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Quality of life in aphasia: Greek adaptation of the stroke and aphasia quality of life scale- 39 item (SAQOL-39)

Short title: Greek version of the SAQOL-39

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ABSTRACT (242 words)

Background and aim: Health-Related Quality of Life (HRQL) measures are becoming increasingly popular in evaluating health care interventions and services. The Stroke and Aphasia Quality of Life scale-39 item (SAQOL-39) is an English questionnaire that measures HRQL in people with aphasia. There is currently no measure to assess the HRQL of Greek-speaking people with aphasia. This study began the cross-cultural adaptation of the SAQOL-39 into Greek, by translating and linguistically validating the instrument.

Methods: The Mapi approach to linguistic validation was followed. The SAQOL-39 was forward translated into Greek and back-translated into English. The pilot version was produced by comparing the forward and backward translations. The resulting instrument was then reviewed by an expert professional and pilot tested with a sample of 10 people with aphasia.

Results: 67% of back-translated items matched those in the original instrument. Only 20% of the items in the consensus version needed amendments for the pilot version. The pilot testing showed that the SAQOL-39 had good accessibility (no missing data), acceptability (MEF \leq 70%; 9 out of 10 participants had no difficulty) and content validity (eight participants had nothing to add to the questionnaire).

Conclusions: By employing the Mapi approach to linguistic validation, a close matching between the original and the Greek version of the SAQOL-39 was ensured. The Greek SAQOL-39 is accessible and acceptable to people with aphasia. Further research is needed on the psychometric properties of the Greek SAQOL-39 and on its appropriateness as a clinical outcome measure.

Keywords: Stroke, Aphasia, Quality of life, Translation

INTRODUCTION

Health-related quality of life (HRQL) reflects the impact of a health state on a person's ability to lead a fulfilling life.⁽¹⁾ It incorporates the individual's subjective evaluation of his/her physical, mental/ emotional, family and social functioning.^(2,3)

HRQL measures are particularly useful in the evaluation of interventions for people with chronic diseases and disabilities. They allow us to understand better and measure the impact of disease on the patient's life as a whole.⁽⁴⁾ They also allow us to incorporate the patient's perspective in clinical decision making.⁽⁵⁾

A recent study in the UK showed that the HRQL of people with aphasia after stroke was affected by the severity of their aphasia, their overall health, their activity levels and depression.⁽⁶⁾ Similar results have been obtained in Australia, where the quality of life of people with aphasia was affected by their language and communication difficulties, their emotional and social health and their psychological well-being.⁽⁷⁾

Such findings can inform clinical decision making and service provision for people with aphasia. For non-English speaking countries, however, or indeed for ethnic minorities in English speaking countries, there is limited information on the HRQL of people with aphasia, due to the lack of appropriate measures to use. Adapting existing measures for use with different cultures and languages is one way of dealing with this problem.

Cross-cultural adaptation comprises the linguistic validation and the psychometric validation of an instrument.⁽⁸⁾ This study reports on the linguistic validation of the Stroke and Aphasia Quality of Life scale – 39 item version (SAQOL-39).⁽⁹⁾ The SAQOL-

39 assesses the client's subjective evaluation of their functioning in areas that can be affected by stroke and aphasia (further information under 'methods' below).

METHODS

We followed the Mapi approach to cross-cultural adaptation.⁽¹⁰⁾ The Mapi Research Institute is an international research organization that engages in translating and validating HRQL instruments for cross-cultural use. They have translated and validated internationally more than 350 instruments into over 110 languages. We followed their 'standard linguistic validation process', which deals with instruments developed in English and needed in another language. The Mapi Institute itself was not involved in this study. The process comprised the following stages:

- **Conceptual definition:** the developer of the SAQOL-39 and the researcher managing the linguistic validation process (the consultant) discussed all the items of the questionnaire to clarify all the concepts involved
- **Forward translation:** The original instrument was translated into Greek by two qualified translators, who were native speakers of Greek and proficient in English. The consultant re-conciliated the two translations and established a consensus version.
- **Backward translation:** The consensus version was back-translated into English by a third translator who was a native speaker of English. The consultant compared the back translation with the original instrument and the consensus version and examined any discrepancies between them. These were discussed with the developer of the SAQOL-39 to produce the pilot version.
- **Pilot testing:** The Mapi approach pilot testing comprises 2 stages which take place in parallel: *Cognitive debriefing*, where the pilot version is tested with a small sample of the target population (5-10 subjects) to assess its relevance, clarity and intelligibility; and *clinician's review*, where an expert clinician, who is a native

speaker of the target language, reviews and offers feedback on the pilot version. In this study we carried out the clinician's review before the cognitive debriefing, so that any amendments proposed could be included in the instrument prior to its testing with people with aphasia.

