Adaptation of the Thought Suppression Inventory for Use in a Greek Population

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Abstract: Intrusive (unwanted) thoughts occur spontaneously and can cause considerable difficulty among neurodiverse, neurologically impaired and psychiatric populations. Depending on content and frequency they may interfere with cognitive processing, cause cognitive overload and are associated with emotional distress. Intrusions are commonly negative in both content and affect and often incongruent with the individual's values. Thought suppression refers to attempts to control or block intrusive thoughts and involves both conscious and unconscious processes. The Thought Suppression Inventory (TSI) was designed by Rassin (2003)7 to measure Intrusion, Suppression and Effective Suppression. The current brief report presents the procedure for adaptation of the TSI for use among a Greek population. The report describes the extensive review of the instrument by peers and by a sample of the target population as well as the utilisation of multiple translations to ensure the closest possible approximation of the Greek version to the original instrument, with a particular focus on linguistic and cultural nuances.

Keywords: Thought Suppression, Thought Intrusion, Thought Suppression Inventory, Greek Adaptation

INTRODUCTION

Intrusive thoughts are unwanted thoughts that interfere with productive cognitive processing and are cognitively and/or emotionally burdensome (Sarason, Pierce & Sarason, 1996[9]; Clark & Inozu, 2014[4]). Intrusions are known to commonly cause distress in the general population (O'Neill, & Caldwell, 2009; Julien, O'Connor & Aaderma, 2007).

However, there is a difference in quantity and quality of intrusive thinking between neurologically healthy and clinical or diverse populations (Purdon & Clark, 1994). Intrusive thinking is central to many psychological disorders, such as Obsessive Compulsive Disorder, Generalised Anxiety Disorder and Post Traumatic Stress Disorder (Watkins, 2008; Wenzlaff & Luxton, 2000; Wenzlaff & Wegner, 2000). Intrusions are most commonly negative in content and affect (Salkovskis, 1999[8]), often incongruent with the person's values and feelings and with the norms of the individuals' cultural environment (Wells & Morrison, 1994[12]; Abramowitz, Blakey, Reuman & Buchholz, 2018[1]). Intentional attempts to suppress intrusive thoughts are typically unsuccessful and may lead to increased anxiety (Roemer and Borkovec, 1994), as well as causing a rebound effect, where the intrusive thought returns and/or an enhancement effect, where the thought increases in intensity (Wegner, 1987[11]).

The Thought Suppression Inventory (TSI) was designed by Rassin (2003)[7] to differentiate between thought intrusion (frequency of unwanted thoughts), attempted thought suppression (effort on suppressing unwanted thoughts) and successful thought suppression (ability to suppress unwanted thoughts). It comprises of 15 items, organised into

3 sets of 5, which measure Intrusion, Suppression and Effective Suppression respectively. The items take the form of positive statements such as "I have many unpleasant thoughts" (Intrusion), "I always try to put problems out of mind" (Suppression), or "I am able to put aside problems until I have time to deal with them" (Successful Suppression) measured on a 5 - point Likert scale (from strongly disagree to strongly agree). The range of scores for each subscale is between 5 and 25. The TSI shows good reliability in general, suggesting effective reproducibility, with minor measurement errors (Barker, Pistrang and Elliott, 2002[2]) and all three subscales show good internal consistency (Intrusions Scale, a=.44, Suppression Scale a=.64, M=15.9, SD=3, Effective Suppression Scale a=.67, M=14.21, SD = 3.2). The TSI's content validity is strong, differentiating well between thought intrusion, suppression and effective suppression, with unambiguous statements such as "I try to suppress unpleasant thoughts" (Rassin, 2003[7]).

The TSI was not available for use in a Greek population and the need to do so arose from its inclusion by the present authors in a study of the effect of valenced pictorial cues on suppression of thought intrusions among Greek neurologically impaired and healthy populations. The current paper presents the process of adapting this test for use with Greek-speaking individuals.

