there was no Norwegian version, written permission was obtained to translate the IES. The University College Research Board gave approval for the study. Participants did not receive any payments or perquisites beyond snacks for joining the study.

### *Data Analyses*

In this study, detailed records of the specific translation challenges encountered and the decision on how to deal with these challenges were documented throughout the entire translation process. The author summarized notes taken during meetings with forward translators, expert group meetings, focus group meetings, postal survey comments, and meetings with the back translator. Notes written by the moderator in northeast Norway were sent to the author, together with copies of the IES. The author read all comments, listened to the

audiotapes, and sorted comments according to subscales, items, and responses on the IES.

### *Sociodemographics*

A large proportion of the focus group members ( $n = 18$ ) were between 60 and 70 years ( $n = 10$ , 55.5%) when compared with those who were middle-aged, between 40 and 60 years ( $n = 2$ , 11%), and those who were older, between 70 and 85 years ( $n = 6$ , 33.3%). More than half of the sample had worked from 35 to 45 years ( $n = 10$ , 55.5%) when compared with those who had worked from 10 to 25 years ( $n = 4$ , 22.2%) and more than 25 to 35 years ( $n = 10$ , 55.5%). The majority of participants had worked full time ( $n = 11$ , 61.1%) with 5 (27.7%) being retired. The majority of participants were married ( $n = 14$ , 77.7%), whereas two each (11.1%) were widowed or divorced.

Regarding the postal survey, a large proportion of participants ( $n = 141$ ) were women (73.9%) when compared with men (3%). Women were also older (mean age, 73.69 years) when compared with men (mean age, 66.33 years). Other sociodemographic characteristics are presented in Table 2.

## **Results**

Results from this study are presented in Table 1. This table displays the original items in English and comments on problematic issues as indicated by the forward translation, expert group, focus groups, postal survey, and in back translation. The table also shows what items received changes and presents the final Norwegian translation. Most of the difficulties were related to similar words (5), multiple meanings (4), rhetoric meanings (3), and compound words (1).

### *Ambiguous Meaning Changes*

Ambiguous meaning issues included doubtful or uncertain nature of specific words and phrases with several possible meanings and interpretations. Ambiguous meaning was also related to having two or more structural descriptions that posed difficulties in comprehension. For example, the item “feel I can handle disappointments about myself” was found to be ambiguous. On another item, some questioned what the word “goal” meant. The meanings given to the word “doubts” in the item “have many doubts and questions about myself” was also found to be ambiguous. This was also the case with the similar meanings between the words “uncertainty and doubts.” Some participants also asked what the word “life” represented in the item “often wonder about how my life could be different than it is.” Some wondered whether one was referring to one’s

**Table 2.** Sociodemographic Characteristics of Participants in the Postal Survey.

	Male (n = 3)	Females (n = 138)	Total (n = 141)
Total participants			
Mean age	66.33	73.69	73.52
Age categories			
<67 years	66.7%	25.0%	2.60%
>67–76 years	33.3%	32.5%	32.5%
>77–85 years	0.0%	31.7%	30.9%
>85 years	0.0%	10.8%	10.6%
Education level			
Grade school	0.0%	0.0%	0.7%
High school	0.0%	14.40%	14.0%
College	33.3%	67.6%	66.9%
University	66.7%	18.0%	19.0%
Religious background			
Norwegian State Lutheran Church	100.0%	85.8%	86.1%
The Evangelical Lutheran Free Church	0.0%	5.0%	4.9%
Pinse Free Church	0.0%	2.1%	2.1%
Human-ethical organization	0.0%	0.7%	0.7%
Not member	0.0%	1.4%	1.4%
Other	0.0%	5.0%	4.9%
Civil status			
Unmarried	0.0%	16.3%	16.0%
Married/partnered	100.0%	56.7%	57.6%
Divorced	0.0%	6.4%	6.3%
Widowed	0.0%	120.6%	20.1%
Living arrangements			
Home	100.0%	96.5%	96.5%
Family/others	0.0%	1.4%	1.4%
Community housing	0.0%	1.4%	1.4%
Institution	0.0%	0.7%	0.7%

personal life or to life in a larger perspective. Another ambiguous word was “things” in the item “spend little time wondering why I do things.” An example of two structural descriptions was commented upon in the item “avoiding change in life and how I see myself.” Members also found the word “situations” ambiguous.