- Proofreading: two rounds of proofreading ensured the instrument was free of typing, spelling and grammatical errors. This was done, as recommended, by the consultant and one translator. Although, according to the Mapi guidelines, this is the final stage of the linguistic validation process, we carried out the proofreading prior to the pilot testing and no further errors emerged from the pilot testing.

Pilot testing participants and procedure

The clinician's review was carried out by the Head of the Greek Aphasia Association, a speech and language therapist and psychologist with extensive experience in aphasia rehabilitation and bilingual in English and Greek.

People with aphasia for the cognitive debriefing were recruited from the Greek Aphasia Association (GAA) groups (self-help groups) in Athens. They had to meet the following eligibility criteria: a) they all had aphasia resulting from a stroke; b) they were at least 6 months post onset and medically stable; c) they had no self-reported severe mental health problems or cognitive decline; d) they scored 7/15 or more on the receptive domains of the Frenchay Aphasia Screening Test (FAST),⁽¹¹⁾ which is the cut-off score for self-completion of the SAQOL-39.

All GAA members in Athens (N=13) were invited to take part to the project through a letter with brief information on the project, which was followed up by a telephone call. Those who agreed to take part were visited at home by the consultant, a speech and language therapist with experience of working with people with

aphasia. Full information on the project was provided and written consent was obtained from the person with aphasia (PWA). The PWA then completed the following:

- A case history, which provided information on their personal characteristics and confirmed they met eligibility criteria a-c.
- The FAST in order to establish their receptive language levels and ensure they could reliably self-report on the SAQOL-39. Scores on the FAST range from 0-30 (0-15 for the receptive domains, which comprise auditory and reading comprehension) and higher scores are indicative of milder aphasia.
- The pilot version of the Greek SAQOL-39 in an interview format with the consultant. The SAQOL-39 has been specifically adapted for use with people with aphasia from the Stroke-Specific Quality of Life scale (SS-QOL).⁽¹²⁾ It consists of 39 items which cover four domains: physical (self-care, mobility, work, upper extremities function, impact of physical condition on social life), psychosocial (thinking, personality, mood, family and social functioning), communication (language function, impact of language difficulties on family and social life) and energy. Scores for the overall instrument and its four sub-domains range from 1-5, with higher scores indicative of higher HRQL.
- Five questions on the accessibility (e.g., 'Did you find any of the items difficult to understand?') and the content validity and acceptability of the questionnaire (e.g., 'Did the questions cover the effects that stroke and aphasia had on you?', 'Do you have any suggestions on how to make the questionnaire better?').

Data analysis

Descriptive analyses were used to assess the quality of the translations and the responses of the PWA on the questions they were asked about the instrument.

Response rates and the percentage of missing data were calculated to see how

accessible the questionnaire was to participants. Missing data should be below 10%.⁽¹³⁾ The acceptability of the measure was initially tested by observing the participants' reactions to the questionnaire items in order to see whether they misread any of them, asked for clarification, or needed prompting to answer them. If such behaviours occur in more than 15% of the pilot test interviews, then the questions involved are susceptible to interviewer effects or highly likely to produce distorted data.⁽¹⁴⁾ However, since people with aphasia have language difficulties, it is considered a common and desirable behaviour to ask for clarification, so this criterion was relaxed to 30%. The distribution of the scores across response categories was also explored as an indication of acceptability. In order for the questionnaire items to discriminate well between respondents, the responses should be distributed across response options. The percentage of respondents endorsing one response option to an item (maximum endorsement frequencies, MEF) should be <80%.⁽¹⁵⁾

RESULTS

Conceptual definition

The consultant discussed all the instructions, items and response choices of the SAQOL-39 with the developer of the instrument to ensure conceptual clarity. An example is presented here to illustrate how this discussion helped to clarify underlying concepts. Some of the SAQOL-39 items start with the question 'How much trouble did you have...?'. The developer clarified that this question is not targeting the client's *actual* functioning ability, but rather how *they feel* about their functioning. For example, a respondent in a previous study was unable to tie her shoe laces (which is one of the practice items of the questionnaire), but she felt that this was no trouble as she had compensated by using trainers with Velcro fastenings. She, thus, scored as not affected on this item.

