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Validation of the Arabic Translation of the Cognitive Test Anxiety Scale

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Abstract

One popular instrument used to gauge the degree of test anxiety is the cognitive text anxiety revised (CTAR; Cassady & Finch, 2015) questionnaire, which has 25 questions. No official version of the Arabic language exists for this instrument yet. This investigation aims to assess the psychometric properties of the translation of CTAR. To accomplish this, the questionnaire underwent a stringent translation process followed by 75 Arabic-speaking participants. The questionnaire was evaluated for its effectiveness in categorizing, individualizing, and measuring differences between items, as well as its capacity to measure dimensionality. The results of the analyses indicated that two items did not fit the model, and three items measured a different construct than test anxiety. These items that failed were erased. Additionally, five options for each item were unsuccessful with students who speak Arabic. As a result, two classes were combined. The results of the study demonstrated that this version of CTAR, while lacking a dimension, still needs more people and items (and, of course, a validation process) to be utilized in international studies.

Keywords: Cognitive Test Anxiety Revised (CTAR), Test Anxiety Questionnaire, Arabic, Rasch Model, Validation.

Introduction

The investigation of test anxiety has a long and successful history. Yerkes and Dodson investigated the connection between anxiety and performance during the early 1900s (McDonald, 2001). According to the American Psychological Association (APA), anxiety can be considered as worried thoughts and physical changes that may cause feelings of tension, and medically, a blood pressure increment can be observed. Anxiety was defined by (Asadullapoor, Fati, & Gharaee, 2010) as a feeling that is unfavorable and vague, like when a dangerous situation is predicted. Extreme levels of anxiety threaten individuals' mental and physical conditions and also have a negative effect on their personal, social, family, occupational, and educational performance (Zaharkai,2008). However, as cited by Mika Kivimaki(1995), individuals with high test anxiety tend to act more poorly in tests compared with low test anxious peers, primarily when the tests are performed with stressful, evaluative conditions and contain complex tasks.

Students are always under tremendous pressure whenever they have exams, and thus, anxious situations result in significant obstacles to their success. Similarly, results obtained from assessments are usually taken into account when individuals are in a situation where they are making a decision; hence, assessments have become an alarm that awakens anxiety. (Yang

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Yanxia, 2017). Therefore, University students face challenges like adaption to new outlets, which are not part of their routines and not what they are used to. Also, there are significant challenges and demand for success to achieve high levels of academic performance, which in turn can affect students' outcomes and lead to situations of stress (Shamsuddin, Fadzil, Ismail, Shah, Omar & Muhammad, 2013).

For instance, students with anxious personalities feel tense, fearful, and worried when tests are conditioned (Spielberger & Vagg, 1995). The students do not reveal their fundamental abilities properly on tests (Hancock, 2001). However, Methia (2014) showed that one-third of U.S. students experience some test anxiety, and it is increasing with the requirements, conditions, and importance of the tests (e.g., the No Child Left Behind Act of 2001) in U.S. schools (Casbarro, 2005).

The predominance of test anxiety has been estimated to be around 25% and 40% of students addressing their status of anxiety. (Sati Bozkurt &Jerrell C. Cassady, 2017). Putwain and Daly (2014) found that the participants showed a range of anxiety that varies from "often" to "almost always" (as a combination of worry of failing and negative judgments from others) is similar to the estimation of 15.1% based on other samples of English students.

Interestingly, anxiety is considered to be beneficial because students who are afraid of failure will put in more effort to prepare for the test. However, when students have high levels of anxiety prior to or during an exam, their true abilities may be impaired, which can adversely affect their performance (McDonald, 2001). Studies that examined the connection between test anxiety and academic success found that high levels of test anxiety were linked to lower levels of student learning and performance.

Studies that have linked test anxiety to academic performance have found that high levels of test anxiety are associated with lower levels of student learning and performance (Sub & Prabha, 2003).

It had previously been believed that anxiety as a construct and its test were only dimensionally related, but this was later found to be accurate due to the cognitive and psychological components (Morris, Davis, and Hutchings 1981; Spielberger et al.1978).