### Similar Words

Similar words and synonyms were words or expressions having the same, or nearly the same, meaning. For example, the similarity in meanings between the words “not get into situations” and “avoiding situations” was discussed. The word “influenced” in the item “am influenced by my experiences, but can control my failures” was also problematic. The word “failures” is closely related to the word “weak sides” in Norwegian. For some, the word “failures”

also brought to mind very negative connotations. The item “behave according to what I think others want from me” was also discussed in relation to the words “want” and “expect.” In addition, the item “rely on others because I lack confidence in my judgement” was debated. The word “rely” and “trust” are quite similar in Norwegian. Further, the word “effort” in the item “don’t spend much effort reflecting” was discussed in relation to similar words such as “laborious” and “time” in Norwegian.

### Grammatical Meaning Changes

Grammatical changes were usually related to language structure, questions of temporality, pronouns, and English grammar (subject, verbs, and objects). For example, the item “not very interested in advice from others” caused discussion in relation to sentence structure. Others discussed the item “prefer to think only about the “good” in myself” and advised that the quotation marks be removed. Others commented upon the item “when it comes to understanding myself, I’d rather not look too deeply” and suggested reversing the sentence syntax in accordance with Norwegian sentence structure. The use of pronouns “myself” also caused problems as illustrated by the item “generally try to avoid change in my life or how I see myself” and the item “generally try not to get into situations that cause me to question myself.”

### Multiple Meaning and Rhetoric Meaning Changes

Multiple meanings were related to words and phrases that had more than one meaning or held more than one action. For example, the items “am challenged but not overwhelmed by change” and “have a clear sense of my goals but am willing to consider alternatives” were understood as containing two separate meanings. It was recommended that the word “and” be added between the words “challenged” and “not” and “goals” and “am.”

Rhetoric changes were related mostly to American colloquial expressions. For example, the phrases “share of experiences,” “often take stock,” and “which course I want in life” were regarded as such expressions.

### Compound Words

Compound words were usually two or more words used together, which creates a special meaning when used together. For example, the meaning of the words “clear sense” in Norwegian was difficult to interpret. The word “perceive” was more understandable in Norwegian.

### Unfamiliarity With Subjective Experiences

Some items were also difficult to answer. This was due to their unfamiliarity with subjective experiences.



For example, some participants stated that they would have problems answering the question “often change my mind as I consider different alternatives in life.” Some also meant that the words “change” and “consider” created contrary meanings. Others stated they would also have difficulty answering the questions “like to see myself as stable, consistent and unlikely to change” and “have very few doubts or questions about myself.”

### Words Bearing Emotional Weight and Action Words

Words in the translation process that were found to be most problematic also included words bearing emotional weight, such as *sense, feel, very, rely on, share, effort, and influence*. Others were connected to complex operational concepts such as *change, behavior, attitudes, beliefs, goals, life, failures, doubts, and things*. These problems could be due to several issues. First, the English language has a richer base of synonyms symbolizing various nuances. It has precise terms to express countless tangible aspects of the real world, especially in relation to all sensory perceptions, when compared with the Norwegian language. The English mind favors certain objectivity in the face of facts and reality and attempts to capture the concrete, perceptible, and tangible details, which can be observed by people. The existence of things is recognized without a precise cause being attributed to them. Consequently, things are often expressed simply in English. Whereas the Norwegian mind tends to favor more toward the subjective interpretation of reality, the why's, and the wherefore's. The English language can also be described as being more dynamic than Norwegian. Consequently, it acts, participates, and seems to follow an action as it takes place. Interesting, study findings show that many of the words that were found to be problematic are examples of such action words. Orientating sentences around the verb also displays this active process. It is interesting to note that many of the IES items orientate the meaning of the question around such verbs as *challenged, willing, open, learn, have/have not, confront, doubts, influence, want, consider, question, think, wonder, reflect, avoid, and cause*. These were problematic in Norwegian due to varied sentence and grammar structure.

