



Translation and Linguistic Validation of the PROMIS-57 and PROMIS Pediatric-49 Profiles in Hausa

Jiyoung Son¹, Helena Correia¹, Jennifer Moncuse², Mrunmayee Pitkar², David Cella¹

¹Northwestern University, Feinberg School of Medicine, Department of Medical Social Sciences, Chicago, IL, USA

²RWS Regulated Industries - Life Sciences, East Hartford, CT, USA

Objective:

Translate and linguistically validate the two largest PROMIS Profiles - the PROMIS-57 and the Pediatric-49 Profile - into Hausa, the second most widely spoken language in sub-Saharan Africa, after Swahili.

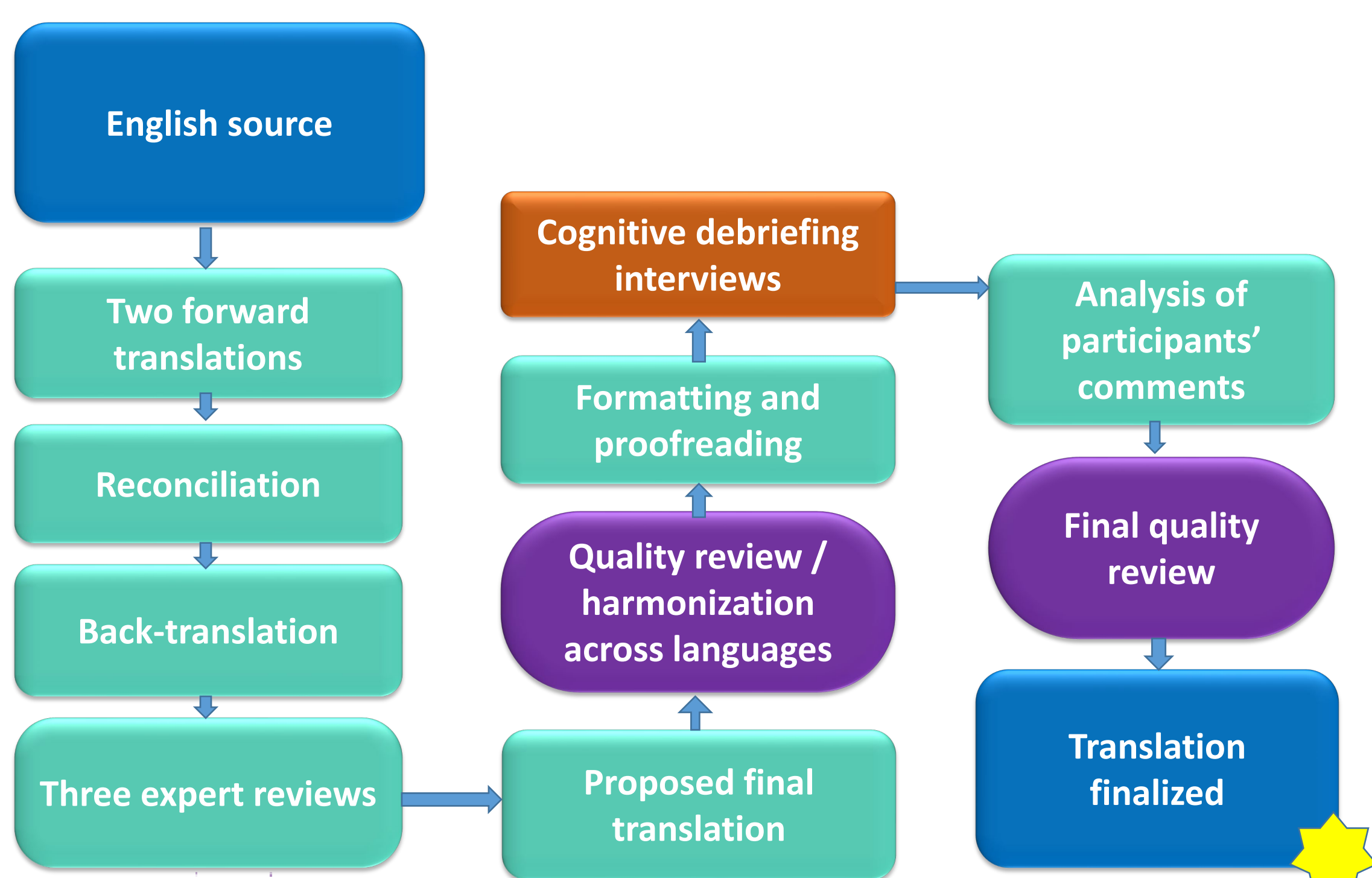
Methods:

A total of 106 items were translated following the PROMIS standard methodology, an iterative process of forward and back-translation, multiple reviews, harmonization across languages, and cognitive debriefing.

