

The development and measurement properties of the Dutch version of the Fear-Avoidance Component Scale (FACS-D) in persons with chronic musculoskeletal pain

Supplementary material

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FACS

Name: _____ ID #: _____ Date: ____/____/____

Instructions: People respond to pain in different ways. We want to find out how you think and feel about your painful medical condition and how it has affected your activity level. Please think about how you have been over the past week, and circle one number between “0” and “5” from the scale below to answer each question.

5 = Completely Agree

4 = Mostly Agree

3 = Slightly Agree

2 = Slightly Disagree

1 = Mostly Disagree

0 = Completely Disagree

Over the past week, how much do you agree with these statements about your painful medical condition?

	<i>Completely Agree</i>	<i>Mostly Agree</i>	<i>Slightly Agree</i>	<i>Slightly Disagree</i>	<i>Mostly Disagree</i>	<i>Completely Disagree</i>
1) I try to avoid activities and movements that make my pain worse.....	5	4	3	2	1	0
2) I worry about my painful medical condition.....	5	4	3	2	1	0
3) I believe that my pain will keep getting worse until I won't be able to function at all.....	5	4	3	2	1	0
4) I am overwhelmed by fear when I think about my painful medical condition.....	5	4	3	2	1	0
5) I don't attempt certain activities because I am fearful that I will injure (or re-injure) myself.....	5	4	3	2	1	0
6) When my pain is really bad, I also have other symptoms such as nausea, difficulty breathing, heart pounding, trembling, and /or dizziness.....	5	4	3	2	1	0
7) It is unfair that I have to live with my painful medical condition.....	5	4	3	2	1	0
8) My painful medical condition puts me at risk for future injuries (or re-injuries) for the rest of my life.....	5	4	3	2	1	0

Continue.....

Over the past week, how much do you agree with these statements about your painful medical condition?

	<i>Completely Agree</i>	<i>Mostly Agree</i>	<i>Slightly Agree</i>	<i>Slightly Disagree</i>	<i>Mostly Disagree</i>	<i>Completely Disagree</i>
9) Because of my painful medical condition, my life will never be the same.....	5	4	3	2	1	0
10) I have no control over my pain.....	5	4	3	2	1	0
11) I don't attempt certain activities and movements because I am fearful that my pain will increase.....	5	4	3	2	1	0
12) It is someone else's fault that I have this painful medical condition.....	5	4	3	2	1	0
13) The pain from my medical condition is a warning signal that something is dangerously wrong with me.....	5	4	3	2	1	0
14) No one understands how severe my painful medical condition is.....	5	4	3	2	1	0

Start each of the following items with this statement:

Over the past week, due to my painful medical condition I have avoided the following...

	<i>Completely Agree</i>	<i>Mostly Agree</i>	<i>Slightly Agree</i>	<i>Slightly Disagree</i>	<i>Mostly Disagree</i>	<i>Completely Disagree</i>
15) ...strenuous activities (like doing heavy yard work or moving heavy furniture).....	5	4	3	2	1	0
16) ...moderate activities (like cooking dinner or cleaning the house).....	5	4	3	2	1	0
17) ...light activities (like going to the movies or going out to lunch).....	5	4	3	2	1	0
18) ...my full duties and chores at home and/or at work.....	5	4	3	2	1	0
19) ...recreation and/or exercise (things that I do for fun and good health).....	5	4	3	2	1	0
20) ...activities where I have to use my painful body part(s)...	5	4	3	2	1	0

Total Score: _____

Appendix 2 Methodology and results of the cross-cultural adaptation process

Part A. Methodology

- Stage 1: Initial translation

Three translators, who were native Dutch speakers with sufficient knowledge of the English language, were informed about the purpose of the study and separately translated the original English version of the FACS into Dutch. Two translators lived in Belgium and one in the Netherlands. One translator had a background in movement sciences, one in physiotherapy and one worked as an English teacher in secondary school with no medical background.

- Stage 2: Synthesis

The research team reached a consensus on one common translation after directing a synthesis of the three independent translations by a digital meeting.

- Stage 3: Back translation

The translated version was translated back into English by two professional Dutch-English speaking translators. Both translators were independent non-experts in the field, who were blinded to the original English version of the FACS. Both English translated versions were then sent to one of the original developers of the scale (author RN) to verify that the new English version's content and interpretation of the items were comparable to the original English version.

- Stage 4: Review and consensus by the expert committee

Following the input from author RN, the research team decided that the common translated Dutch version was appropriate.

