AÇIK ERİŞİM
OPEN-ACCESS

Gazi Beden Eğitimi ve Spor Bilimleri Dergisi
Gazi Journal of Physical Education and Sports Sciences
2023, 28(1), 55-62

Observational Collective Efficacy Scale for Sport (OCESS): Validity and Reliability Study of the Turkish Form

Sporda Gözlemsel Kolektif Yeterlik Ölçeği: Türkçe Formunun Geçerlik ve Güvenirlik Çalışması

Research Article / Araştırma Makalesi

Ender ŞENEL [1]
Mevlüt YILDIZ [1]
Recep GÖRGÜLÜ [2]
İlhan ADİLOĞULLARI [3]

[1] Mugla Sitki Kocman University, Faculty of Sport Sciences, MUĞLA

[2] Bursa Uludag University, Faculty of Sport Sciences, BURSA

[3] Canakkale Onsekiz Mart University, Faculty of Sport Sciences, ÇANAKKALE

Corresponding Author / Sorumlu Yazar
Assoc. Prof. Dr. Ender ŞENEL
endersenel@mu.edu.tr

Received / Geliş Tarihi : 13.06.2022
Accepted / Kabul Tarihi : 28.01.2023
Published / Yayın Tarihi : 31.01.2023

Ethical Statement / Etik Bilgilendirme
This research was approved by the Uludag University Social and Sciences Ethical Committee on 28.01.2022 with decision number 38/01.

DOI: 10.53434/gbesbd.1130377

Abstract

The study aimed to analyze the Observational Collective Efficacy Scale for Sport (OCESS). 242 Turkish athletes and 85 Turkish coaches participated in the study. After performing the first step for the language validity of the scale by using the translation-back translation method, it was sent to the athletes as an online form. Athletes responded to the items voluntarily. KMO and Bartlett's test of sphericity values were calculated to determine whether the data was proper for factor analysis. The initial factor structure of the scale was tested with CFA. While the Pearson correlation test was used for criterion-related validity, the internal consistency coefficient was calculated with Cronbach's alpha. While KMO was found to be 0.84, Bartlett's test of sphericity was statistically significant. The item factor loadings ranged between 0.64 and 0.88. In sum, the Turkish version of the OCESS presents acceptable psychometric properties and may be used to assess athletes' collective efficacy beliefs in team sports repeatedly.

Keywords: Team sport, Outcome-oriented team, Process-oriented team

Öz

Bu araştırmanın amacı, Sporda Gözlemsel Kolektif Yeterlik Ölçeğinin Türk sporcularda ve antrenörlerde analiz etmektir. Araştırmaya 242 sporcu ve 85 antrenör katılmıştır. Çeviri-geri çeviri yöntemi kullanılarak ölçeğin dil geçerliği için gerekli ilk aşama gerçekleştirildikten sonra, çevrimiçi form sporculara gönderilmiştir. Sporcular formu gönüllü olarak doldurmuştur. KMO ve Bartlett Küresellik Testi verilerin faktör analizine uygun olup olmadığına karar vermek için kullanılmıştır. Ölçeğin başlangıçtaki yapısı Doğrulayıcı Faktör Analizi (DFA) ile test edilmiştir. Pearson Korelasyon testi ölçüt bağıntılı geçerlik analizi için kullanılırken iç tutarlılık katsayısı alfa katsayısı ile hesaplanmıştır. KMO 0.84 olarak bulunurken, Bartlett Küresellik testi istatistiksel olarak anlamlı çıkmıştır. Madde faktör yükleri 0.64 ile 0.88 arasındadır. Sonuç olarak, Sporda Gözlemse Kolektif Yeterlik Ölçeğinin Türkçe sürümü kabul edilebilir psikometri özellikler göstermiş ve takım sporlarında sporcuların ve antrenörlerin kolektif yeterlik inançlarını değerlendirmek için kullanılabilir özelliktedir.