Cognitive debriefing took place in Kano, Nigeria where Standard Hausa is the recognized local dialect. Participants completed the questionnaire and participated in a cognitive debriefing interview. Qualitative analyses of participants' comments assessed understandability, conceptual equivalence and cultural relevance of the translation.

Cognitive debriefing participants

	PROMIS-57 (Adults)					Pediatric-49 (Children)				
	A1	A2	A3	A4	A5	P1	P2	P3	P4	P5
Age	19	36	46	51	64	8	9	11	11	15
Years of Education	9	6	3	6	3	3	5	4	5	7
Gender	M	F	M	F	F	F	F	M	M	F



Results:

Major challenge during the translation stage (pre-debriefing): Some of the English source concepts were not well distinguished from each other in the target language. In Hausa, it is often the case that multiple layers and meanings are attached to one word, instead of a wide array of words being used to differentiate subtle nuanced differences in one's feelings or perceptions.

- Emotional distress terms:** "Damuwa" (= concerns, trouble, distressed) is the commonly used word to cover different layers of emotional distress, including "worried", "anxious", "nervous" or "depressed".
- Fatigue terms:** Similarly, the word "gajiya" covers various feelings in the fatigue spectrum, such as "tired", "fatigued", "run-down", and "exhausted".

Discussion of alternatives and clarification of intended meaning were necessary to find suitable equivalent for each of the issue items. In reconciliation discussions during quality review, situational examples were used to clarify the intended meaning (e.g., feeling "nervous" when you are in a stressful event such as job interview; feeling "anxious" as feeling of intense uneasiness about uncertainty that doesn't go away). A list of key terms was also created and used throughout the process to check for concept overlap in translation.

Cognitive debriefing revealed another challenge: low literacy and unfamiliarity with HRQoL questionnaires among interview participants

- Low literacy, especially among adult participants:** Almost 60% of the **adult** items (=34 out of 57) were not understood by adult participants. Contrastingly, only 6% of the **pediatric** items (=3 out of 49) were identified as difficult to understand by children. Pediatric (and young adult) participants have more years of formal education than older participants. Both the youngest pediatric participant (8 years old) and the oldest adult participant (64 years old) had the same three years of formal education.

