

BACK TRANSLATION RELIABILITY OF TEOSQ IN TEAM GAME, INDIVIDUAL GAME AND GENDER CATEGORY

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ABSTRACT

This study aims to test the reliability of the translated TEOSQ instrument based on gender, team and individual game with a specific focus to the dispositional approach on the athlete's performance in task and ego orientation in Malaysian setting. A total number of 324 (male = 193, $M_{age} = 17.38 \pm 1.92$; female = 131, $M_{age} = 16.75 \pm 2.24$) of different sports were recruited. The performance of dispositional Motivation was evaluated by adopting and back-translation of TEOSQ in Malaysian language. The overall results for types of sport and gender show an alpha (α) of 0.79 and 0.83 for both ego and task orientation. The instrument shows a good reliability in both types of sport as well as in gender category after been translated in Malaysian language. It also shows that athlete in team sport and female athletes are more prepared, focused on mastering skill and wanted to perform better in sports engagement.

Keywords: goal's orientation; type of sport; development athletes; motivation; reliability.

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1. INTRODUCTION

TEOSQ which stands for task and ego orientation questionnaire assess two parts of an athlete's psychological abilities. These parts include motivational task and ego of an athlete during or before performance. The motivational construct of the questionnaire explains the need for an excellent athlete to be motivated and also the way motivation perception goes on [1]. Motivation can be defined as a need for the triumph of success; the necessity of doing better than opponent in activities and complete challenging tasks; their desirability to be a top athlete, especially when competing with their opponents [2]. The dissimilarity in the achievement of individual goals in competition, differ in their way of understanding the concept that surrounds the athlete. Moreover, concerning the sense and role of their activities and function held, reflect the beliefs and engagements of the athlete in certain actions which are the rational expressions of their achievement. Therefore, the goal orientations of individuals in association to a specific action will affect their motivation for that same activity [3].

The social cognitive approach of the questionnaire, assess the achievement of objectives on the existence of two goals of motivational orientation or goals achievement [4]. The first one defined as ego orientation which describe that when an athlete is ego oriented normally outperforms his/her opponents and the second construct is task orientation which explains the more the athlete master his/her skill the better the performance as opposed to his/her opponents [5]. Consequently, there exist positive association between task orientation and intrinsic motivation, primarily to more positive performance outcome [6]. Nevertheless, it is reported that, individuals with the expectancy of success, or task orientated, have more control of their abilities, believe in their effort, more autonomous, more competitive and more determined [7]. In the same perspective, ego oriented individuals are toughly competitive; individualistic; concerns to the extreme with the defeat, makes the sport a social prominence, using it to get popular and auto promote; do not bother to use illegal ways to achieve success, plus aggression; less determined and less attentive when they are defeated, their catastrophe is linked to deficiency of capacity and it goes towards low level of performance [8].

Reliability can be regarded as the degree to which estimation strategy can be depended upon

to create predictable results upon frequent application [9]. Reliability is a pivotal angle in each field of studies, across over various fields; many experts often disregard to report the dependability of their measures, but instead, miss the mark concerning an association between scale authenticity and suitable exploration [10]. Reliability is the degree to which measures are free from any issues and hence yield solid results (i.e. the consistency of an estimation procedure) [11]. If an estimation device or strategy dependably figures out the same score to individuals or objects with comparable qualities, the instrument is seen as tried and true. Moreover, reliability incorporates the consistency or reproducibility of test scores, i.e., the degree to which one can for the most part expect reliable deviation scores of individuals squarely over testing circumstances on the same, or parallel, testing instruments [12].

Cronbach's alpha coefficient is a statistical measure that approximates the stability as well as consistency of constructs incorporated in a questionnaire. A high coefficient specifies that the constructs are consistently assessing the same underlying construct. Several studies have been conducted using TEOSQ to investigate the level of ego and task orientation of the athletes in Malaysian perspective [13-14]. Although the instrument has been an excellent tool in assessing the aforementioned psychological parameters in athletes, the instrument is developed in English language which could pose a problem in the terms of comprehension of the contents by the respondents particularly in the country in which English language is not a medium of instruction as first language such as Malaysia. In such cases, the original version of the questionnaire has to be back-translated in to the local language of the respondents in order to ensure that the respondents can comprehend the information as it is designed to convey. Based on this background therefore, this study aims to test the reliability of the instrument TEOSQ (task and ego orientation in sports questionnaire) in gender, team and individual game with particular reference to the motivational disposition approach to the athlete's performance in task and ego orientation in Malaysian setting.