However, as a purely theoretical construct, it is never simple to locate a specific instrument to measure the latent state of anxiety. This was problematic for around 30 years.

As a result, recognizing a test is dependent on the variables and purposes that it is associated with; each of the tests is intrinsically linked to its context. As a result, it is dependent on cultures, educational backgrounds, situations, or events (Sati Bozkurt, Gizman B.Ekitil, Christopher L.Thmas, and Jerrel C. Cassady. 2017). Test anxiety is a specific form of anxiety that occurs in situations that require evaluation (Putwain, 2008). Sarason (1984) categorized test anxiety into four different dimensions: worry, tension, test-inequality thinking, and bodily symptoms. Liebert and Morris (1967) employed a two-dimensional approach to conceptualizing test anxiety, which consists of two primary components: cognitive components (worry) and affective components (emotionality). Cognitive components, such as worry and the consequences of failure, as well as the evaluation of one's capabilities relative to others, are both considered paramount to test anxiety, specifically in the "state" and "trait" dimensions. It has been empirically demonstrated and investigated in a quest for a more comprehensive understanding of test anxiety (Schwenkmezger, 1985).

Recent reviews (Deffenbacher, 1980; Morris, Davis, and Hutchings, 1981) have suggested that emotionality and worry are separate concepts, but they are still considered to be connected; the immediate presence of testing stimuli can observe emotionality. However, worry is apparently derived from external or internal sources related to the evaluation of the stimulus and the potential failure. Worry and performance are intrinsically linked: the presence of the first one will reduce the quality of the second one, while emotionality is generally less associated with performance metrics. (Jerry L. Deffenbacher and Susan L. Hazaleus, 1985).

Worry is traditionally regarded as the cognitive face of test anxiety (the state of restlessness, apprehensiveness, anxiety, etc.), while "emotionality" primarily focuses on the perception of physical anxiety reactions.

The cognitive aspect represented by "worry" is considered the core of test anxiety since it has the most significant negative impact on performance (Baghaei & Cassady (2014).

It is essential to know that the effect of test anxiety on the learners is not limited to testing situations only but actually, it exceeds that to cover all the stages of the "learning-testing cycle." test anxiety can have an influence that will decrease overall performances. Thus, test anxiety affects the learners' status during test preparation, performance, and reflection (Rafferty, Smith,& Ptacek,1997; Schwarazer& Jerusalem,1992).

1. Test preparation studies demonstrated that students with high levels of test anxiety had a negative perception of their study skills and methods as compared to students with lower levels of anxiety (Naveh-Banjami, 1991). Students with high anxiety about cognitive tests have a hard time dealing with the prep phase of a test, as it is characterized by uncertainty and apprehension. As a result, they view the upcoming test as a situation that reduces their esteem; they are not prepared for it (Jerrell C. Cassady2004).

2. Performance evaluation: students with high anxiety levels had lower results than their counterparts with lower anxiety. As a result, the performance of tests can be considered the most significant aspect of test anxiety that is significant in regards to Hembree's (Hembree, 1988), Sarason's (1986), and Covington's (1987).

3. Test reflection: during the final phase, the student with high test anxiety had a higher degree of perceived lack of support over their test performance than the student with low anxiety. These assignments are likely to reduce future attempts to overcome the obstacles in the field (Everson, 1993). As a result, students with high anxiety attribute their failure to internal causes that cannot be overcome, such as forgetting (as a result of weak memory), or to external causes that are unpredictable, such as complex materials, in either condition, helplessness leads to the avoidance of tests and even study (Bandura, 1989).