Anahtar Kelimeler: Takım sporu, Sonuç odaklı takım, Süreç odaklı takım

Atıf / Citation: Şenel, E., Yıldız, M., Görgülü, R. ve Adiloğulları, İ. (2023). Observational Collective Efficacy Scale for Sport (OCESS): Validity and Reliability Study of the Turkish Form. *Gazi Journal of Physical Education and Sports Sciences, 28*(1), 55-62.

Introduction

It is well-known that the more the players believe in the team's capacities, the better they perform (Dithurbide, Sullivan & Chow, 2019; Hodges & Carron, 1992; Keshtan, Ramzaninezhad, Kordshooli & Panahi, 2010; Myers, Feltz & Short, 2004). This means a positive relationship between performance and team spirit in sport. Pioneer psychologist Albert Bandura (1997, p.477) defined this as collective efficacy (CE) as "the group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments, that is, situation-specific confidence in a group's ability." Whether CE is considered as individual perceptions of team members' beliefs or group's shared confidence, from the perspective of Bandura's (1986) social cognitive theory, individuals are considered as producers of who they are and how they interact within the environment (Hampson & Jowett, 2014). Correspondigly, Bandura suggested that CE is more than just the sum of individual efficacy levels within the group. More specifically, a strong sense of CE provides excellent teams to come from behind and setbacks to win even when they are not playing their best (Kozub & McDonnell, 2000) at a competition or a group task.

Similarly, Zaccaro, Blair, Peterson and Zazanis (1995) suggested that the qualities of the group itself also have great potential to contribute to a team's sense of efficacy. Extending this notion, most of the research revealed a consistent positive relationship between collective efficacy and group performance in organizational settings, including sports (Gully, Incalcaterrra, Joshi & Beaubien, 2002). According to Bandura (1977), progress in CE research requires developing suitable measurement tools suitable for research questions pertaining to the relation between CE and team performance as it grows and changes over time (Feltz, Short & Sullivan, 2008).

However, as the CE is not a fixed trait instead of a dynamic construct (Myers & Feltz, 2007), one's beliefs in the capabilities of a team may change over time (e.g., during a game or the season of the league). It is important to emphasize that these changes in the competition often seem responsible for winning or losing (Fransen, Kleinert, Dithurbide, Vanbeselaere & Boen, 2014) as a result of team spirit. Myers, Paiement and Feltz (2007) stated that only simultaneous measures of the relationship between efficacy and performance would provide advanced knowledge about their dynamic relationship during an event or a competition. In this premise, it is worth considering factors beyond methodological limitations that may lead to such equivocal findings in the literature concerning the assessment of the CE.

To date, a widely used measure of CE is the Collective Efficacy Questionnaire for Sport (CEQS developed by Short, Sullivan, and Feltz, 2005) that represents CE as a multidimensional construct based on Bandura's (1997) argument, "efficacy beliefs include beliefs in the physical task but also beliefs in the capability to manage thoughts, actions, emotions, and motivation" (Dithurbide & Feltz, 2012, p. 260). However, contradictory to Myers, Paiement and Feltz's (2007) above argument and the CE's dynamic nature, the CEQS has been measured traditionally by administrating the questionnaire before or after the competition (Fransen et al., 2014).

Bandura (1977, p. 67) emphasized that "the relationship between efficacy beliefs and action is revealed most accurately when measured in close temporal proximity." Despite such a solid theoretical basis for examining the dynamic character of CE, only Edmonds, Tenenbaum, Kamata and Johnson (2009) have to date taken up this mantle. They considered measuring CE beliefs of adventure racing teams at a few time points during the competition. Their investigation provides promising initial evidence that the extent to which the CE of the more successful teams increased through the race; subsequent performance improved. However, instead of CE, the authors assessed mountain bikers' team outcome confidence in their investigation by asking, "How confident are you in the team's ability to execute the mountain biking portion of the race to secure a top-place finish?" Given the ambiguity of the CE literature concerning the valid and reliable assessment tools, CEQS' Ability subscale items are rather outcome-oriented and, therefore, cannot be used as reference measurement of CE in team sports (see in Fransen et al., 2014).