2. MATERIALS AND METHODS

2.1. Participants

This study used ex-post facto as study design to achieve its objective. Necessary

authorizations from the organizing board, consent from the coaches, athletes, and their guidance/parent were acquired before the commencement of the study. This study was conducted in Malaysia at the mini stadium of Terengganu, Malaysia. The study was carried out in collaboration with support from University of Sultan Zainal Abidin (UniSZA), Terengganu Sports Council (MSNT) and Terengganu Sports Institute (ISN Terengganu), 2017. The participant of this study consisted of athlete of different sports drawn from Malaysia. The athlete were the development program athlete under Terengganu Sports Council. A total number of 324 athletes (male = 193, mean age = 17.38 ± 1.92 ; female = 131, mean age = 16.75 ± 2.24) were enrolled. The age ranges of the athlete were 13-21 years. These age categories were chosen because of the evidence suggesting that participation motives and achievement behavior changes around these ages [15]. All the procedures, protocol and equipment's for this study were permitted by The UniSZA Human Research Ethics Committee (UHREC) with a reference number 04-04/T-01/Jid 2.

2.2. Data Collection Procedure

Task and Ego Orientation in Sports Questionnaire (TEOSQ) was utilised in this study [16]. The questionnaire contains 13 items inventory which measure an athlete's disposition of being either task, ego oriented or both in sport. The questionnaire consisted of six-item measuring ego (e.g., "I can do better than my friends") and seven item assessing task (e.g., "I work really hard"). The responses are designated on a 5 point Likert scale where 1 = strongly disagrees and 5 = strongly agrees. The questionnaire was translated into Bahasa Malaysia using back-translation method (see Table 1) been validated and also showed excellent reliability in the sports domains [14, 17-19]. The task and ego orientation subscales demonstrated adequate internal consistency with alpha reliability coefficients of 0.82 and 0.71 respectively.

Table 1. List of TEOSQ item for dual language

Item	Item of TEOSQ in English	Item of TEOSQ in Bahasa Malaysia
Q1	I am the only one who can do the play or skill.	Saya satu-satunya yang bermain dengan baik atau berkemahiran.
Q2	I learn a new skill and it makes me want to practice more.	Saya belajar kemahiran baru dan ia membuatkan saya mahu berlatih lagi.
Q3	I can do better than my friends.	Saya boleh lakukan lebih baik daripada rakan-rakan saya.
Q4	The others cannot do as well as me.	Rakan yang lain tidak boleh lakukan seperti saya.
Q4	I learn something that is fun to do.	Saya belajar sesuatu yang menyeronokkan untuk dilakukan.
Q6	Others mess up, but I do not.	Orang lain menggagalkan tetapi saya tidak.
Q7	I learn a new skill by trying hard.	Saya belajar kemahiran baru hasil usaha keras.
Q8	I work really hard.	Saya sangat bekerja keras.
Q9	I score the most points/goals/hits, etc.	Saya paling banyak mendapatkan mata/gol/ sasaran dll.
Q10	Something I learn makes me want to go practice more.	Apa yang saya belajar membuatkan saya ingin pergi latihan lagi.
Q11	I am the best.	Saya yang terbaik.
Q12	A skill I learn really feels right.	Kemahiran yang saya belajar sangat berguna.
Q13	I do my very best.	Saya buat yang terbaik.

2.3. Pre-Data Analysis

A total of 4212 matrices set of data (13 item \times 324 observation) were computed to establish the reliability of the instrument. All data were observed for missing values and univariate outliers. By using q-q plots, scatter plot and skewness were tested as recommended by prior

research [20, 39-40]. No outliers were found, which redirected that the expectations of normality, linearity and homoscedasticity were met for further analysis. The total of missing values in the set of matrices was slight (~3 %) compared to the overall values obtained. In order to enable for further analysis, the nearest neighbor method was applied [21-23]. This method tests the distance between each value and the closest value to it. This is the simplest method, where the final values of the holes are used as an estimation of all missing values [41-46]. The formula applied in this technique is shown in Equation (1):

$$y = y_1, \text{ if } x \leq x_1 + \frac{x_2 - x_1}{2} \text{ or; } y = y_2, \text{ if } x \leq x_1 + \frac{x_2 - x_1}{2} \quad (1)$$

whereas y is the interpolant, x is the interpolant of the value point. Meanwhile, y_1 and x_1 are the range of values for starting point of the gap and the opposite for ending values of the difference is y_2 and x_2 . Descriptive statistics were calculated for all responses assessed. To evaluate the internal consistency of TEOSQ, Cronbach's alpha coefficients (α) were used in the current study.