Assessment of Cognitive Test Anxiety

The cognitive test anxiety scale (CTAR; Cassady & Johnson, 2002) has been commonly employed in educational research to investigate the association between students' anxiety levels and their academic success. Studies have consistently documented that high levels of cognitive test anxiety can adversely affect students' performance, particularly in contexts that require examinations and assessments. (Duty et al., 2015) (Zheng & Cheng, 2018)

A meta-analytic review of 30 years of research on test anxiety has demonstrated that it is significantly and negatively correlated with a range of educational outcomes, including standardized test scores, university entrance exams, and grade point averages (Embse et al.,

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2017). This relationship is particularly pronounced at the middle-grade level, where the highstakes nature of assessments and the perceived difficulty of the tests can exacerbate students' anxiety. (Embse et al., 2017)

The cognitive test anxiety scale (CTAR; Cassady & Johnson,2002) was conducted to estimate the cognitive features of anxiety during the learning-testing cycle, neglecting emotionality to obtain uni-dimensionality. The scale has been used cross-culturally, and it was revised concerning languages, and its items were reverse-coded to eliminate the chance of measuring a separate construct other than anxiety (i.e., "test confidence"; Cassady&finch, 2014).

Test Anxiety and the Arab Culture

Test anxiety is a phenomenon that has been extensively studied in various cultural contexts, and the Arab culture is no exception. Researchers have found that test anxiety can have a significant impact on academic performance, particularly among university students, who often view tests as the primary source of concern. (Huntley et al., 2023) (Embse et al., 2017)

One study conducted in the Middle East found that a significant proportion of Arab students experience high levels of test anxiety, which can be attributed to several factors, including cultural expectations, parental pressure, and the emphasis placed on academic achievement(Elkhafaifi, 2005).

Worry, a key component of test anxiety, is characterized by excessive and repetitive negative thinking, particularly about the consequences of failing. This form of anxiety has been shown to have a stronger association with poorer test and academic performance than emotionality, the physiological symptoms of anxiety. (Huntley et al., 2023)

Addressing test anxiety in the Arab context requires a multifaceted approach, including interventions aimed at reducing worry, managing physiological symptoms, and fostering a more supportive academic environment. Researchers have suggested that incorporating techniques such as metacognitive training, cognitive-behavioral therapy, and mindfulness-based interventions can be effective in alleviating test anxiety. (Huntley et al., 2023)

It is important to note that test anxiety is not unique to the Arab culture but is a global phenomenon that affects students of various backgrounds. By understanding the cultural nuances and unique challenges faced by Arab students, educators and researchers can develop more targeted and practical strategies to support their academic success. (Bensoussan, 2012) (Huntley et al., 2023)

The first major cross-cultural psychological study that represented the psychometric properties and achieving semantics equivalents of instruments as an essential issue was by Holzman, Diaz-Guerrero, and Swatz (1975), and one of the instruments used in the study was Test Anxiety Scale for Children (TASC) developed by Sarason, Davidson, Lighthall, Waite and Rubush (1960), in which it was found that Mexican students were more anxious than their counterparts in United states (Larry Ludlow,1989). Test anxiety was a significant case study for over 30 years, and since that time, the negative effect of anxiety has been proven in the United States (Gaudy&Spielberger, 1971). Clawson, Firment, and Trower found that Black North American students are more anxious than their white peers on the Test Anxiety Inventory (Spielberger,1980). Other cross-cultural studies that used the Test Anxiety Inventory in Egypt and Turkey by El-Zahhar(1986) and Oner(1986) found that Egyptian and Turkish students(respectively) obtained high anxiety scores compared with their counterparts in the

United States. Another study in which the comparison took place was between the test anxiety of the Egyptians again, but this time along with the Brazilian students compared with their counterparts of the U.S and again, the Egyptians were more anxious than the U.S students while the Brazilian did not show a significant score (the TAI was used) (Nabil E, EL-Zahhar, 1991).

Education plays a pivotal role within every culture, and Arab culture is one of them. The test is an essential aspect of that educational system and for making a selective system in which the right individual goes to the right workplace or educational level (Georgia Papantoniou, 2011).

