

Adaptation and transcultural validation of the Brain Injury Visual Symptom Survey (BIVSS) Questionnaire in a Quebec context



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Introduction

Visual symptoms secondary to mild traumatic brain injury (mTBI) are common but are often overlooked. The BIVSS Questionnaire is a self-administered tool which is used to screen for mTBI-related visual symptoms.

Objective

Although a validated BIVSS Questionnaire exists, it is not suitable for use in clinic by francophone patients due to language barrier. The goal of this project is to translate the BIVSS Questionnaire from English to Canadian French and to culturally-adapt the Questionnaire into a Quebec context.

To provide clinicians with a **screening tool for visual disorders in mild traumatic brain injury patients, validated in French**

Methodology

The original version of the BIVSS is translated from English to Canadian French and then culturally-adapted by a group of experts. Sensitivity, specificity and psychometric properties (content validity, internal consistency, test-retest reliability) will be evaluated.

Brain Injury Vision Symptom Survey
BIVSS questionnaire (28-item full-Length)

Name : _____ Age : _____
Zip code : _____
Today's date : _____
My brain injury was _____ years ago

I have had a medical diagnosis of brain injury (check box if true)
 I suffered a brain injury without medical diagnosis (check box if true)
 I have NOT had a previous brain injury (check box if true)

Please check the most appropriate box, or circle the item number that best matches your observations. All information will be held in confidence. Thank you for your help!

Please rate each behaviour
How often does each behaviour occur? (circle a number) 0 = Never 1 = Seldom 2 = Occasionally 3 = Frequently 4 = Always

EYESIGHT CLARITY					
Distance vision blurred and not clear - even with lenses	0	1	2	3	4
Near vision blurred and not clear - even with lenses	0	1	2	3	4
Clarity of vision changes or fluctuates during the day	0	1	2	3	4
Poor night vision / can't see well to drive at night	0	1	2	3	4

VISUAL COMFORT					
Eye discomfort / sore eyes / eyestrain	0	1	2	3	4
Headaches or dizziness after using eyes	0	1	2	3	4
Eye fatigue / very tired after using eyes all day	0	1	2	3	4
Feel "pulling" around the eyes	0	1	2	3	4

DOUBLING					
Double vision - especially when tired	0	1	2	3	4
Have to close or cover one eye to see clearly	0	1	2	3	4
Print moves in and out of focus when reading	0	1	2	3	4