2.4. Data Analysis

Cronbach Alpha's Coefficient was used in this study to validate the internal reliability of the items in the questionnaire. Motivational orientation (ego and task) was calculated separately for each type of orientation. Cronbach Alpha's Coefficient is adopted in this procedure because it is the most used techniques to assess the internal consistency of an instruments [21]. Cronbach's alpha reliability coefficient usually ranges between 0 and 1. Nonetheless, there is essentially no lower limit to the coefficient. The nearer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Based on the Equation (2), where k is the quantity of the items considered and r is the mean of the inter-item coefficients the size of alpha is determined by equally the number of items in the scale and the mean inter-item correlations.

$$rk/[1 + (k - 1)r] \quad (2)$$

The spectrum of Cronbach Alpha (α) scale in this study was used as recommended by previous researchers by following rules of thumb; ($> 0.9 =$ Excellent; $> 0.8 =$ Good; $> 0.7 =$ Acceptable; $> 0.6 =$ Questionable; $> 0.5 =$ Poor and $< 0.5 =$ Unacceptable) [24-26]. While increasing the value of alpha is partly dependent upon the number of constructs in the scale, it

should be noted that this has diminishing returns. Additionally, it should also be noted that an alpha of 0.8 is a solid and suitable range. It should also be recognized that while a greater value for Cronbach's alpha (α) specifies good internal reliability of the items in the range, it does not mean that the range is unidimensional. This study employed the calculations of descriptive statistics separately for both types of sports and gender. For all statistical analysis, SPSS software version 20.0 and XLSTAT 2014 add-in software for Windows were used to meet the objective.

3. RESULTS AND DISCUSSION

The objective of the current study was set to determine the reliability of the TEOSQ instrument in gender, team and the individual game with a specific reference to the dispositional approach of the athlete's performance in task and ego orientation in Malaysia setting. Based on gender categories, the female athletes mean score shows 3.23 ± 0.69 and 4.20 ± 0.55 for both ego and task orientation respectively. Similarly, the male athletes mean score shows 3.13 ± 0.74 and 4.25 ± 0.62 for ego and task orientation respectively. Furthermore, in types of sports category, the descriptive analysis reported for individual games had scored of mean 3.17 ± 0.72 and 4.27 ± 0.55 for ego and task orientation respectively meanwhile team games had scores of mean 3.13 ± 0.74 and 4.10 ± 0.67 for ego and task orientation respectively. The statistical technique results of descriptive analysis of mean are projected in visualized data by using Box and Whisker plots as can be seen in Fig. 1.

3.1. Gender Differences

The first phase is to determine the reliability of Cronbach alpha score in gender differences in both orientations (ego and task). Results from the inferential statistical analysis of the Cronbach alpha's reliability test shows, the total coefficient Alpha of 0.79 and 0.83 for both ego and task orientation in the group. As shown in Table 2 and 3, for the female category, the scores showed 0.81 and 0.82 of Cronbach Alpha's results for ego and task orientation respectively. Meanwhile, for the male category, the Cronbach Alpha's scores projected 0.78 and 0.84 for both ego and task orientation respectively. However, it was also found that the differences in ego and task orientation among gender categories are small, 0.03 and 0.02

correspondingly.