Translations

The consensus version of the instrument, derived by the forward translations, was compared with the backward translation (see appendix). 13 of the 39 back-translated items were identical to the consensus version and another 13 were essentially the same in meaning but slightly different in wording (e.g., in SC5 'having a bath' instead of 'taking a bath'). For five items (W1, MD2, MD6, MD7, E3), although the consensus version was an accurate translation of the original items, the backward translation did not reflect this as the translator had changed the meaning. For example, the phrase 'daily work' (W1) was accurately translated as 'καθημερινές δουλειές' in Greek, but changed to 'housework' in the back-translation; the phrase 'little confidence' (MD7) was accurately translated as 'λίγη εμπιστοσύνη', but changed to 'less confidence' in the back translation. All these items (31 out of 39, 80%) required no amendments for the pilot version.

Eight items (20%) needed changing for the pilot version because the translation did not adequately reflect the original items. Five of those (M4, MD3, FR9, SR4, SR8) were picked up by their back-translations which were different from the original. For example, in the item 'Did you have no interest in other people or activities' (MD3), the phrase 'no interest' cannot be directly translated in Greek. It was therefore changed to 'feel indifferent' (νιώθατε αδιαφορία) in the consensus version. This became '(did you) feel you didn't care' in the back-translation. This showed that the underlying meaning had been altered. This item was paraphrased to '(did you) feel you were not interested' (νιώθατε να μην ενδιαφέρεστε) in Greek, which better reflects the original meaning. Another three items (UE6, L7, T5) were picked up by the developer. For example, the phrase 'opening a jar' (UE6) was directly translated in Greek and then back-translated as 'opening a jar'. However, the developer

pointed out that the word 'jar' in Greek, i.e., 'βάζο' has two meanings: it can be both 'jar' and 'vase'. To avoid confusion, the phrase was changed to 'opening the lid of a jar' in the Greek translation.

The translations of the instructions and the response options were straightforward except for the word 'trouble' in the instruction 'how much trouble did you have...' and the respective response options, e.g., 'a lot of trouble'. There is no word for 'trouble' in this context in Greek and it was initially translated as 'difficulty' (δυσκολία). The developer of the original instrument indicated that 'difficulty' was not conceptually equivalent to 'trouble' in the questionnaire, as a client may have difficulty performing an activity, but feel they have no trouble with it. To achieve conceptual equivalence 'difficulty' was substituted with 'problem' (πρόβλημα) as in 'how much of a problem was it', in the pilot version.

Pilot test

1. Clinician's review

The clinician suggested that the phrase 'need to' could be added to three items to make the meaning more clear, e.g. in the item 'how much trouble did you have walking without stopping to rest' to change the last phrase to 'walking without needing to stop and rest'. This change was not incorporated in the pilot version, since the need is implied in the question as in the original version. Moreover, by adding more words to the question, the sentence becomes longer and potentially more difficult for a person with aphasia to work out.

2. Cognitive debriefing

a. Participants' characteristics

Thirteen people with aphasia were recruited through the GAA's self-help groups in Athens, all of which except two agreed to take part. One participant had such

severe receptive language problems (<7 receptive FAST score) that he was unable to self-complete the questionnaire. This resulted in 10 people with aphasia participating in the pilot test.

Participants comprised 8 men and 2 women, with an age range of 47-78 years and a mean age of 59.3 years (see table 1). Most (6 out of 10) were married and living with their spouse. Only three of participants were involved in some type of work, despite seven of them being of working age.

[Table 1 about here]

Participants presented with varying degrees of aphasia severity, with the FAST scores ranging 7-27 (out of 30) with a mean (SD) of 17 (6.7). Table two details participants' scores on the FAST. Three of the subjects (1, 2 and 7) had severe expressive aphasia (0 out of 10) with mild to moderate receptive difficulties (7-11 out of 15). Six of the subjects (3, 5, 6, 8, 9, 10) had mild expressive difficulty (6-9 out of 10) with good comprehension skills (12-15 out of 15). One subject (4) had moderate expressive skills (4/10) with mild to moderate comprehension difficulty (9/15). All subjects, except for two, had right hemiplegia, which constituted writing impossible for them, as they were all right-handed prior to their stroke.