Apart from the limited research on the measurement process-oriented and dynamic nature of CE, one should strive for more frequent measurements not just before and after the game but also during the game that, too, would be observational (Fransen et al., 2014). In line with theoretical rationale, Fransen et al(2014) took the first step toward an observational measurement of CE by surveying 33 volleyball coaches at top-level and subsequently, an evaluation of 2365 coaches and athletes in volleyball results revealed: "five sources that were perceived as very important for them; a) reacting enthusiastically when making a point; b) having leader figures in the team who believe that their team will win this game and express this on the court; c) having both players in the game and on the bench who cheer enthusiastically; d) encouraging each other during the game; e) communicating tactically during the game."

Later, Fransen et al. (2014) echoed previous research findings on the lack of clarity in CE operationalization and measurement by investigating and developing the structure of a five-factor measure of CE (Observational Collective Efficacy Scale for Sports; OCESS). Previous research within sports settings confirmed the scale's convergent and discriminant validity, revealing a sound factorial structure and demonstrating that the OCESS is highly internally consistent (with Cronbach's alpha's exceeding .85 (Fransen et al., 2014).

Similarly, examining the psychometrics of the OCESS among new linguists and cultures will contribute to increasing the normative data available for the OCESS. This research will also maximize information on the scale's applicability, utility, and generalizability to new populations. In this respect, the current multi-study paper aims to extend previous research on the psychometric properties of OCESS to yet another language by focusing on its Turkish version. More specifically, the main objective of the present study was to examine the factor validity and reliability of the original OCESS among a sample of Turkish coaches and athletes.

Study 1: Translation and Content Validity

Method

The aim of this study 1 was to translate the OCESS into Turkish in line with the suggestions provided by translators and analyze the content validity with experts' recommendations. The translation process included two translators, two back translators, and an expert committee to evaluate the process and the items. In addition, six experts were asked to rate the items if they were proper for assessment.

Instrument and procedures: First, we obtained the necessary permission from the authors of the original scale. Then, we followed the process suggested by Beaton, Bombardier, Guillemin and Ferraz (2000). We included two translators, one knew the concept (T1), and one did not know nor be informed (T2). T1 was working as an academic in sport sciences and T2 has another field of expertise. First, two independent translators translated the original OCESS into Turkish. Then, we created a synthesis OCESS form in Turkish. The translations of the two translators were quite similar to each other. After this process, we asked two independent translators, one knew the concept (BT1), and one did not know nor be informed (BT2) to translate the synthesis OCESS form into English. All the translations (T1, T2, BT1, BT2) and synthesis forms were sent to six experts to evaluate the translations and the synthesis form. T1 and BT1 were academics having PhDs and studies into sports psychology. T2 and BT2 were academics working in the field of English language teaching. They are asked to give feedback for each item. The experts have the common opinion that all the items are proper for both team athletes and team coaches.

The six experts (the same experts giving feedback for items in translation) having Ph.D. degrees in the field of sports sciences and studying sports psychology were asked to rate each item between one and four if there were proper to assess collective observational efficacy in the sport for both team athletes and team coaches.

Fransen et al. (2014) developed OCESS having five items rated between 1 and 7. The internal consistency coefficient of the original measurement was 0.85. This measurement was developed according to Bandura's (1997) process-oriented definition of collective efficacy. OCESS was created to solve an ambiguity in measuring collective efficacy because some studies into collective efficacy were outcome-oriented, according to Fransen et al. (2014). Therefore, OCESS is developed as a process-oriented measurement.