Present Investigation

Traditionally, scientists have employed different methods to assess test anxiety in various situations. These instruments were created by Sarason, Davidson, Lighthall, Waite, and Rubush (1960). The Inventory of Test Anxiety (ITA) was created by Osterhouse (1970), Liebert and Morris (1969) developed the Worry-Emotionality Questionnaire (W-E Q), and the Test Anxiety Inventory was created by Spielberger (1980) (Muhammad Shabbir Ali and Muhammad Naeem Mohsin,2013). For this investigation, a revised version of the Arabic language that included 25 items from the Cognitive Test Anxiety Scale was developed to measure the cognitive component of test anxiety in students (Cassady and Finch, 2015). This evaluation considered the learner's experience during all of the testing cycle (Cassady, 2004b). The Rasch model was used to determine if the 25-item Arabic version of the CTAR possessed the unidimensional nature of CTA; if it did, a numerical measurement of CTA would be derived. The purpose of the investigation is to describe the CTA experienced by students from different universities in Arab countries with various educational backgrounds and occupations.

Method

1. Translation procedure

The CTAR-25 of Cassady and finch (2015) was translated from English into Arabic by three stages to ensure the validity of the translation, the first stage was conducted by four MA students of English Language and literature their native language is Arabic and they are fluent in spoken and written English they did the translation paying attention to both the semantic and syntactic structures ,thus the translation results a removal of one item from the original Cognitive Test Anxiety Scale because 2 items were identical when they were translated into Arabic, the second stage was conducted by two Ph.D. students of Arabic language and literature, the translated copies were given to them to comment on the Arabic version and make some corrections concerning grammar and vocabularies , while the third stage was about doing a back translation to all items to ensure the validity of the translation, which focused on transliteral equivalence rather than figural translation (see Hocevar&El-Zahhar, 1992).

2. Participants

Data were collected from postgraduate Arab students. Seventy-five Arab university students from different Arab countries, backgrounds, and fields were randomly selected. Their age ranges from (18 to 47). Thirty-six of the students were males, and 39 were females. The Arabic translation of CTAR was given to the students, and they were instructed to read each item and mark it appropriately.

3. Instruments

A 25-CTAR items questionnaire on the cognitive test anxiety scale by Jerrell C. Cassady was

run on 75 students. Detailed information about the participants was computed using a Microsoft Excel worksheet.

4. Procedure

The data were collected through two stages: the first one was by meeting the students and elaborating on the procedure of selecting the appropriate answer and the purpose of the study. This stage was done by the researcher and students from (Iraq, Syria, Lebanon, and Bahrain) while in the second stage, there was no face-to-face communication by which data were collected via WhatsApp and Facebook. The students were from (Jordan, Saudi Arabia, UAE, Morocco, Algeria, Egypt and Oman). After acquiring the data, MINISTEPS Rasch software (Linacre, 2018) version 4.2.0 was used to run the analyses. In the first step in data analysis, descriptive statistics were computed for both items and persons to check Rasch model fit, and infit and outfit values were usually examined. Significant differences between empirically observed and expected parameter values by the Rasch model result in poor model fit.

For each infit and outfit, two values, namely mean square (MNSQ) and z standard distribution (ZSTD), are reported. The acceptable range of values, based on Baghei and Amrahi (2011), for MSNQ and ZSTD, are 0.7 - 1.3 and -2 - +2, respectively. According to Bond and Fox (2007), an MNSQ value of 1 indicates an ideal fit, and MNSQ values higher than 1.5 are a sign of poor fit. Values smaller than 1 are deemed not to be problematic. Both infit and outfit are based on averaged squared standardized residuals. However, outfits are sensitive to outliers, while infits are weighed to reduce the influence of extreme scores. Hence, the infit value is a better indicator of model fit. Concerning the data from the CTAS 25 items, the maximum and minimum infit MNSQ for items are 1.48 and .49, respectively. A more detailed examination of the item statistics, as presented in Table 1, reveals that two items exceeded the acceptable range of values (item number 23 and 24) according to Baghei and Amrahi (2011); thus, they will be omitted, while the others perfectly fit the model.