### Focus Group Respondents: General Comments

Other results included one focus group respondent, who was in her 80s, stating that it was important to know whether the persons answering the questionnaire were satisfied with their life situation. That is, whether they were lonely, took part in social activities, and had a family and friends. This respondent also meant that the questions were somewhat philosophical for her age-group. Other focus members said that one had to be

self-reflective, and know who you were, as a person. One respondent also meant that a 5-point response scale would be better than a 7-point scale and suggested omitting the response categorizations of “somewhat like me” and “somewhat not like me.”

### Postal Survey Respondents: General Comments

One respondent did not answer any of the questions and stated that she was too fatigued to answer. Another respondent did not answer the following questions: “I feel it is hard to decide on which course I want in life,” “I need people to tell me they like me,” and “I rely on others because I lack confidence in my judgment.” No reasons were given for the omission of these questions. Perhaps older persons found these questions very sensitive. Another person commented on the question “At times I seriously question “who” I am,” stating that when answering this question, the answer would be completely different if she had been born on the streets in India, under completely different circumstances. Another respondent also commented on the question “I try to keep a steady course in life, but am open to new ideas.” The respondent questioned what “steady course” means, as did others in the focus groups.

### Discussion

Most of the translation problems encountered were due to ambiguous meanings, grammatical problems, connotative similarities, multiple meanings, rhetoric meanings, and compound words. Other studies have also found similar problems in translating instruments from one language to another. Silva de Oliveira and Bandeira (2011) translated a personality disorder instrument from English to Brazilian Portuguese. From the 83 items translated, 56 (60.2%) of the items were modified. Similar to our results, many of the modifications included alternative wording and sentence structure. Other problems identified in the Brazilian translation were items identified as being difficult to answer due to noncomprehensibility of sentence meaning, while others failed to understand individual words. Some participants understood the sentence but had difficulty providing a score because they could not apply items to their lives. Interestingly, the word “hostile” was difficult to understand for those with lower education in Brazil. A cultural term *turn into a beast* was used because this phrase is more understandable across social class.

In another study, Bager, Elsbernd, Nilssen, Daugaards, and Pappot (2018) translated a quality of life questionnaire from English into Danish, with subsequent pilot testing. The forward translation found 8 items, to be in full agreement between two translators; however, 16 items showed minor differences in word

choice. In two items, different words were used to describe symptoms with slight alteration in interpretation. The back translation found 10 items that were in full agreement between the two translators. However, 15 items displayed minor differences in word choice when compared with source language. The interviews elicited 11 total comments on 8 items by 50% of the participants. Comments were applied to multiple statement categories, difficulties in understanding, and confusing statements. Interestingly, this translation process uncovered questions related to taste, sense of smell, wording related to past time versus present time, and items focusing on the subjective mode with the pronoun “you” to be problematic. These findings are similar to our study. Furthermore, questions that used the word “disruption” caused problems, as this word held a different meaning in Danish.

In another study, Cha, Kim, and Erien (2007) translated and pilot tested two instruments assessing attitudes toward sexual behavior from English into Korean. Some of the problems encountered included not having the same term in Korean and having to use several words to sustain the original meaning. Other problems included the use of long sentences, differences in grammar, tense, structure syntax (relation to order of words), and verb nuances. Another difficulty was related to when the two languages had the same word. However, the word held different meanings in the target language. For example, the words “really like” and “love.”