Content validity data analysis: The content validity index for the item (I-CVI) and scale (S-CVI) were calculated in excel. Polit and Beck (2004) defined content validity as to how an instrument has an appropriate sample of items for the construct being measured. The number of agreements among the experts was calculated for each item to calculate the I-CVI. I-CVI was calculated by dividing the number of agreements by the number of experts. The mean score of I-CVIs shows the S-CVI. S-CVI/UA is calculated by dividing the number of agreements by the number of items (Polit & Beck, 2006), recommended in the literature (Polit, Beck & Owen, 2007).

Results of the Study 1

Table 1 represents the content validity scores of both item (ranged between 0.83 and 1,00) and scale level (0.96) indexes. S-CVI/UA was 0.8. These scores showed that OCESS had content validity.

Table 1. The content validity indexes of OCESS-Turkish

Item	Rater 1	Rater 2	Rater 3	Rater 4	Rater 5	Rater 6	Number of agreements	I-CVI
1	4	4	4	4	4	4	6	1
2	4	3	4	3	4	4	6	1
3	3	4	3	4	4	3	6	1
4	4	3	2	3	4	4	5	0.83
5	3	4	4	4	4	4	6	1
							S-CVI	0.96
							Total Agreement	4
							S-CVI/UA	0.8
1	X	X	X	X	X	X		1
2	X	X	X	X	X	X		1
3	X	X	X	X	X	X		1
4	X	X		X	X	X		0.66
5	X	X	X	X	X	X		1
							CVR	0.93

X=essential rating by experts, S-CVI=Scale-level content validity index, I-CVI=Item-level content validity index, UA=Universal Agreement, CVR= Lawshe Content Validity Ratio

The aim of study 1 was to translate the OCESS into Turkish in line with the suggestions provided by translators and analyze the content validity with experts' recommendations. In this study, experts were asked to rate the relevance of each item to collective efficacy in team sports for athletes and coaches (Polit and Beck, 2006). As advised (Lynn, 1986; Waltz & Bausell, 1981), six experts rated the items between 1 and 4. The I-CVI values were not lower than .78 (Lynn, 1986), and these results were acceptable. S-CVI was found to be as .93, which is also satisfactory (Davis, 1992). CVR was 0.93, indicating that the scale was considered valid. S-CVI and I-CVI scores were calculated, and the results showed that the content of the OCESS was valid. Consequently, the Turkish form of OCESS had acceptable content validity indexes. The next step was to test the construct validity for both athletes and coaches.

Study 2: The Initial Factor Structure of OCESS

The aim of study 2 was to test the initial factor structure of the Turkish version of the OCESS in team athletes.

Participants

We recruited 242 (74 females and 186 males) active team athletes including football (n=140, 57.9%), basketball (n=43, 17.8%), volleyball (n=34, 14%), handball (n=13, 5.4%), hockey (n=12, 5%). The age mean of the athletes was 21.90±4.10, and the sport experience means were 10.34±4.83 years. They reported training approximately four days per week, including 132.60±48 minutes per day. The working year with the current coach was 2.09±1.83 years.

Measurements

We included two different collective efficacy scales. First, the Turkish form of OCESS was translated and used. The second collective efficacy measurement was CESQ, which we used for criterion-related validity for OCESS. Short, Sullivan, and Feltz developed CESQ having five subscales with 20 items. Öncü, Feltz, Lirgg, and Gürbüz (2016) translated the CESQ into Turkish. The internal consistency coefficient was 0.97 in our study. Fransen et al. (2014) measured outcome-oriented team confidence with a five-item measurement that asses the confidence that the team would lose and win the game or realize its goals. The same procedure and stems were used in this study. The individual stem contains "I believe that our team…" while team-focused included "our team believes…"

Data Analysis

CFA was run after calculating Kaiser-Meyer-Olkin's and Bartlett's Sphericity test scores. The maximum likelihood method was chosen in the AMOS program. Pearson correlation test between CESQ and OCESS showed criterion-related validity. Alpha coefficient was calculated for internal consistency, while composite reliability was calculated with the CFA regression coefficient for each item.