Table 1. Item Statistics: Measure

Order

TTEM STATISTICS . ENTRY OPDER

ENTRY NUMBER	SCORE	COUNT	ме, 7	Table 1. Item	Statistics:	Measure	EXP.	EXACT OBS%	MATCH EXP%	ITEM
1 2 3 4 5 6 6 7 8 9 9 0 11 12 13 14 15 16 17 18 9 20 222 223 24	136 117 143 130 173 204 152 157 146 165 171 163 171 163 171 141 141 141 141 141 141 141 120 196 122	75 75 75 75 75 75 75 75 75 75 75 75 75 7	.17 -25 -59 -03 -100 -17 -23 -15 -26 -01 -17 -23 -15 -10 -17 -23 -15 -20 -01 -17 -23 -15 -20 -01 -17 -23 -15 -25 -20 -25 -22 -26 -20 -22 -26 -222 -2222 -2222 -2222 -22222 -222222222222222222222222222222222222	$\begin{array}{c} .10 & 1.09 \\ .10 & 1.13 \\ .11 & 1.05 \\ .10 & .94 \\ .100 & .09 \\ .100 & .00 \\ .100 & .100 \\ .100 & .95 \\ .100 & .93 \\ .100 & .93 \\ .100 & .93 \\ .100 & .101 \\ .100 & .101 \\ .100 & .101 \\ .100 & .21 \\ .100 & .92 \\ .100 & .92 \\ .100 & .92 \\ .100 & .90 \\ .11 & .155 \\ .100 & .48 \\ \end{array}$	Order .70 1.08 .96 1.08 .99 1.02 .65 .90 -44 .97 .55 1.06 .07 1.02 .78 1.09 .31 .96 47 .95 1.20 .85 .12 .99 .31 1.09 .58 1.21 1.58 1.21 .58 1.21 .78 .89 .59 .78 .89 .59 .90 .59 .90 .81 .90 .93 .90 .91 .90 .93 .90 .93 .90 .91 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .90 .93 .93 .93 .93 .93 .93 .93 .93	.60 .33 .62 .66 .20 .44 -73 .44 -21 .50 .50 .66 .20 .44 .21 .51 .50 .66 .20 .44 -32 .44 -32 .44 06 .33 .72 .44 1.50 .31 .72 .44 1.50 .31 .72 .44 .72 .55 .52 .72 .44 .73 .51 .72 .44 .51	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	48.0 30.7 24.0 22.7 36.0 32.0 32.0 32.0 32.0 32.0 30.7 41.3 22.3 38.7 41.3 22.3 38.7 41.3 20.0 41.3 20.0 41.3 32.0 22.7 30.7 30.7 40.0 22.7 30.7 30.7 20.7 40.0 22.7 30.7 30.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 2	27.6 27.1 27.9 27.4 30.4 34.4 27.9 28.5 29.0 28.0 28.0 28.0 28.0 28.0 28.0 29.7 30.3 29.4 27.2 27.6 28.3 27.1 27.6 28.3 27.6 28.3 27.9 27.9 27.9 27.9 27.9 27.9 28.5 29.0 28.0 29.0 27.9 27.9 27.9 27.9 27.9 27.9 27.9 27.9	Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q112 Q13 Q14 Q15 Q16 Q17 Q18 Q17 Q18 Q21 Q223 Q24
MEAN P.SD	146.8	75.0	.00	.10 1.01 .00 .21	.0 1.01 1.6 .21	.0		30.2	28.7	

Moreover, item 19, with an estimated difficulty level of .36 logits and standard error of .10, has been the most complicated item, with only 110 total scores. Item 6 was the easiest item for the posthumanism.co.uk

participants to respond to. The difficulty level for this item was estimated to be -.59 logits with a standard error of .11, with 204 total scores responding to this item. The eigenvalue of the first contrast was 2.3567. The second contrast was 2.1171 while the rest were below 2; therefore, despite an acceptable MNSQ value for infit, items 19,18,9 were omitted because they were forming one cluster with high and low negative and positive loadings in the first and second contrast, and the content of the items looked irrelevant to the construct of anxiety thus for these reasons we deleted the items. We performed the principle component analysis again to ensure that the eigenvalue" Unexplained variance" of the first and second contrasts must be below two, according to Baghei and Amrahi (2011). Therefore, five items were deleted. Two of them were as a result of being outfitted, and three items were deleted due to a subjective call because of their irrelevance to the construct.