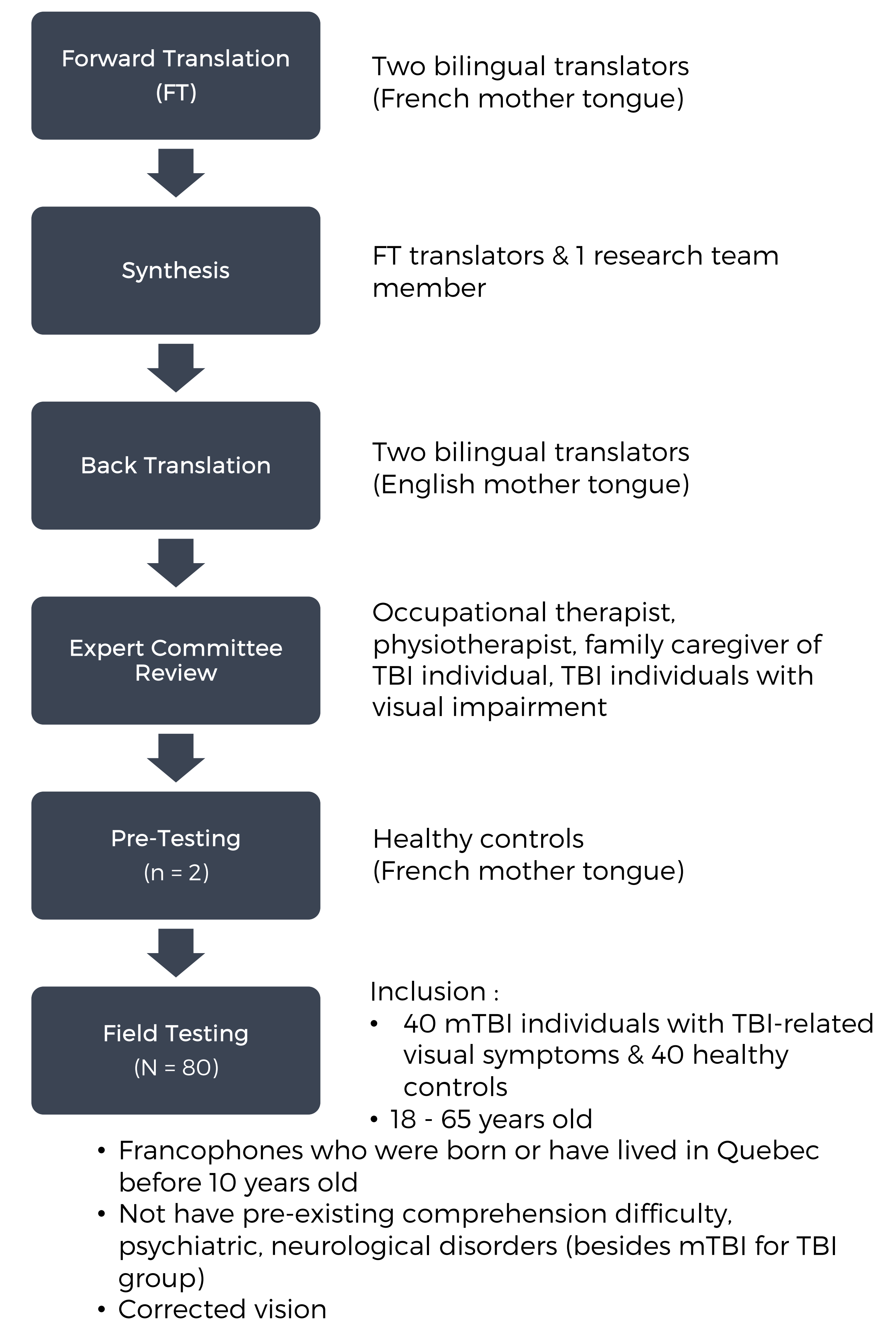
LIGHT SENSITIVITY					
Normal indoor lighting is uncomfortable - too much glare	0	1	2	3	4
Outdoor light too bright - have to use sunglasses	0	1	2	3	4
Indoor fluorescent lighting is bothersome or annoying	0	1	2	3	4

DRY EYES					
Eyes feel "dry" and sting	0	1	2	3	4
"Stare" into space without blinking	0	1	2	3	4
Have to rub eyes a lot	0	1	2	3	4

DEPTH PERCEPTION					
Clumsiness / misjudge where objects really are	0	1	2	3	4
Lack of confidence walking / missing steps / stumbling	0	1	2	3	4
Poor handwriting (spacing, size, legibility)	0	1	2	3	4

PERIPHERAL VISION					
Side vision distorted / objects move or change position	0	1	2	3	4
What looks straight ahead - isn't always straight ahead	0	1	2	3	4
Avoid crowds / can't tolerate "visually-busy" places	0	1	2	3	4

READING					
Short attention span / easily distracted when reading	0	1	2	3	4
Difficulty / slowness with reading and writing	0	1	2	3	4
Poor reading comprehension / can't remember what was read	0	1	2	3	4
Confusion of words / skip words during reading	0	1	2	3	4
Lose place / have to use finger not to lost place when reading	0	1	2	3	4



Anticipated conclusion

The translated and culturally-adapted BIVSS Questionnaire in Canadian French will be a reliable and valid tool for the francophone mTBI population.

References

Laukkanen, H., Scheiman, M., & Hayes, J. R. (2017). Brain Injury Vision Symptom Survey (BIVSS) Questionnaire. *Optometry and vision science : official publication of the American Academy of Optometry*, 94(1), <https://doi.org/10.1097/OPX.0000000000000940>