Results of the Study 2

Table 2 contains the analysis results for OCESS. The factor loadings ranged between 0.59 and 0.92 in CFA. The alpha (Cronbach's) value was 0.88, and the omega (McDonald's ω) was 0.89. KMO and Bartlett's test sphericity values showed that the data were proper for factor analysis. The outcome-oriented beliefs strongly correlated with each item and the total score. The OCESS positively correlated with both individual (r=0.558, p<0.01) and team-focused (r=0.576, p<0.01) beliefs to win the next game as well as the beliefs for reaching the goals (r=0.658, p<0.01). It negatively correlated with the belief to lose the game ($r_{individual}$=-0.385, $r_{team\text{-}focused}$=-0.436).

Table 2. The structure of the Turkish form of the OCESS for athletes

Items							Factor Loadings
							CFA
Item 1							0.59
Item 2							0.77
Item 3							0.84
Item 4							0.92
Item 5							0.77
Cronbach's Alpha		.93					
McDonald's Omega		0.89					
KMO		0.83					
Bartlett Test of Sphericity		Approximate x^2: 549.244 df:10 p<0.000					
Item Correlations	$\bar{X} \pm SD$	1	2	3	4	5	6
1) I1	5.73±1.53	1	0.507**	0.513**	0.529**	0.484**	0.727**
2) I2	5.90±1.49		1	0.661**	0.638**	0.566**	0.808**
3) I3	5.75±1.64			1	0.781**	0.640**	0.872**
4) I4	5.81±1.71				1	0.733**	0.896**
5) I5	5.57±1.63					1	0.831**
6) OCESS	5.75±1.32						

The Correlations between outcome-oriented team confidence and the OCESS in Turkish	
	OCESS
I believe that my team will win the upcoming game	0.558**
I believe that our team will lose the upcoming game	-0.385**
I believe that our team will obtain its goal in the upcoming game	0.658**
Our team believes that we will win the upcoming game	0.576**
Our team believes that we will lose the upcoming game	-0.436**

The Pearson Correlations between the OCESS and the CESQ in Turkish						
	CESQ	Effort	Ability	Preparation	Persistence	Unity
Skew.	-1.50	-1.44	-1.51	-1.49	-1.09	-1.45
Kurt.	2.41	1.76	2.49	1.95	1.07	1.83
OCESS	0.853**	0.828**	0.729**	0.814**	0.761**	0.825**
Item 1	0.587**	0.591**	0.504**	0.562**	0.510**	0.552**
Item 2	0.719**	0.642**	0.681**	0.663**	0.666**	0.684**
Item 3	0.698**	0.689**	0.578**	0.663**	0.625**	0.680**
Item 4	0.803**	0.803**	0.649**	0.771**	0.715**	0.782**
Item 5	0.721**	0.692**	0.612**	0.702**	0.628**	0.708**

The OCESS strongly correlated with effort (r=0.828, p<0.01), ability (r=0.729, p<0.01), preparation (r=0.814, p<0.01), persistence (r=0.761, p<0.01), and unity (r=0.825, p<0.01), and the CESQ (r=0.853, p<0.01). Each item has strong association with the subscales and total score of the CESQ, ranging between 0,504 and 0,803.

The aim of study 2 was to test the initial factor structure of the Turkish version of the OCESS in team athletes. In study 2, we tested the construct validity of the OCESS-Turkish by recruiting team sports athletes. The results of CFA displayed higher factor scores for the five-item scale. Alpha coefficient revealed that the scale was internally consistent. Item correlations between the total scale score were lower than 0.90.

The total score of OCESS positively correlated with the positive items of outcome-oriented team confidence and negatively with the reverse items, which showed that the OCESS-Turkish associated with outcome-oriented team outcome confidence, but not the same construct.

The item of OCESS-Turkish positively correlated with the subscales of CESQ and its total score, indicating that OCESS-Turkish was a valid measurement for collective efficacy in team athletes. The next step was to analyze the construct validity of OCESS-Turkish in team coaches.