- Stage 5: Field test of the pre-final version (face validity)

Twenty patients with MSK pain (first 10 participants with spinal pain and first 10 participants with peripheral pain that were recruited) completed the pre-final version of the Dutch FACS and an additional questionnaire to assess face validity. This was based on a questionnaire used in a former study of the senior author.[1] The items included:

(1) acceptability of time needed to fill in the FACS-D (Yes/No);

(2) comprehensibility of the FACS-D (Yes/No). In case of 'no', participants were asked to point out which item(s) was (were) incomprehensible, and to describe the reason in their own words;

(3) comprehensiveness of the FACS-D, which was assessed by asking the patients' opinion about 'what' the FACS-D aimed to assess. After this open question, the purpose of the questionnaire, i.e. to assess FA, was explained to the participants, after which the participants were asked to judge the completeness of the questionnaire by 'yes' versus 'no'. In case of 'no', participants were asked for more details;

(4) the relevance of the items of the FACS-D for patients with pain (Yes/No).

A 'negative' score implicated non-acceptance of the time needed to fill in, no comprehensibility, no comprehensiveness and no relevance for patients with pain. The prefinal version was considered insufficient if < 50% of participants scored negatively on one of these items.

Part B. Results

Translation and cross-cultural adaptation

Before reaching consensus, after the initial translation process, three items of the FACS-D had to be discussed in more detail by the three translators in a digital meeting. First, the verb 'to attempt' in item 11 'I don't attempt certain activities and movements because I am fearful that my pain will increase' was translated into '*durven uit te voeren*', '*beginnen aan*' and '*proberen te doen*'.

Consensus was reached on using '*durven uit te voeren*'. Also, the part 'because I am fearful' in item 11 resulted in three different translations, which were '*omdat ik angst heb*', '*omdat ik vrees*' and '*omdat ik bang ben*'. Consensus was reached on using '*omdat ik angst heb*'. Secondly, item 13 'The pain from my medical condition is a warning signal that something is dangerously wrong with me' accounted for three different translations. The term 'medical condition' was translated into

'aandoening', *'medische toestand'* and *'medische conditie'*. Consensus was reached to use the term *'medische toestand'*, since *'conditie'* in Dutch can also be interpreted in a context of fitness and since the term *'aandoening'* was considered too different from the original English term. Furthermore, three different translations were suggested for the part 'dangerously wrong', which were *'serieus fout'*, *'erg fout'* and *'vreselijk mis'*. Consensus was reached on using *'serieus fout'*. Lastly, 'strenuous activities' from item 15 'Strenuous activities (like doing heavy yard work or moving heavy furniture)' was suggested to be translated into *'zware activiteiten'*, *'inspannende activiteiten'* and *'uitputtende activiteiten'*. To accentuate the heaviness of the activities, consensus was reached on *'erg inspannende activiteiten'* in which *'erg'* means 'very'.

The translated version was translated back into English by two professional Dutch-English speaking translators. Both translators were independent non-experts in the field, who were blinded to the original English version of the FACS. Both English translated versions were then sent to one of the original developers of the scale (author RN) to verify that the new English version's content and interpretation of the items were comparable to the original English version. Item 15 'Strenuous activities (like gardening or moving heavy furniture)' required further attention. In the back-translation, 'heavy yard work' was translated into 'gardening'. The concern raised that 'gardening' was often times not very strenuous. In the original FACS, the word "heavy" was added with "yard work" to imply a strenuous activity. Therefore, in consensus with author RN, the research team decided to add in the FACS-D, item 15 the word 'zwaar' which means 'heavy' and replaced 'tuinieren' (= gardening) by 'werk in de tuin' (= jobs in the garden).

Regarding the Stage 5: Field test of the prefinal version (face validity), all participants rated the duration to complete the FACS-D as acceptable. Comprehensiveness, comprehensibility and relevance of the (items of the) FACS-D were rated as acceptable by 90% of participants. It was argued that the FACS did not ask about anger and that item 18, more specifically the part 'chores at work', was too vague. When the participants were asked what they thought the FACS-D intends to measure,

four participants mentioned 'the impact of pain'. One participant mentioned 'avoidance and a feeling of injustice', two participants answered 'How we deal with pain' and one participant thought the FACS-D tried to measure 'the link between the physical and psychological aspects'. 'Investigation of (activities of) daily living' were mentioned by three participants.

Based on these findings, face validity was rated as sufficient and no additional changes were made to the FACS-D.

1. Janssens L, Goossens N, Wand BM, et al. The development of the Dutch version of the Fremantle Back Awareness Questionnaire. *Musculoskeletal science & practice*. 2017 Dec;32:84-91.

