French validation of the Barcelona Music Reward Questionnaire

Saliba J, Lorenzo-S U, Marco-P J, Zatorre R, Tillmann B, Zeitouni A, Lehmann A

Department of Otolaryngology-Head & Neck Surgery, McGill University, Montreal, Canada

Abstract

- **OBJECTIVES**: To validate a French version of the Barcelona Music Reward Questionnaire (BMRQ).
- **METHODS**: The original BMRQ was translated into an international French. The questionnaire was then administered (online survey) to adults aged over 18 years, fluent in French. Statistical analyses were performed and compared to the original Spanish version for validation.
- **RESULTS**: Over 1000 participants were recruited. Congruence values between the rotated and the ideal loading matrices ranged between .88 and .96. Factor reliabilities of subscales ranged between .88 and .96. Reliability of the overall factor was .91. Finally, the internal consistency for the overall scale was .85.
- **CONCLUSION**: The French version of the BMRQ is valid and reliable.

Objective

To validate a French version of the Barcelona Music Reward Questionnaire (BMRQ)

Background

- The BMRQ examines the main facets that characterize musical reward experience in individuals. According to the BMRQ, musical reward can be described in five different facets: musical seeking, emotion evocation, mood regulation, social reward and sensorimotor.
- The BMRQ contains 20 statements equally divided among these five facets.
- The BMRQ can serve as a valuable research tool in psychophysical studies addressing music reward in subjects with amusia, in hearing-impaired individuals such as cochlear implant users, or even in healthy individuals.
- To date, only Spanish and English versions of this questionnaire are available. With over 200 million speakers worldwide, French is one of the most common languages in the world and is the official language of 29 countries. In such countries it is important for research tools to be available in all official languages to adequately test the population.

Methods

- Each item in the original English version of the questionnaire was independently translated by two groups of bilingual (French/English) researchers. A third bilingual researcher (French/Spanish) conducted a back translation into Spanish.
- The questionnaire was administered via an Internet platform (LimeSurvey) to any participant aged over 18 years and fluent in French.

Results

- 1027 participants completed the questionnaire (Mean: 22.3 years, range: 18-54 years). The majority of subjects were female (64.7%).
- 30 French-speaking countries were represented in our sample. Most responses were obtained from France (89.4%).
- No significant differences were noted in the mean direct scores between each items of the French and Spanish version (Table 1).
- Factor reliabilities of subscales (i.e., Musical Seeking, Emotion Evocation, Mood Regulation, Social Reward and Sensorimotor) ranged between .88 and .96.
- The Kaiser-Meyer-Olkin (KMO) index of 0.855 value suggested that the correlation matrix was well suited for factor analysis.
- The internal consistency for the overall scale was .852, with a 95% confidence interval [.839, .865].

Discussion

- Our results demonstrate that the translated BMRQ has acceptable construct validity while keeping the factorial structure of the original questionnaire.
- This translated BMRQ is an internationally acceptable French adaptation. This was required to accommodate researchers and clinicians across the French-speaking regions.
- According to a recent report, the BMRQ score can predict high-pleasure reward in cochlear implant users in other hearing-impaired subjects.

Conclusion

- The French version of the BMRQ appears valid and reliable.
- It can serve as a valuable psychophysical tool in music reward research in certain unique populations such as individuals with amusia and patients suffering from hearing disabilities.