Based on personal statistics, participant number 59 (female, age 24), with an estimated ability level of 1.12 logits and a standard error of .28, was the highest ability. On the other hand, person number 7 was the one with the least ability. His (age 18) ability level and standard error were estimated to be -.95 logits and.23, respectively.

The following characteristics of the data to be examined were dedicated and dependable. Lowperson isolation is considered to be the separation of 2 people. Low person reliability is considered to be the consistency of the situation. The individual's separation index is indicative of the instrument's capacity to differentiate between capable and un-capable participants. The aggregate statistics in Table 2 demonstrate a divergence value that is under 2, 1.38, which is not beneficial. Items should be added to the instrument to distinguish between competent and incompetent individuals.

	TOTAL				MODEL		IN	FIT		OUTF	TI
	SCORE	COUNT	MEASU	JRE	S.E.	м	NSQ	ZS	TD	MNSQ	ZST
MEAN	17.9	19.0		23	.46		. 99		18	. 99	18
SEM	. 5	. 0		10	.00		.06		20	.06	. 20
P.SD	4.1	.0		86	.01		. 52	1.	72	. 52	1.7
S.SD	4.1	.0		86	.01		. 52	1.	73	. 53	1.7
MAX.	28.0	19.0	1.	85	.47	2	. 99	3.	63	3.02	3.6
MIN.	10.0	19.0	-1.	85	. 44		. 03	-4.	99	. 03	-5.0
REAL	RMSE .50	TRUE SD	. 69	SEPA	RATION	1.38	PER	SON	REL	IABILITY	.6
ODEL S.E.	RMSE .46 OF PERSON MI	TRUE SD EAN = .10	.72	SEPA	RATION	1.58	PER	SON	REL	IABILITY	.7

Table 2. Summary of 75Measured Person

The method of item separation is used to verify the order in which the item is listed (the WINSTEPS website). The difficulty values of 3 different items (low, medium, and high) are considered to be low regarding the item's separation. A low distance between items means that the number of individuals is not sufficient to ensure a dependable order of items based on their difficulty (validity). The data in Table 3 indicates that the item has a separation value of 1.20 and its reliability is .59, both of which are less than the typical threshold values. This implies that to calculate the item's difficulty rank accurately, we must have a larger sample size.

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Table 3. Summary of 19 Measured Items

SU	JMMARY OF 19	MEASURED I	TEM						
	TOTAL SCORE	COUNT	MEASURE	MODEL S.E.	INF MNSQ	IT ZSTD	OUTF MNSQ	IT ZSTD	ĺ
MEAN SEM P.SD S.SD MAX. MIN.	70.7 1.7 7.0 7.2 88.0 60.0	75.0 .0 .0 .0 75.0 75.0	.00 .09 .37 .38 .57 92	.23 .00 .00 .00 .23 .23	1.00 .05 .21 .22 1.46 .53	06 .31 1.30 1.33 2.38 -3.33	.99 .05 .22 .22 1.46 .50	09 .31 1.31 1.35 2.32 -3.44	
REAL	RMSE .24 RMSE .23 OF ITEM MEAN	TRUE SD TRUE SD N = .09	.29 SEPA .29 SEPA	RATION RATION	1.20 ITEM 1.27 ITEM	REL] REL]	IABILITY	r .59 r .62	
ITEM RA Global UMEAN=.	DEL AW SCORE-TO-M statistics: .0000 USCALE=	ETED: IEASURE COR please see 1.0000	5 ITEM RELATION = Table 44.	-1.00					

Table 3. Summar of 19 Measured Items

However, the original CTAR consisted of five categories (strongly agree-strongly disagree), but the arrangement of the thresholds showed that the Arab students could not differentiate accurately among the categories; thus, two of them collapsed into one category. Hence, the categories (1,2,3) formed a perfect threshold interaction. See (Figure 1)





The representativeness of the test items and the difficulty of the thresholds that is, construct validity. The map shows that the bulk of items on the right are almost in match to the bulk of persons on the left, but there is a big gap between -1 and 1, indicating the test needs more items to cover that gap, items which are neither too difficult nor too easy to estimate the participants' ability appropriately. Overall, the items show an acceptable degree of representativeness.