Appendix 2. The FACS-D

Naam:

Voornaam:

Datum:

Mensen reageren op verschillende manieren op pijn. We willen achterhalen hoe jij denkt en staat tegenover jouw pijnlijke medische toestand en hoe deze jouw niveau van activiteiten beïnvloed heeft.

Denk even na hoe je je voelde tijdens de afgelopen week. Omcirkel dan een getal tussen 0 en 5 volgens onderstaande schaal om antwoord te geven op elke vraag

5 = helemaal mee eens

4 = in hoge mate mee eens

3 = enigszins mee eens

2 = enigszins mee oneens

1 = in hoge mate oneens

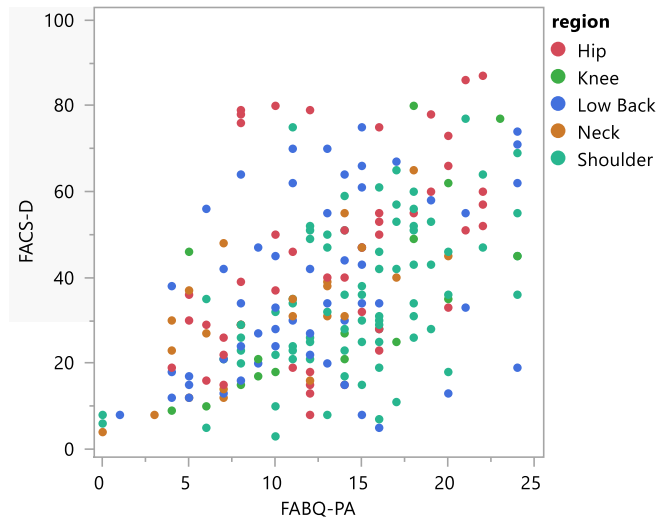
0 = helemaal mee oneens

In hoeverre ga je akkoord met onderstaande stellingen over jouw pijnlijke medische toestand, gedurende de voorbije week?

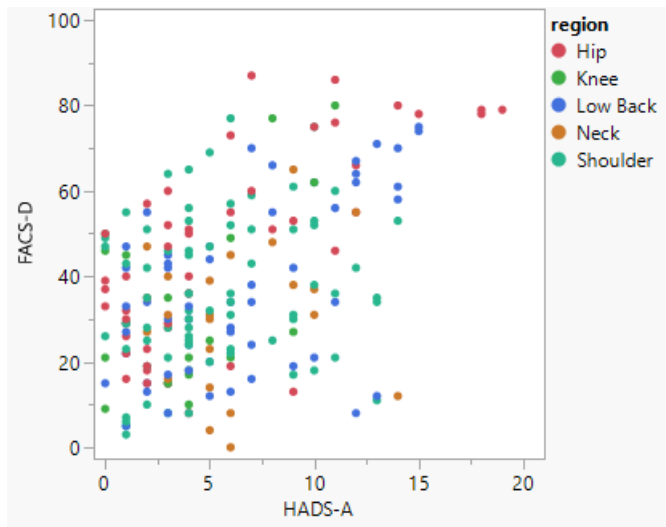
	helemaal mee eens	in hoge mate mee eens	enigszins mee eens	enigszins mee oneens	in hoge mate oneens	helemaal mee oneens
1. Ik probeer activiteiten en bewegingen te vermijden die mijn pijn verergeren.	0	0	0	0	0	0
2. Ik maak me zorgen over mijn pijnlijke medische toestand.	0	0	0	0	0	0
3. Ik geloof dat mijn pijn steeds erger gaat worden, tot wanneer ik helemaal niet langer meer kan functioneren.	0	0	0	0	0	0
4. Ik raak overweldigd door angst wanneer ik denk aan mijn pijnlijke medische toestand.	0	0	0	0	0	0
5. Ik begin niet aan bepaalde activiteiten omdat ik angstig ben dat ik mezelf (opnieuw) zal bezeren.	0	0	0	0	0	0
6. Wanneer mijn pijn heel erg fel is, heb ik ook andere symptomen zoals misselijkheid, moeite met ademen, hartkloppingen, beven en/of duizeligheid.	0	0	0	0	0	0
7. Het is oneerlijk dat ik met deze pijnlijke medische toestand moet leven.	0	0	0	0	0	0
8. Mijn pijnlijke medische toestand vergroot de kans op toekomstige (of herhaalde) kwetsuren, en dit voor de rest van mijn leven.	0	0	0	0	0	0

Appendix 4 Scatterplots of FACS-D and other patient-reported instruments colored per region

