

Transcultural Adaptation and Validation of the German Version of the Vocal Tract Discomfort Scale

*Julia Lukaschyk, †¹Meike Brockmann-Bauser, and ‡¹Ulla Beushausen, *Hildesheim, and ‡Germany, and †Switzerland

Summary: Objectives. Currently, there is no standardized German questionnaire to assess vocal tract discomfort in voice patients. The aim of this study was to evaluate the internal consistency, reliability, and validity of the German version of the Vocal Tract Discomfort (VTD) Scale.

Study Design. This is a cross-sectional study.

Methods. First, a cross-cultural translation and adaptation from English to German was performed. One hundred seven patients between the ages of 18 and 76 with voice disorders were divided into two different diagnosis-related groups (organic and functional voice disorder) and 50 vocally healthy adults were included. All participants completed the VTD Scale and the Voice Handicap Index (VHI). The internal consistency of the VTD Scale was analyzed through Cronbach's α coefficient. Pearson correlation between the VTD Scale and VHI total scores was used to determine criterion validity. The VTD Scale score differences related to diagnosis groups were assessed with analysis of variance.

Results. Excellent internal consistency was found ($\alpha = 0.919$, $P < 0.05$), and criterion validity was confirmed by a high correlation between the total VTD Scale and VHI ($r = 0.674$). There was a significant difference between the diagnosis groups' total VTD Scale score ($F[4.135] = 15.114$, $P = 0.000$). Furthermore, the vocally healthy adults had significantly lower values than the two diagnosis groups ($\bar{x}: 11.48$, $s = 8.340$).

Conclusions. The German version of the VTD Scale has an excellent internal consistency and reliability, and shows high clinical validity. Thus, it is a useful instrument in voice diagnostics.

Key Words: Vocal Tract Discomfort Scale—adaptation—translation—validity—reliability.

INTRODUCTION

According to current guidelines, a comprehensive voice examination includes a visual laryngeal examination, perceptual analysis, instrumental acoustic voice assessments, and a self-evaluation of the patient.¹⁻³ However, a pathologic perceptual voice quality is not necessarily associated with pathologic visual laryngeal findings. Similarly, a self-evaluation of subjective voice symptoms by questionnaire can provide independent clinical information that does not always correlate with visible pathology. Especially in patients with muscle tension dysphonia, the results of different assessment types may diverge considerably.⁴⁻⁷ In professional voice users, for example, minimal voice changes can cause high scores in self-rating instruments, which have little correlation with laryngoscopic findings. Conversely, in the case of non-professional voice users, laryngoscopic findings as well as perceptual voice quality might indicate a severe voice disorder, whereas self-rating instruments show little impact on daily life and a comparably small subjective handicap.

In western countries, around 80% of working professionals rely on an adequate voice function. For these people, voice problems have a large impact on their working ability and may lead to missed workdays.⁸ The first symptom of a voice disorder may be a sensation of irritation, dryness, or the feeling of an obstruction or a lump in the throat.⁹ This discomfort corresponds

to low-level pain on a continuous scale of “no pain” to “unbearable pain,” and therefore has been characterized as an essential subjective experience.¹⁰ Furthermore, it has been shown that vocal tract discomfort often occurs in patients with functional dysphonia.^{9,10} Patients with lesions, such as nodules, polyps, and cysts, in the membranous portion of the vocal fold also experience high discomfort as compared with patients with neurologic voice disorders.¹¹

Vocal tract discomfort

There are few standardized and validated protocols available to assess voice disorder-related vocal tract symptoms. Those that do exist are mostly in English, such as the Voice Symptom Scale and the Vocal Tract Discomfort (VTD) Scale. The VTD Scale was originally developed in 1993 by Mathieson by examining 36 individuals with hyperfunctional dysphonia. These subjects were asked in a structured interview about their feelings of discomfort in the throat.⁹ The first complete version of the VTD Scale was introduced more than a decade later by Mathieson et al.¹⁰ Their study used the first standardized version of the VTD Scale to examine sensations of vocal tract discomfort in 10 individuals with functional dysphonia. The VTD Scale (Appendix 1) is a self-rating instrument that measures the subjective perception of sensory discomfort in the throat. It assesses the frequency occurrence and severity manifestation of eight qualitatively different sensations: burning, tightness, dryness, aching, tickling, soreness, irritability, and lump in the throat. The frequency and severity are rated separately on a Likert scale of seven points from 0 to 6 for frequency (0 = never, 2 = sometimes, 4 = often, 6 = always) and for severity (0 = none, 2 = mild, 4 = moderate, 6 = extreme). For the clinical evaluation, the scores of the frequency and severity subscales are calculated, as well as the total score. Thus, the possible values run between 0 and 48 for each

Accepted for publication May 6, 2016.

From the *Almsstraße 15, 31134 Hildesheim, Germany; †Speech Pathology Section, Department of Phoniatrics and Speech Pathology, Clinic for Otorhinolaryngology, Head and Neck Surgery, University Hospital Zurich, Switzerland; and the ‡Department of Social Work and Health, University of Applied Sciences and Arts, Hildesheim/Holzwinden/Göttingen, Germany.

¹These authors contributed equally to this article.