4992 Validation of the Arabic Translation of the Cognitive Test Anxiety Figure 1: Item- Person map

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MEASURE 3	PERSON - M Kmore>	AP - ITEM - <rare> 1 +</rare>	- 50% Cumulativ 2	e probabilities	(Rasch-Thurstone	thresholds)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			-	Q16.2 Q14.2 Q15.2 Q15.2 Q22.2 Q17.2 Q21.2 Q21.2 Q21.2			
xx T Q12.2 Q13.2 xx xx xx xx xx xx xx xx xx xx xx xx xx	2	x x	Ì	Q3.2 Q8.2 Q10.2 Q1.2 Q1.2 Q5.2 Q7.2			
1 xx 1 xx xx xx xx xx xx xx xx xx xx		XX T	1	Q12.2 Q20.2 Q13.2			
1 xxx xxx xxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxxx		xx					
2 xxx xxx xxx xxx xxxxx xxxx xxxx xxxxxx		xxx					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	xxx	i	Q6.2			
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		3					
$\begin{array}{c} x \\ 0 \\ x \\$			3				
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$\begin{array}{c} x \\ x $		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX					
$\begin{array}{c} x \\ x \\ -1 \\ x \\ x \\ x \\ x \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$		xxx	s				
$\begin{array}{c ccccccc} x & x & x & x \\ & x & x & x \\ & x & x &$			1				
-1 x0000000 s x000000 s x000000 s x000000 s x000000 s x00000 s x0000 s x000 s x000 s x000 s x000 s x000 s x000 s x00 s		X0000X	т				
-2 -2 -2 -3 -3 -3 -3 -3 -2 -3 -2 -3 -2 -3 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	-1	X00000000X	1				
-2 -2 -2 -3 -3 -3 -3 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2		x0000000X S					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		x000000X	Q16.1 Q14.1 Q4.1				
-2 -2 -2 -2 -2 -2 -2 -2 -2 -2		x	Q13.1 Q22.1 Q17.1 Q21.1 Q2.1				
-2 -2 -2 -2 -2 -2 -2 -2 -2 -3 -3 -3 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2		XX T	03.1				
-3 classification 0 1	-2		Q8.1 Q10.1 Q11.1 Q11.1 Q5.1 Q7.1 Q12.1 Q20.1 Q13.1				
cless) cfreex 0 1	-3		Q6.1				
		<less></less>	<pre>kfreq> 0</pre>	1			

Conclusion

To enable researchers to conduct cross-cultural studies and measure test anxiety in Arabic Journal of Posthumanism

contexts, we translated CTAR into Arabic and examined its psychometric features by employing the Rasch model. The results of Rasch's measurement showed that the scale works better with four options than five options for test takers whose first language is Arabic. Based on infit values, two items did not fit the model. These two items are being afraid to see the scores of a challenging test and relating good grades to being lucky. Moreover, the PCA of residuals indicated the existence of a construct other than test anxiety. The three items loading to this construct are feeling defeated before even starting a stern test, feeling that one is not doing well during the test, and believing that one is a poor test taker and unable to show one's fundamental knowledge on tests. After omitting these five items, the test became unidimensional.

Having said this, the questionnaire still has some limitations. First, the separation of item and person in the test did not meet the critical value of the two, meaning that the test needs both more items and more persons. Another limitation of the study is that data for this study was collected partly via printed questionnaires and partly through online questionnaires, which might affect the results.

We hope that future research takes into account the findings of this study to help provide researchers with acceptable instruments to measure text anxiety in Arabic contexts.

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