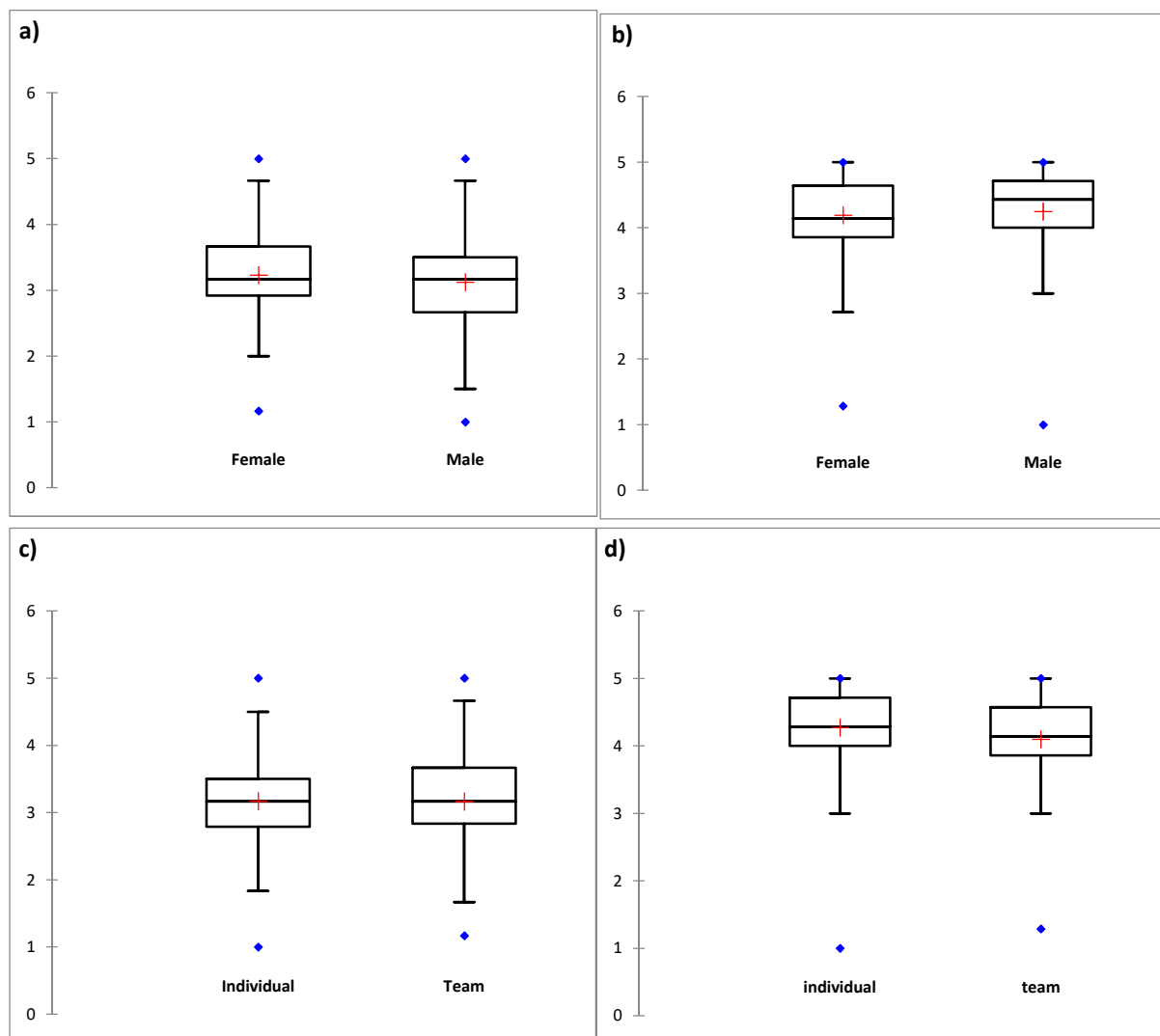


Fig.1. The figure showed box and whisker plots based on the mean of ego and task orientation for both type of sports and gender category; a) Ego for gender category, b) Task for gender category, c) Ego for the type of sports group, and d) Task for the type of sports category. As shown in Table 2 and 3 in the category of gender, the differences on Cronbach alpha score in ego orientation, is acceptable for the overall rating. However, the female athletes have predominance in the guidance to the score in ego (good) compared to the male athlete (acceptable). Another noteworthy result is that the entire mean in the females is higher as opposed to the males. The results indicate that the sample of both female and male athletes practice these methods in the autonomic way (self-choice), which might probably give them feelings of fun and self-efficacy [27]. As shown in Table 2, when some of the items were

deleted, relating to ego orientation in gender category, probably in question Q3 and Q6, the result could rise. Item Q3 and Q6 asked the athlete “I can do better than my friends” and “Others mess up, but I do not” in this case, as the female athletes are prone to be more concern about their performance when engaging in sport [28].

On the other hand, the performance of task orientation in gender differences based on Cronbach alpha score, result in Table 3 shows that overall alpha score is in a good performance (0.83). Male athletes had a consistent good scores (0.84) for all item. But, for the female athlete, the results do not converge (0.82) because only the item on Q10 (0.78), Q12 (0.79) and Q13 shown acceptable performance level (0.79).

Table 2. The table presents the result of alpha of ego orientation, if item of the question was deleted in gender category

Item of The Question	Female	Male	Total
	α		
Q1	0.77	0.77	0.77
Q3	0.81	0.74	0.77
Q4	0.79	0.73	0.76
Q6	0.80	0.77	0.78
Q9	0.76	0.73	0.74
Q11	0.76	0.75	0.75
Ego orientation	0.81	0.78	0.79

Similarly, as shown in Table 2, when some of the item were deleted, relating to task orientation in gender category, item Q10, Q12 and Q13 asked the athlete “Something I learn makes me want to go practice more”, “A skill I learn really feels right”, and “I do my very best”. Outcomes from other research showed that task orientation has a significant effect ($F_{1, 259}=10.63$; $p < 0.001$) on gender based on task orientation [29]. Moreover, the finding from previous researchers have shown an agreement that task orientation is associated with enjoyment, perceived competence and intrinsic motivation and supported by another studies, task orientation as a correlate of adaptive motivational outputs [30-34]. For instance, task orientation or tending to define success and feel competent when improving, gaining

knowledge and mastering skills has been continually linked with satisfaction, intrinsic motivation and rely on hard working and determination can lead to success.