[Table 2 about here]

b. Accessibility of the SAQOL-39

All respondents (n=10) were able to self-complete the questionnaire and there were no missing data. They all found the measure accessible, and within their abilities. Their comments on how they found the SAQOL-39 overall included “*generally easy*”, “*no problem*”, “*ok*”, and nodding affirmatively when being asked if they found it within their abilities. One participant, who had the lowest receptive FAST score (7/15) commented that the questionnaire was “*slight tiring*”. He found the four items on

mood (MD2, 3, 6, 7) difficult. The rest of the participants did not find any of the items particularly difficult.

c. *Acceptability and content validity*

[Table 3 about here]

Only a couple of the SAQOL-39 items raised requests for clarification (< 30% criterion). Mean scores on the SAQOL-39 and its sub-domains were well distributed (see table three). Maximum endorsement frequencies ranged from 0-7, i.e. no single response option per item was endorsed by 80% of the respondents or more. Comments on acceptability included: *"I like the way the questions are presented"*, and *"It is easy to follow"*. In terms of content validity, all participants said that the questions covered the main effects that their stroke had on their lives. Comments included: *"seems to cover the basic and most important things"*. One person thought there could be an item on family support and another more items on feelings, to fully cover the psychological effect of stroke on a person's life.

DISCUSSION

This study linguistically validated the SAQOL-39 for use with Greek speaking people with aphasia. We followed a rigorous process, according to the Mapi Institute guidelines. The instrument was translated into Greek by two professional native Greek speaker translators. The consensus version of these two translations was back-translated into English in order to check equivalence with the original SAQOL-39. The pilot version of the Greek SAQOL-39 was then tested on 10 PWA to evaluate its accessibility, acceptability and preliminary content validity.

Our results are promising. Our translation process ensured the Greek SAQOL-39 is very similar to the original: 26/39 (67%) of the items were either identical or slightly different but conceptually the same with the original. For another five items (13%)

the difference was due to the back-translator's error. Only eight items (20%) needed modification for the pilot version. For the instructions and response choices, we used the word 'problem' as the closest semantic equivalent to 'trouble'. Our choice is supported by the Italian translation of the SAQOL-39, where the phrase 'quanti problemi' (i.e., how many problems) was used for 'how much trouble'.⁽¹⁷⁾

A point of interest here, is that care should be taken when interpreting the results of the back-translation. Although the process of back-translation is one type of validity check, as it may highlight any gross inconsistencies or conceptual errors in translation, it can also be misleading. In our study, the back-translated items matching the original ones did not always provide an indication of satisfactory forward translation, as they could be inaccurate but just get back-translated right (UE6, L7, T5). Conversely, some items that were well translated were inaccurately back-translated (SC1, W1, MD3, MD6, MD7). Several authors have also criticized the process of back-translation as potentially misleading.^(18, 19) Cella *et al.* suggest that translators tend to share a common worldview which may lead them to back-translate a close match to the original, even when an idea is not properly portrayed in the source language.⁽²⁰⁾

The results from the pilot test were also promising. From the 13 people that were recruited to the study, 11 agreed to take part and 10 were eligible, making the overall response rate (83%). This high response rate eliminates the chance of non-response bias within the sample and suggests our results can be generalized to the population from which our sample was drawn.

The accessibility of the Greek SAQOL-39 to people with aphasia is supported by the fact that all respondents were able to complete the instrument in an interview

format with a speech and language therapist and there were no missing data. The responses were well distributed across response categories ($MEF \leq 70\%$), suggesting the questionnaire items could discriminate well between respondents. Lastly, initial support for the content validity of the measure is offered by the fact that only two people would add something to the questionnaire and each something different.

A limitation of the piloting of the Greek SAQOL-39 is the small sample of participants. Although the sample size suggested by the Mapi guidelines was followed ($n= 5-10$), it can be argued that the sample is still too small to allow us to draw definite conclusions from our results. Due to the small sample size we also refrained from carrying out quality controls of the data that require large samples sizes, such as estimating Cronbach's alpha. Other authors have recommended a larger sample size for the pilot testing since a small sample limits the generalisability of the results. For example, Beaton *et al.* suggested the sample should ideally be 30-40 people,⁽²¹⁾ and the IQOLA (International Quality of Life Assessment) organization recommends a sample of up to 50 people for the pilot test.⁽²²⁾

The generalisability of our results to the overall population of people with aphasia in Greece is further limited by the fact that our sample was recruited through the Greek Aphasia Association (GAA). Seven out of ten of our respondents attended self-help groups of the GAA, which suggests that they were in a physical and psychological state that allowed them to take part in group activities. This is supported by their relative high scores in the energy domain of the SAQOL-39 (3.92). They are therefore more likely to represent the 'better-off' end of the overall aphasic population.