<u>METHODOLOGY</u>

Forward Translation: English to Greek

The text was translated from English into Greek by four native greek speakers working in pairs, specifically 2 professional Psychologists and 2 health visitors, who were fluent in English and familiar with psychological concepts and measurements. This process followed the guidelines suggested in previous literature such as by Gudmundsson (2009)[5] and Beaton, Bombardier, Guillemin and Ferraz (2000)[3]. Two separate translations of the instrument were generated, which were checked for semantic errors and literal translations. The two translations were then merged into one document, which complied most closely with the original English version, while accounting for nuanced language and ensuring that the translation was neither over-complicated nor over-simplistic. This draft was peer-reviewed by four independent native Greek Psychologists who recommended minor editing to improve wording further. The edited draft was administered to 5 Greek neurologically healthy volunteers (university students) and 5 Greek neurologically impaired hospital out-patient volunteers, who were asked to comment on clarity, presentation and wording to ensure content validity. Their feedback led to further amendments, comprising of punctuation edits and two word substitutions.

Reverse Translation: Greek to English

The Greek draft was translated back into English by two native greek speakers with relevant professional experience, namely a psychologist and a psychiatrist, both fluent in English, who then compared it to the original scale, taking into account cultural nuance, as per Sireci, Yang, Harter and Ehrlich (2006)[10].

They produced two English translations.

Second Forward Translation: English to Greek

The two English translations were then merged into one and converted back to Greek. This version was subjected to psychometric testing. The process can be seen diagrammatically below for quick access (Figure 1).
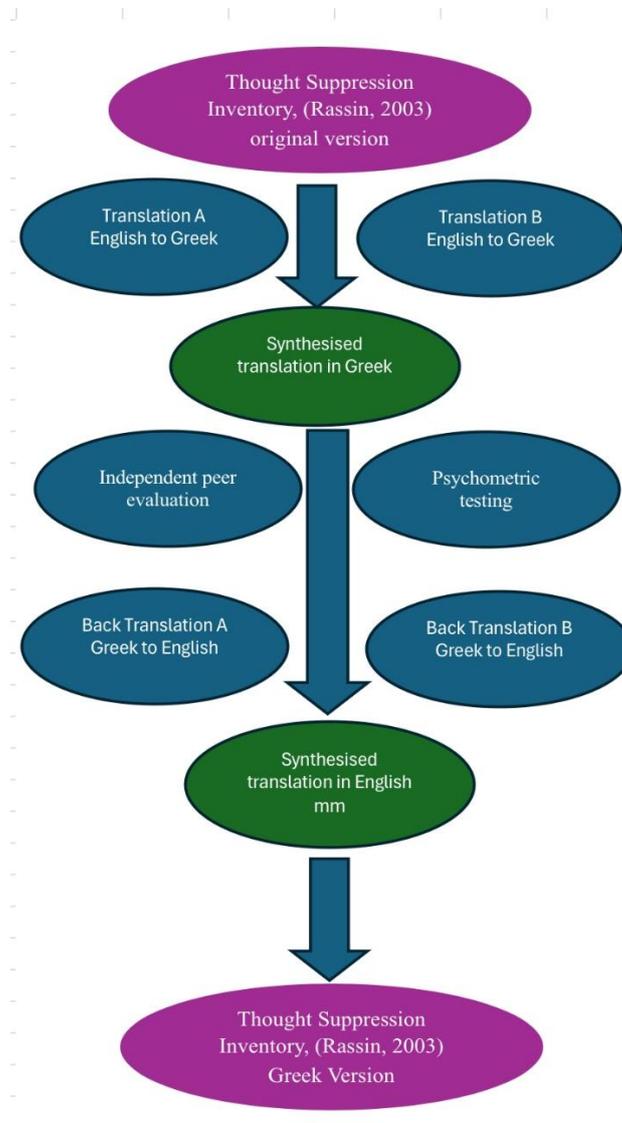

Figure 1: Visual representation of the procedure for adapting the TSI to Greek

DISCUSSION

The standardisations of TSI in the Greek language was based on assessing internal consistency, by means of the Cronbach's alpha coefficient, content and face validity and extracting the factor structure of the questions by performing principal component analysis using oblique factor solution.