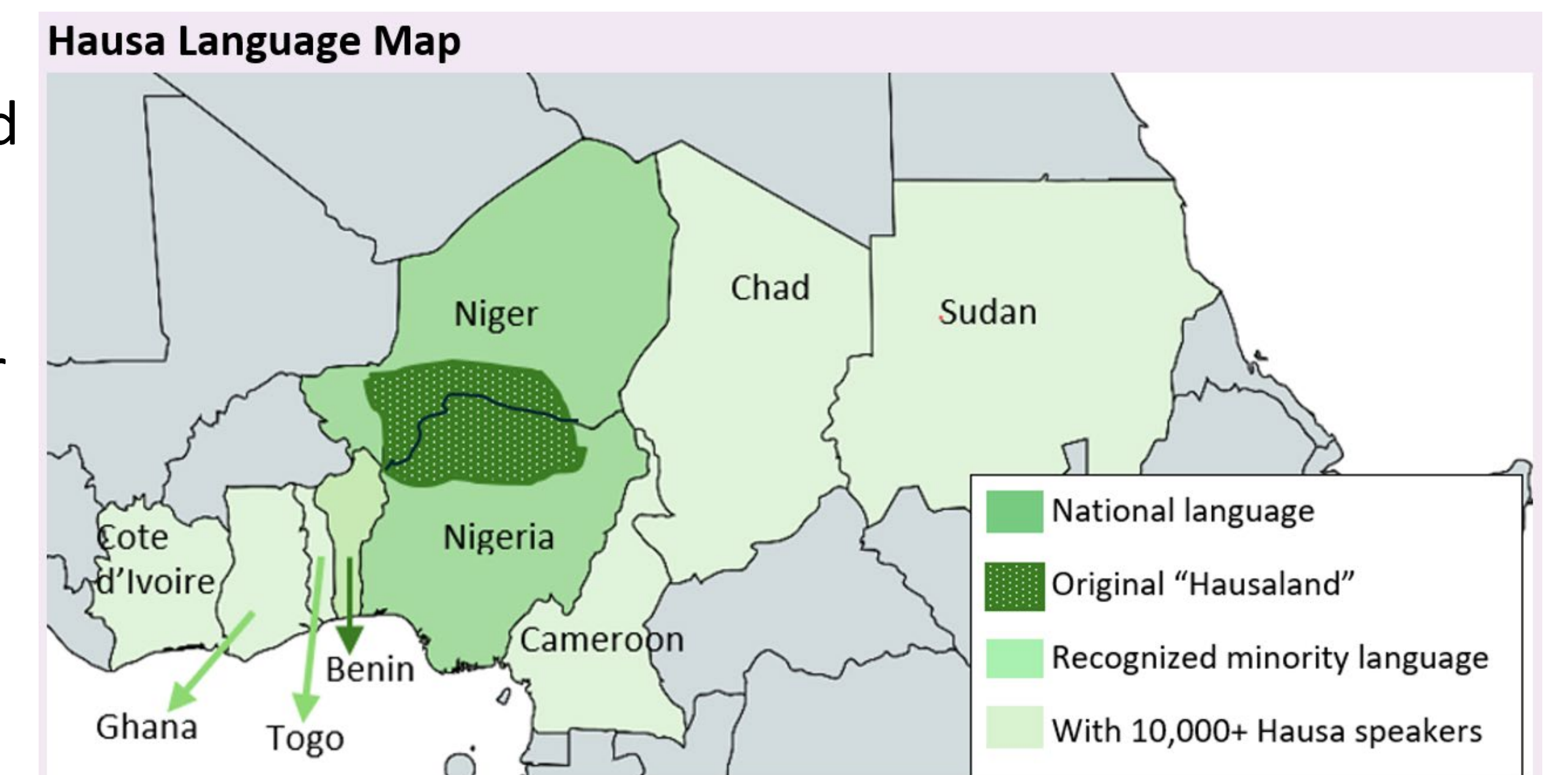
- Misinterpretation in a myriad of homonyms:** Some concepts were not understood as intended, but as another meaning of the same word. For example, "pain intensity" was understood as "intense heat" or "too hot", because the Hausa word for "pain" (zafi) also means "heat". "Depression" was interpreted as "belly" or "being pregnant", another meaning of the word used for "depression" (ciki). Such misinterpretation was observed from both groups (14 % of adult items vs. 12 % of pediatric items). In Hausa, one word often has several different meanings and is understood in context. Partly due to their unfamiliarity with survey questionnaires, participants tend to choose one of the meanings of a word that is more intuitively clear.

Extensive post-cognitive debriefing revisions were made through discussion between the quality reviewer, four Hausa linguists, and the translation project manager. In a consensus meeting, solutions were found to reduce ambiguity and enhance readability, while maintaining cultural appropriateness, conceptual equivalence to the source, and harmonization across similar languages. Examples:

English Source Text	Test version (=English BT)	Issue	Resolution	Final translation (= English BT)
Pain Intensity	Zafi Tسانانين (= Intense Pain)	Word for "pain" was interpreted as "heat"	Reduce ambiguity by adding a clarifying word	Tسانانين Zafin Ciwo (=Intensity of pain (from illness, injury, discomfort))
I could get up from the floor	Ina iya tashi daga da bene (= I could get up from the floor)	Word for "floor" interpreted as "(up)stairs". Some Rs thought this this item means "fly/jump to upstairs"	Reduce ambiguity by replacing with straightforward expression	Ina iya mikewa daga kasa (= I could stand up from the ground)

Conclusions:

The results suggested that low literacy among adults and the lack of survey experience need to be considered when translating and culturally adapting HRQoL measures into African languages. The linguistically validated Hausa PROMIS-57 and PROMIS Pediatric-49 Profiles are equivalent to the English source and acceptable for use in research and clinical trials. Given the item overlap, the standard domain-specific PROMIS short forms that comprise these profiles are also available.