CONCLUSION

Overall, following a clear set of generally accepted and tried and tested guidelines⁽⁸⁾ facilitated our linguistic validation process and ensured a close matching between the original and the Greek SAQOL-39. Moreover, the Greek SAQOL-39 is accessible and acceptable to people with aphasia. As is common with new measures, further research is needed on the psychometric properties of the Greek SAQOL-39 and on its appropriateness as a clinical outcome measure.

REFERENCES

1. Bullinger M, Anderson R, Cella D, Aaronson NK. Developing and evaluating cross cultural instruments: from minimum requirements to optimal models. *Qual Life Res* 1993;2:451-9.
2. Berzon R, Hays RD, Shumaker SA. International use, application and performance of health-related quality of life instruments. *Qual Life Res* 1993;2:367-8.
3. Hays RD, Anderson R, Revicki D. Psychometric considerations in evaluating Health-Related Quality of Life measures. *Qual Life Res* 1993;2:441-9.
4. Patrick DL, Erickson P. Assessing Health-Related Quality of Life for Clinical Decision Making. In: Walker SR, editor. *Quality of Life Assessment: Key Issues in the 1990's*. Dordrecht: Kluwer Academic Publishers; 1993. p. 11-63.
5. Mayou R, Bryant B. Quality of Life in Cardiovascular Disease. *BMJ* 1993;69:460-466.
6. Hilari K, Wiggins RD, Roy P, Byng S, Smith SC. Predictors of health-related quality of life (HRQL) in people with chronic aphasia. *Aphasiology* 2003;17: 365-381
7. Cruice M, Worrall L, Hickson L, Murison, R Finding a focus for quality of life with aphasia: Social and emotional health, and psychological wellbeing. *Aphasiology* 2003;17:333-353.
8. Acquadro C, Jambon B, Ellis D, Marquis P. Language and Translation Issues. In: Spilker B, editor. *Quality of Life and Pharmacoeconomics in Clinical Trials*. Philadelphia: Lippincott-Raven Publishers;1996. p. 575-585
9. Hilari K, Byng S, Lamping DL, Smith SC. The stroke and aphasia quality of life scale-39 (SAQOL-39): evaluation of acceptability, reliability and validity. *Stroke* 2003;34:1944-1950
10. Acquadro C, Conray K, Giroudet C, Mear I. *Linguistic Validation Manual for Patient-Reported Outcomes (PRO) Instruments*. Lyon: Mapi Research Institute; 2004.
11. Enderby P, Wood V, Wade D. *Frenchay Aphasia Screening Test*. Windsor: NFER-Nelson, 1987.
12. Williams LS, Weinberger M, Harris LE, Clark DO, Biller H. Development of a Stroke-Specific Quality of Life Scale. *Stroke* 1999;30:1362-9.
13. Fitzpatrick R, Davey C, Buxton MJ, Jones DR. Evaluating Patient-based Outcome Measures for Use in Clinical Trials. *Health Technology Assessment* 1998; 2(14).
14. Fowler FJ. *Survey Research Methods*. California: Sage; 1993.
15. Streiner DL, Norman GR. *Health Measurement Scales. A Practical Guide to Their Development and Use*. 2nd ed. New York: Oxford University Press, 1995.