Address correspondence and reprint requests to Julia Lukaschyk, Almsstraße 15, Hildesheim 31134, Germany. E-mail: j.lukaschyk@googlemail.com
Journal of Voice, Vol. 31, No. 2, pp. 261.e1–261.e8
0892-1997

© 2017 The Voice Foundation. Published by Elsevier Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.jvoice.2016.05.006>

subscore, and up to 98 for the total score. In summary, the VTD Scale is a standardized tool to quantify the severity and frequency of an individual's throat discomfort by using qualitative descriptors.¹⁰ The VTD Scale has been translated into Polish, Portuguese, and Persian. The quality criteria reliability could be confirmed for all translations.¹¹⁻¹³

To date, there is, however, no German version of the VTD Scale available. The self-evaluation of subjective voice symptoms in German-speaking countries is commonly conducted through the Voice Handicap Index (VHI).¹⁴ It assesses the physical, functional, and emotional effects of voice disorders, but specific throat-related symptoms are not considered. Especially because complaints related to these symptoms are frequent in voice therapy, it is important to have a standardized tool for assessing sensory throat symptoms.¹² The relatively short questionnaire VTD Scale allows a specific assessment of throat-related symptoms. Furthermore, a standardized questionnaire helps to effectively assess therapy effects in the individual, as well as group effects in larger research studies.¹⁵

Therefore, the main aims of the present work were to translate the VTD Scale into German and to evaluate the internal consistency and criterion validity of this first German version of the VTD Scale.

METHODS

Cross-cultural translation and pretest of the Vocal Tract Discomfort Scale

The cross-cultural translation and adaptation of the original English version of the VTD Scale into German was done in accordance with Beaton et al.¹⁶ In their "Guidelines for the Process of Cross Cultural Adaptation of Self-Reports," five translation and review steps are defined (Figure 1).

First, the VTD Scale was translated by two independent translators into the target language German, followed by a synthesis

of the two versions. The back-translation from German to English was carried out by two English native speakers. For every translation and synthesis step, a report describing possible problems or ambiguities was written. In the fourth step, an expert committee consisting of three speech and language therapists (SLTs), two with research background, one experienced practitioner, and one naïve person with excellent English skills reviewed all translations and written reports, and agreed on the prefinal version for the pretest.

Pretest of the German version of the VTD Scale

Thirty persons with ($n = 18$) and without ($n = 12$) self-reported symptoms of voice disorders were included in the pretest. These subjects were recruited from different private speech therapist practices in the Hildesheim area (Germany) and from a school for speech therapists (Diakonie Kolleg Hildesheim). For the voice patients, the diagnosis of a voice disorder was provided by a phoniatrician or an ear, nose, throat (ENT) physician. The VTD Scale was distributed by one of the authors (J. Lukaschyk). Each participant completed the German version of the VTD Scale without further instructions. Afterwards, an open interview was conducted to assess the understandability and wording of the questionnaire. After assessing the pretest data and the informal interviews, no changes had to be made to the German version of the VDT Scale.

Validation study

For the validation study, each participant ($n = 158$) completed the German version of the VTD Scale (Appendix 2), the VHI (version with 30 items), and a questionnaire for person-related data (gender, profession, diagnosis).¹⁴ The VHI-30 is a standardized self-rating questionnaire with 30 statements that are rated on a 5-point Likert scale from 0 (never) to 4 (always). Subjective voice-related problems are examined in three domains:

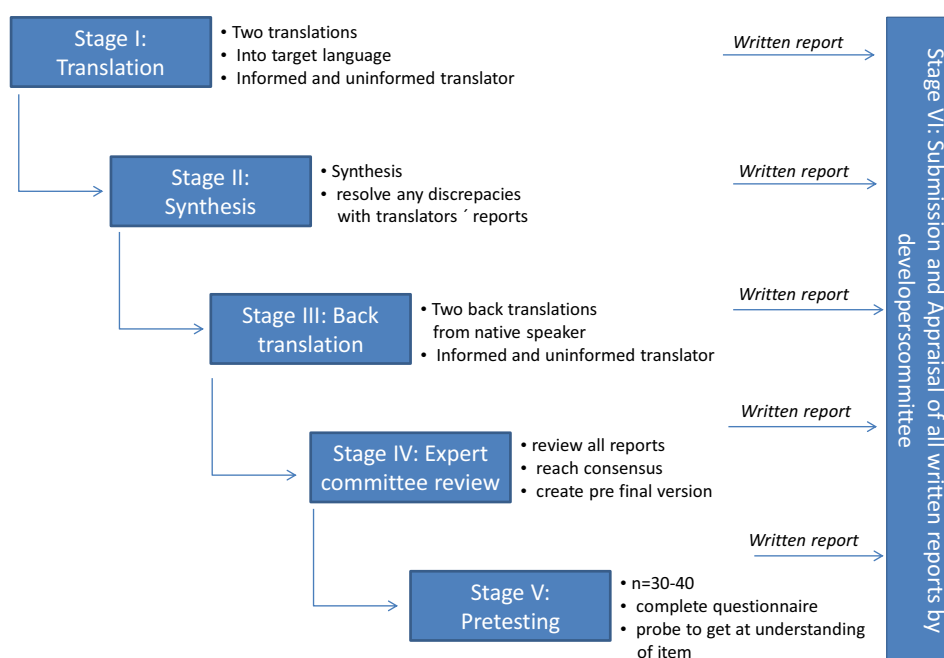


FIGURE 1. Cross-cultural translation and adaptation process, adapted from Beaton et al.¹⁶

Download English Version:

<https://daneshyari.com/en/article/5124455>

Download Persian Version:

<https://daneshyari.com/article/5124455>

[Daneshyari.com](https://daneshyari.com)