Revision history of selected Emotional Distress terms

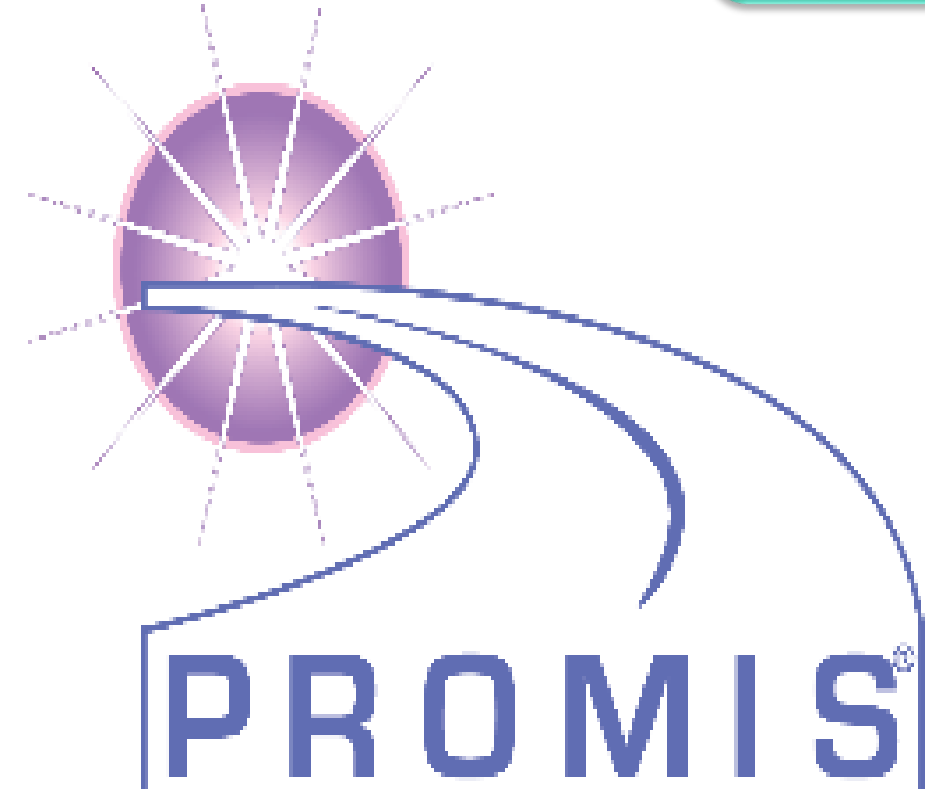
	Source text	First draft	Test draft	Final translation
Anxiety	worried	damuwa	damuwa	damuwa
	nervous	fargaba (adult)/damuwa (ped)	juyayi	firgici
	anxious	damu /fargaba	tashin	fargabar
Depression	depressed	damuwa	tawayar	bakin ciki

Literacy Rates by Age Group in Nigeria

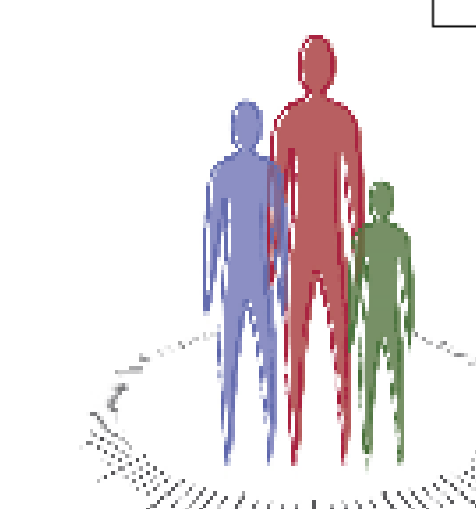


PROMIS Profiles translated into Hausa

PROMIS Domains	PROMIS-57 Profile (# of items)	PROMIS Pediatric-49 Profile (# of items)
Physical Function	8	Physical Function - Mobility 8
Anxiety	8	Anxiety 8
Depression	8	Depressive Symptoms 8
Fatigue	8	Fatigue 8
Sleep Disturbance	8	
Ability to Participate in SRA	8	Peer Relationships 8
Pain Interference	8	Pain Interference 8
Pain Intensity	1	Pain Intensity 1
	57	49



Contact information
Jiyoung Son
Research Project Manager
Jiyoung.son@northwestern.edu



HealthMeasures
TRANSFORMING HOW HEALTH IS MEASURED