Squires et al. (2013) explored the cross-cultural methodological challenges involved in translating a nursing workforce survey in 12 countries using content validity indexing techniques. This process also identified potentially problematic survey items and errors with translation. For the entire survey, a total of 35 out of 140 items posed a problem. Most of the problems were related to American slang, names of professional roles not applicable in the target culture, and cultural differences related to the construct “privacy.” In another study, focused on the European Values Survey, the Spanish scorers on a question measuring “loyalty” deviated from the overall pattern of results for this country.

These studies lend support to findings of this study. It was interesting to note that words connected to taste, smell, symptoms, liking, love, and hostility were problematic in the other studies. Words bearing emotional weight such as sense, feelings, very, rely on, share, effort, and influence were assessed as difficult in present study findings. The studies also found words connected to complex operational constructs such as disruption, privacy, and loyalty problematic, while present study findings showed the meaning of words connected to change, behavior, attitudes, beliefs, goals, life, failures, doubts, and things as challenging. Semantic equivalence is described as incorporating two levels of meaning that

include denotative and connotative levels. Denotative meaning refers to what words are signs for, while connotative meaning refers to the emotional content of the words (Hunt, 1993). It could be some of the semantic problems encountered, as well as others, were connected to the operation of these levels.

### *Other Factors Influencing Translation Procedures*

Some of the difficulties encountered in our translation process may be due to the forward translations where the words were translated too closely (word-to-word), meaning that the translation focused on the words, and not the meaning of the question. Consequently, the cultural nuances may have become more evident in expert group discussions and the focus testing of the translation process. It has also been reported that bilingual persons may often adopt some of the concepts, values, attitudes, and role expectations of their second language. Thus, bilinguals represent a separate population whose responses cannot be automatically generalized to the monolingual target population (Eremenco et al., 2005; Serber, 2004). The forward and backward translators, as well as expert group members, were all bilingual in our study, so this could have also influenced the translation process. Similarly, experience has also shown that translations produced by highly educated individuals are sometimes judged to be complicated and therefore difficult to understand for people with less education or lay panels (Hunt, 1993). The translators and expert panel were all highly educated, and this may have affected the translation, as focus participants represented laypersons encountering challenges in the focus group discussions. Many of these members were also aged with various educational backgrounds. Importantly, there occurred very few issues regarding the translation of the response scales, although one person suggested five response descriptors, instead of seven. The Norwegian language has seemingly the same understanding of the response descriptions, although in some languages, differences exist. For example, the meanings given to agree and disagree responses are nonexistent in some cultures (Harkness, Pennell, & Schoua-Glusberg, 2004).

### *Quality of Responses From Focus Groups and Postal Survey*

It was interesting to note that the postal respondents answered most of the items, although very few made comments regarding clarity issues. Contrary, the focus group participants provided rich in-depth reflections and suggestions. Other researchers have described interviews as being less burdensome for older people, when compared with postal surveys (Bowling, 2005). This may be related to more information being obtained in the

focus groups. The focus groups were also conducted by a researcher who has long experience in conducting individual and focus group interviews. Inviting open discussion and reflection, together with in-depth probing, may be the reason for the more comprehensive information obtained in the interviews.

The few comments obtained in the postal survey could also be related to the fact that the respondents were older. Approximately 42% of the participants were older than 77 years, when compared with the majority of focus participants who were between 60 and 70 years of age. Research has shown that obstacles occur when older people must respond to postal survey formats due to memory loss, reduced energy, and frailty (Cassar & Baldacchino, 2012; Enami, Momeni, Hissein, & Maddah, 2010). In our study, some of the respondents sent the questionnaire back stating they were too tired to answer. Earlier, we have found fatigue to be a problem in other studies with both postal and self-interviews (Halvorsrud & Kalfoss, 2014). Other written statements given for not responding included aftereffects of a stroke, poor vision, feeling too old, and suffering from asthma. Moreover, it may be the nonresponders in our study were those who were older people and frailer (Picavet, 2001).