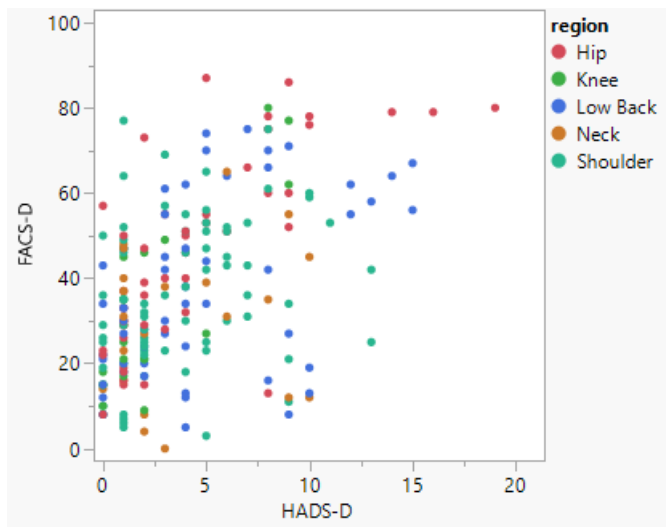
1. FACS-D and FABQ-PA



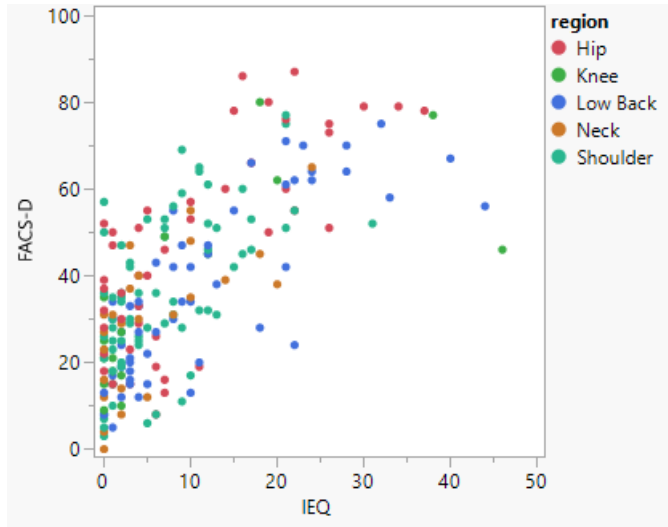
2. FACS-D and HADS-A



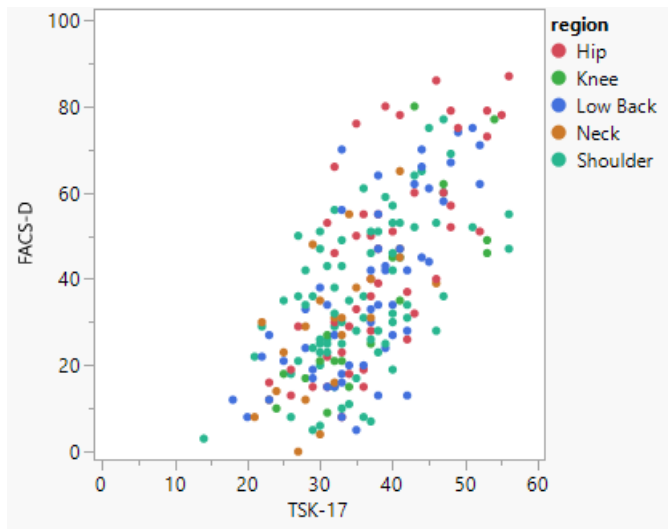
3. FACS-D and HADS-D



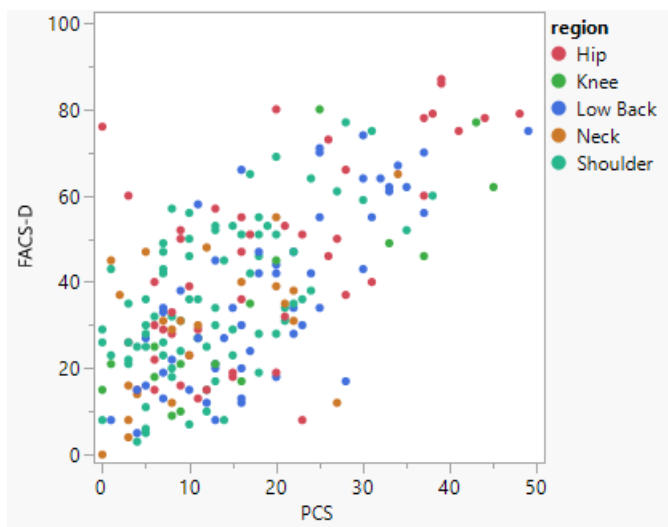
4. FACS-D and IEQ



5. FACS-D and TSK-17



6. FACS-D and PCS



7. FACS-D and NPRS