16. Rose D, O'Reilly K. Constructing Classes. Towards a New Social Classification for the UK. Swindon: ESRC/ONS; 1997.
17. Posteraro L, Formis A, Bidini C, Grassi E, Curti M, Bigli M, et al. Aphasia quality of life: Reliability of the Italian version of SAQOL-39. *Eur Med Phys* 2004;40:257-262.
18. Hunt S, McKenna S. The Nottingham Health Profile- English source version. In: The European group for Quality of Life and Health measurement, eds. *European Guide to Nottingham Health Profile*. Manchester: Gallen Research and Consultancy, 1992. p. 1-75.
19. Leplege A, Verdier A. The adaptation of health status measures: methodological aspects of the translation procedure. In: Shumacker SA, Berzon RA, eds. *The international assessment of health –related quality of life: theory, translation, measurement and analysis*. Oxford: Rapid Communications; 1995. p. 93-102.
20. Cella DF, Lloyd SR, Wright BD. Cross-Cultural instrument Equating: Current Research and Future Directions. In: Spilker B, editor. *Quality of Life and pharmacoeconomics in Clinical Trials*. Philadelphia: Lippincott Raven Publishers, 1996. p. 707-715.
21. Beaton D, Bombardier C, Guillemin F, Ferraz MB. Recommendations for the Cross-Cultural Adaptation of Health Status Measures. 1998 <http://www3.aaos.org/research/normstudy/cultural.pdf>. Accessed in May 2004. Reference type: Report.
22. Bullinger M, Alonso J, Apolone G, Leplege A, Sullivan M, Wood-Dauphinee S, et al. Translating Health Status Questionnaires and Evaluating Their Quality: The IQOLA Project Approach. *J Clin Epidemiol* 1998;51:913-923.

Table 1: Participants' characteristics (N=10)

Characteristics	n
Gender	
Male	8
Female	2
Age	
Mean	59.3
Range	47-78
47- 65	7
65-78	3
Time post onset	
Mean in years	4.4
Range	1-8
1-4 years post onset	4
4+ years post onset	6
Co-morbidity	
0-1 co-morbid condition	7
≥2 co-morbid conditions	3
Marital status	
Married	6
Single	1
Divorced or spouse died	3
Socioeconomic status (revised SEC) ⁽¹⁶⁾	
Professionals/senior managers	4
Ass. Professional/junior managers	1
Supervisors, technicians and related workers	3
Other workers	1
Never worked/ other inactive	1
Employment status	
Retired before the stroke	2
Inactive because of the stroke	5
Some p/t or voluntary work	1
Full time work	2

Table 2: Participants' scores on the FAST

Participant	Auditory Comprehension	Reading Comprehension	Expression	Writing	Total
1	6/10	5/5	0/10	0/5	11/30
2	5/10	2/5	0/10	0/5	7/30
3	10/10	5/5	7/10	5/5	27/30
4	5/10	4/5	4/10	0/5	13/30
5	7/10	5/5	6/10	0/5	18/30
6	10/10	4/5	6/10	0/5	20/30
7	6/10	2/5	0/10	0/5	8/30
8	10/10	4/5	6/10	0/5	20/30
9	9/10	3/5	9/10	5/5	26/30
10	9/10	5/5	7/10	0/5	21/30

Table 3: Mean scores on the SAQOL-39 and its sub-domains

	SAQOL-39	Physical	Communication	Psychosocial	Energy
Mean	3.54	3.66	3.34	3.63	3.92
Standard deviation	0.75	0.47	1.12	1.68	0.93
Range	2.45-4.76	2.05-4.94	1.57-4.85	2.45-4.81	1.75-5

Appendix

Main concepts of items in the original SAQOL-39, the consensus version, the back-translation and the pilot version.