Psychometric Properties of the Greek TSI

138 students and 120 neurological out-patients were administered the translated TSI. Internal consistency was assessed by means of the Cronbach's alpha coefficient and principal

component analysis with oblique factor solution was utilised in order to assess content and face validity and to extract the factor structure of the question. Internal consistency is somewhat lower than that of the original TSI and further testing may be appropriate to investigate internal consistency further.

Table 1: Comparative data for the original and Greek subscales.

Subscales	Original TSI (Rassin, 2013[7])			TSI Greek translation		
	Mean	SD	a	Mean	SD	a
Intrusion	10.4	3.2	0.71	15.6	3.1	0.45
Suppression	15.9	3	0.64	16.2	3.4	0.55
Successful Suppression	14.2	3.2	0.67	15	3.9	0.69

The determinant of the correlation matrix was .033, so that multicollinearity was not a issue. Bartlett's Test of sphericity was .0786, which exceeds .05. However there is evidence in the literature values between .07 and .08 are acceptable (Hutcheson and Sofroniou, 1999[6]). KMO statistic variables for individual variables are all close to 1 (TSI 1 = .777, TSI 2 = .844, TSI 3 = .882, TSI 4 = .794), which means that they are suitable for structure detection.

There are three initial eigen values greater than one. Thus, it is concluded that the loadings are in three factors. However, when the analysis is performed separately for students and patients, it shows possible loadings for 4 and 5 factors respectively. When the analysis is conducted using the whole database (patients and students) the loading of the factors is three (Figure 2).
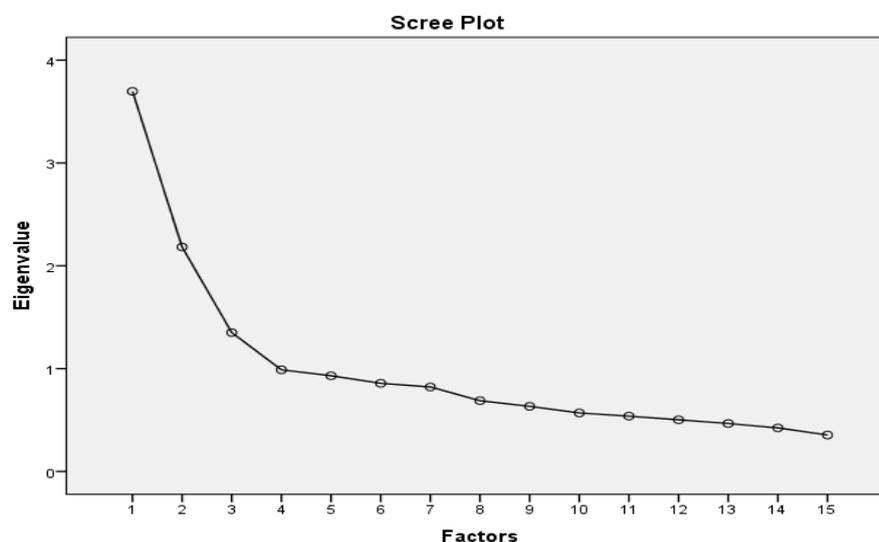

Figure 2: Scree plot number of factors on TSI-Greek version

Overall, the psychometric properties of the Greek translation of the TSI are shown to be robust, showing internal consistency between the subscales and slightly better internal consistency for the Successful Suppression sub-scale (a= 0.69) compared to the original version (a=0.67). Content validity appears to be satisfactory and it appears to comply with

the original scale in purpose and intention. Rassin's[7] Thought Suppression Inventory is an invaluable tool to establish the presence of intrusions and individuals' efforts to address them. It is a simple and unambiguous instrument and particularly useful for screening and establishing population parameters at the beginning of experimental or therapeutic work. The research team asserts that the current version can be utilised as required among Greek speaking populations.

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