Table 3. The table presents the result of alpha of task orientation if item of the question was deleted in gender category

Item of The Question	Female	Male	Total
	α		
Q2	0.80	0.80	0.80
Q5	0.80	0.83	0.82
Q7	0.80	0.82	0.81
Q8	0.80	0.82	0.81
Q10	0.78	0.80	0.79
Q12	0.79	0.82	0.81
Q13	0.79	0.82	0.81
Task Orientation	0.82	0.84	0.83

3.2. Type of Sport Differences

Meanwhile in the second phase, by looking at the different type of sport (team and individual game), it is set to determine the reliability of Cronbach Alpha (α) in Malaysia language for both ego and task orientation. By using 'leave one out method,' in this study some of the item were deleted which gave an information of some errors attributable to the internal consistency of the instrument. Similarly, a small difference was found, based on in category type of sport for both ego and task orientation, 0.03 and 0.07 respectively (Table 4 and 5) whereas in individual games, a little or no difference scores were found 0.79 and 0.80 of Cronbach Alpha's results, for ego and task orientation. Meanwhile for team games, Cronbach Alpha's scores of 0.82 and 0.87 for ego and task orientation were obtained indicating some differences.

Table 4. The table presents the result of alpha of ego orientation, if item of the question was deleted in the category of game

Item of The Question	Individual Game	Team Game	Total
	α		
Q1	0.77	0.78	0.77
Q3	0.76	0.79	0.77
Q4	0.73	0.82	0.76
Q6	0.78	0.78	0.78
Q9	0.73	0.77	0.74
Q11	0.75	0.77	0.75
Ego orientation	0.79	0.82	0.79

In contrast for engaging in the different type of sport, in overall score, ego orientation for Cronbach Alpha shows acceptable value ($\alpha = 0.79$). Conversely, team game shows good performance of Cronbach Alpha ($\alpha = 0.82$) rather than an individual game ($\alpha = 0.79$, acceptable). Similarly, the overall score of Cronbach Alpha in task orientation shows good performance ($\alpha = 0.83$) and team game ($\alpha = 0.87$) predominant rather than an individual game ($\alpha = 0.80$) respectively. In this case, probably an explanation for the low consistency of Cronbach's Alpha identified for the evaluation of ego and task orientation in the individual game might be correlated to motivational individualities. The instrument used in this study (TEOSQ) identifies that motivation is an intrinsic personality (task) or extrinsic (ego). The character related to physical activity has identified diverse settings of motivation, and four types of motivations are an extrinsic behavior (regulation by external factors) and only one of intrinsic character (internal control) [35-36].

Table 5. The table presents the result of task orientation, if item of the question was deleted in the category type of game

Item of The Question	Individual Game	Team Game	Total
	α		
Q2	0.76	0.85	0.80
Q5	0.80	0.85	0.82
Q7	0.78	0.87	0.81
Q8	0.78	0.86	0.81
Q10	0.76	0.84	0.79
Q12	0.79	0.84	0.81
Q13	0.78	0.85	0.81
Task Orientation	0.80	0.87	0.83

Thus, it was predictable that Cronbach's alpha value for ego is smaller for the assessment of the direction when compared to task orientation in the most cases been reported. It is in line with other research instrument score that has been conducted in other sports literature [31, 33-34, 37]. The next phase of the analysis was to discover the reliability of the Cronbach alpha results of the athletes in a different type of sports. Observing Table 4, overall, concerning the ego orientation in the type of sports, Cronbach alpha had a score acceptable performance (0.79). It shows that the athletes from team game have predominance in the guidance to the ego orientation (0.82) compared to the individual game (0.79). However, further study needs to identify the differences in gender and type of sports effect on goal orientation using this instrument in Malaysia. Thus, the information of the upcoming study will lead to establishing the model in Malaysian scenery. This study is limited to test the reliability of TEOSQ in Malaysia setting focusing only to the internal consistency based on gender and type of sports.

4. CONCLUSION

The current study has successfully examined TEOSQ and established the reliability of the back translation technique that suits Malaysian settings. However, the result of goal orientation of

the instrument (TEOSQ) presents reliability corresponding to other studies which indicated a good performance of Alpha's Cronbach in both type of sports category and also in gender division after been translated in Malaysian language.

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