* items that needed changing for the pilot version are shaded

ITEM	ORIGINAL VERSION	CONSENSUS VERSION (CV)	BACK – TRANSLATION (BT)	PILOT VERSION	CV AND BT AGREEMENT
SC1	Preparing food	Να ετοιμάσετε φαγητό	Getting the food ready	Να ετοιμάσετε φαγητό	Almost identical (ai)
SC4	Getting dressed	Να ντυθείτε;	Getting dressed	Να ντυθείτε;	Identical (i)
SC5	Taking a bath or shower	Να κάνετε μπάνιο ή ντους;	Having a bath or shower	Να κάνετε μπάνιο ή ντους;	(ai)
M1	Walking	Να περπατήσετε;	Walking	Να περπατήσετε;	(i)
M4*	Keeping your balance when bending over or reaching	Να κρατήσετε την ισορροπία σας ενώ σκύβετε ή τεντώνεστε (για να πιάσετε κάτι);	Keeping your balance when you bend or stretch to reach something	Να κρατήσετε την ισορροπία σας όταν σκύβατε ή προσπαθούσατε να φτάσετε κάτι ;	
M6	Climbing stairs	Να ανεβείτε τις σκάλες;	Climbing stairs	Να ανεβείτε σκάλες	(i)
M7	Walking without stopping to rest or Using a wheelchair without stopping to rest	Να περπατήσετε χωρίς να σταματήσετε για να ξεκουραστείτε; ή Να χρησιμοποιήσετε αναπηρική καρέκλα χωρίς να σταματήσετε για να ξεκουραστείτε;	Walking without stopping to rest or Using a wheelchair without stopping to rest	Να περπατήσετε χωρίς να σταματήσετε για να ξεκουραστείτε; ή Να χρησιμοποιήσετε αναπηρική καρέκλα χωρίς να σταματήσετε για να ξεκουραστείτε;	(i)
M8	Standing	Να σταθείτε όρθιος/α;	Standing	Να σταθείτε όρθιος/α;	(i)
M9	Getting out of a chair	Να σηκωθείτε από την καρέκλα;	Getting out of a chair	Να σηκωθείτε από την καρέκλα;	(i)
W1	Doing daily work around the house	Να κάνετε τις καθημερινές δουλειές του σπιτιού;	Doing housework	Να κάνετε τις καθημερινές δουλειές του σπιτιού;	Back-translation error (bx)
W2	Finishing jobs that you started	Να τελειώσετε τις δουλειές που έχετε αρχίσει;	Finishing the jobs you started	Να τελειώσετε τις δουλειές που έχετε αρχίσει;	(i)

ITEM	ORIGINAL VERSION	CONSENSUS VERSION (CV)	BACK – TRANSLATION (BT)	PILOT VERSION	CV AND BT AGREEMENT
UE1	Writing or typing	Να γράψετε ή να δακτυλογραφήσετε;	Writing or typing	Να γράψετε ή να δακτυλογραφήσετε;	(i)
UE2	Putting on socks	Να βάλετε τις κάλτσες σας;	Putting on your socks	Να βάλετε τις κάλτσες σας;	(ai)
UE4	Doing buttons	Να κουμπώσετε κουμπιά;	Doing up your buttons	Να κουμπώσετε κουμπιά;	(ai)
UE5	Doing a zip	Να ανοίξετε και να κλείσετε ένα φερμουάρ;	Opening or closing a zip	Να ανοίξετε / κλείσετε ένα φερμουάρ;	(ai)
UE6	Opening a jar	Να ανοίξετε ένα βάζο;	Opening a jar	Να ανοίξετε το καπάκι ενός βάζου;	
L2	Speaking	Να μιλήσετε;	Speaking	Να μιλήσετε;	(i)
L3	Speaking clearly enough to use the telephone	Να μιλήσετε αρκετά καθαρά ώστε να χρησιμοποιήσετε το τηλέφωνο;	Speaking clearly enough to use the phone	Να μιλήσετε αρκετά καθαρά για να χρησιμοποιήσετε το τηλέφωνο;	(i)
L5	Getting other people to understand you	Να κάνετε τους άλλους ανθρώπους να σας καταλάβουν;	Making other people understand you	Να κάνετε τους άλλους ανθρώπους να σας καταλάβουν;	(ai)
L6	Finding the word you wanted to say	Να βρείτε την λέξη που θέλατε να πείτε;	Finding the word you want to say	Να βρείτε την λέξη που θέλατε να πείτε;	(ai)
L7	Getting other people to understand you even when you repeated yourself	Να κάνετε τους άλλους να σας καταλάβουν ακόμη και όταν επαναλαμβάνετε;	Making people understand you even when you repeat yourself	Να κάνετε τους άλλους να σας καταλάβουν ακόμη και όταν επαναλαμβάνετε αυτό που λέτε;	
T4	Have to write things down to remember them	Χρειάστηκε να γράψετε πράγματα για να τα θυμηθείτε;	Need to write things down to remember them	Έπρεπε να γράψετε πράγματα για να τα θυμάστε;	(ai)
T5	Find it hard to make decisions	Δυσκολεύτηκατε να πάρετε αποφάσεις;	Find it hard to make decisions	Είχατε δυσκολία να πάρετε αποφάσεις;	
P1	Feel irritable	Νιώθατε εκνευρισμό;	Feel irritated	Νιώθατε εκνευρισμό;	(ai)
P3	Feel that your personality has changed	Νιώθατε ότι έχει αλλάξει η προσωπικότητά σας;	Feel your personality had changed	Νιώθατε ότι έχει αλλάξει η προσωπικότητά σας;	(ai)
MD2	Feel discouraged about your future	Νιώθατε αποθαρρυσμένος/η για το μέλλον σας;	Feel worried about your future	Νιώθατε αποθαρρυσμένος/η για το μέλλον σας;	(bx)
MD3	Have no interest in other people or activities	Νιώθατε αδιαφορία για άλλους ανθρώπους ή δραστηριότητες;	Feel you didn't care about people or activities	Νιώθατε να μην ενδιαφέρεστε για άλλους ανθρώπους ή δραστηριότητες;	