### *Next Steps in the Adaption of the IES*

Translation and adaption of instruments should be seen as part of an empirical process. The term *test adaption* has been found to be preferable over the term *test translation*. Because the former is broader and more relative of what should happen in practice. Adaption goes well beyond simply preparing a literal translation of the instrument content as we have done (Hambleton et al., 2005). Adaption procedures include translation and back translation; pilot testing and screening the test items for differential item functioning, field testing, and scaling; development of administration procedures; and validation research.

Gudmundsson (2009), for example, recommends a minimum of two pilot studies of a translated instrument: the first to collect data on item difficulty, wording and meaning of items, rules for scoring and administration, and instructions for administration; the second to check the effects of changes made on the basis of the first pilot study. Further, instrument validation is recommended with the assessment of multiple psychometric properties—scale means, variance reliabilities, validity (most importantly, construct, criterion related, discriminant, and factorial). For example, in a Norwegian study, Gjersing, Caplehorn, and Clausen (2010), in translating and testing an attitudinal scale for use in the Norwegian culture, found that the instrument failed confirmatory factorial analysis. Special considerations should also be

paid to the reliability of subsets and floor and ceiling effects (Beaton et al., 2000; Guillemin, Bombardier, & Beaton, 1993). Accordingly, the next step in our adaption process will be validating the instrument, pilot testing, and establishing the psychometric properties of the scale.

### **Strengths and Limitations**

There are some limitations to this study. Focus groups have been criticized in relation to the false environment and cognitive load they add to those who would normally not think aloud when completing questionnaires (Webb & Kevern, 2001). The presence of a researcher can also create distraction in this process. Further, there could have occurred the chance of the “*Hawthorne effect*” in the focus groups, with the respondent reading the questions more thoroughly, than if the researcher was not present. Furthermore, a majority of persons with nursing background were represented in the expert group, focus groups, and in the postal survey. Those involved in the forward translation, expert group, and back translation also had high literacy qualifications. Unfortunately, there exists a lack of minimum standards for what constitutes a potentially problematic item, or a systematic quantification method, for quantifying potential problems with translation (Mallinckrodt & Wang, 2004). Nor does there exist “any in-house resource to advise translators when changes can, and should, be made” (Hambleton et al., 2005, p. 201). Reichenheim and Moraes (2007), for example, suggest that interviews are conducted until preestablished percentage of understanding is achieved for all items (e.g., > 90%). Merenda (2005) recommends that 30 to 40 persons should be present in focus testing. Our study included only 18 persons. Therefore, we designed criteria that one person at the minimum in two focus groups had to identify the same problematic item. They also had to suggest the same change before the translation change was made.

Furthermore, most of the respondents in the focus groups and postal survey were women. Richer data might also have been obtained with more focus groups, also striving to include a larger representation of male respondents. There was also a low response rate in the postal survey, so results cannot be generalized to the public at large. All these issues could have introduced bias into the study. However, the strengths of this study include the use of more than one forward translator, which decreased the misinterpretations in meanings and increased reliability. In addition to the focus groups, a supplemental postal survey was used for pretesting the questionnaire in a large sample. Focus testing was also carried out in two separate geographical districts in Norway. Furthermore, the respondents in the postal survey included a large sample of older adults, representing most geographical areas in Norway.

## Conclusion

Translation, adaptation, and validation of questionnaires or scales for practice and research are very time-consuming. This requires careful planning and the application of rigorous methodological approaches to derive a reliable and valid measure of the concept of interest in the target population. Translation quality is a methodological issue that nurses need to take seriously, which also requires accurate documentation.

The semantic challenges encountered by applying the WHO translation protocol with evidence based upon a detailed documentation of problematic areas, and the decision on how to deal with these challenges, resulted in the identification and modifications of nuances of meaning in the Norwegian version of the IES questions.

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