ITEM	ORIGINAL VERSION	CONSENSUS VERSION (CV)	BACK – TRANSLATION (BT)	PILOT VERSION	CV AND BT AGREEMENT
MD6	Feel withdrawn from other people	Νιώθατε αποτραβηγμένος/η απο τους άλλους ανθρώπους;	Feel you were not close to other people	Νιώθατε αποτραβηγμένος/η απο τους άλλους ανθρώπους;	(bx)
MD7	Have little confidence in yourself	Είχατε λίγη εμπιστοσύνη στον εαυτό σας;	Have less confidence in yourself	Νιώθατε να έχετε λίγη εμπιστοσύνη στον εαυτό σας;	(bx)
E2	Feel tired most of the time	Νιώθατε κουρασμένος/η την περισσότερη ώρα;	Feel tired most of the time	Νιώθατε κουρασμένος/η την περισσότερη ώρα;	(i)
E3	Have to stop and rest often during the day	Χρειαζόταν να σταματάτε και να ξεκουράζεστε συχνά μέσα στη μέρα;	Have to stop and rest many times during the day	Χρειαζόταν να σταματάτε και να ξεκουράζεστε συχνά μέσα στη μέρα;	(bx)
E4	Feel too tired to do what you wanted to do	Νιώθατε πολύ κουρασμένος/η για να κάνετε αυτα που θέλατε να κάνετε;	Feel too tired to do what you wanted to	Νιώθατε πολύ κουρασμένος/η για να κάνετε αυτα που θέλατε να κάνετε;	(i)
FR7	Feel that you were a burden to your family	Νιώθατε ότι ήσασταν βάρος για την οικογένειά σας;	Feel you were a burden to your family	Νιώθατε ότι ήσασταν βάρος για την οικογένειά σας;	(i)
FR9	Feel that your language problems interfered with your family life	Νιώθατε οτι τα γλωσσικά σας προβλήματα επηρρέαζαν την οικογενειακή σας ζωή;	Feel your problems in your speaking affected your family life	Νιώθατε οτι τα προβλήματά σας με το λόγο επηρρέαζαν την οικογενειακή σας ζωή;	
SR1	Go out less often than you would like	Βγήκατε έξω λιγότερο συχνά απο όσο θα θέλατε;	Go out less than you wanted to	Βγήκατε έξω λιγότερο συχνά απο όσο θα θέλατε;	(ai)
SR4	Do your hobbies and recreation less often than you would like	Περάσατε λιγότερο χρόνο απο όσο θα θέλατε διασκεδάζοντας ή κάνοντας κατι που σας αρέσει;	Spend less time than you wanted to enjoying yourself or doing what you wanted to	Περάσατε λιγότερο χρόνο απο όσο θα θέλατε διασκεδάζοντας ή κάνοντας τις αγαπημένες σας ασχολίες;	
SR5	See your friends less often than you would like	Είδατε τους φίλους σας λιγότερο συχνά από όσο θα θέλατε;	See your friends less than you wanted to	Είδατε τους φίλους σας λιγότερο συχνά από όσο θα θέλατε;	(ai)
SR7	Feel that your physical condition interfered with your social life	Νιώθατε οτι η φυσική σας κατάσταση επηρρέαζε την κοινωνική σας ζωή;	Feel your physical state affected your social life	Νιώθατε οτι η φυσική σας κατάσταση επηρρέαζε την κοινωνική σας ζωή;	(ai)
SR8	Feel that your language problems interfered with your social life	Νιώθατε οτι τα γλωσσικά σας προβλήματα επηρρέαζαν την κοινωνική σας ζωή;	Feel that your problems speaking affected your social life	Νιώθατε οτι τα προβλήματά σας με το λόγο επηρρέαζαν την κοινωνική σας ζωή;	