Study 3: The Construct Validity of OCESS for the Coaches

The aim of study 3 was to analyze the construct validity of the Turkish OCESS in coaches working with a team.

Method

Participants

We recruited 85 (20 females and 65 males) active team coaches including football (n=36, 42,4%), basketball (n=43, 17,8%), volleyball (n=26, 30.6%), handball (n=9, 10.6%). The age mean of the coaches was 36,98±8,84, and the experience means were 9,8±6,74 years. They reported training approximately four days per week, including 136±39,91 minutes per day. The working year with the current team was 2,96±2,27 years.

Measurements

The Turkish form of OCESS and the Turkish version of CESQ were used in this part of the study. We used the same stems and followed the same procedure in athletes' analyses to measure outcome-oriented team confidence.

Data Analysis

CFA was run after calculating Kaiser-Meyer-Olkin's and Bartlett's Sphericity test scores. The maximum likelihood method was chosen for model testing. Pearson correlation test between CESQ and OCESS showed criterion-related validity. Alpha coefficient was calculated for internal consistency, while composite reliability was calculated with the CFA regression coefficient for each item.

Ethical Statement

Institutional Ethical Approval was granted by Uludag University Social and Sciences Ethical Committee with decision number 38/01.

Table 3. The structure of the Turkish form of the OCESS for coaches

Items							Factor loadings
							CFA
Item 1							0.78
Item 2							0.82
Item 3							0.92
Item 4							0.92
Item 5							0.87
Cronbach's Alpha		0.89					
McDonald's Omega		0.90					
KMO		0.83					
Bartlett Test of Sphericity		Approximate x^2: 384,615 df:10 p=0.000					
Item Correlations	$\bar{X} \pm SD$	1	2	3	4	5	6
1) I1	6,18±1,11	1	0.720**	0.673**	0.739**	0.701**	0.845**
2) I2	6,24±1,15		1	0.764**	0.698**	0.780**	0.876**
3) I3	6,05±1,26			1	0.877**	0.792**	0.919**
4) I4	5,90±1,41				1	0.803**	0.925**
5) I5	6,02±1,42					1	0.915**
6) OCESS	6,08±1,14						1

The Correlations between outcome-oriented team confidence and the OCESS in Turkish	
	OCESS
I believe that my team will win the upcoming game	0.777**
I believe that our team will lose the upcoming game	-0.745**
I believe that our team will obtain its goal in the upcoming game	0.757**
Our team believes that we will win the upcoming game	0.571**
Our team believes that we will lose the upcoming game	-0.742**

The Correlations between the OCESS and the CESQ in Turkish						
	CESQ	Effort	Ability	Preparation	Persistence	Unity
Skew.	-1.53	-1.49	-1.52	-1.56	-1.11	-1.54
Kurt.	2.68	2.16	2.69	2.39	1.07	2.39
OCESS	0.883**	0.826**	0.810**	0.847**	0.837**	0.837**
Item 1	0.733**	0.660**	0.674**	0.765**	0.676**	0.677**
Item 2	0.757**	0.719**	0.700**	0.738**	0.674**	0.742**
Item 3	0.787**	0.720**	0.714**	0.726**	0.779**	0.760**
Item 4	0.836**	0.783**	0.752**	0.789**	0.810**	0.800**
Item 5	0.834**	0.805**	0.783**	0.779**	0.795**	0.764**

Table 3 contains the analysis results of the OCESS for the coaches. The factor loadings ranged between 0.78 and 0.92 in CFA. The alpha (Cronbach's () value was 0.83. KMO and Bartlett's test sphericity values showed that the data were proper for factor analysis. The outcome-oriented beliefs strongly correlated with each item and total score as it was the same in the athletes' results. The OCESS positively correlated with both individual (r=0.777, p<0.01) and team-focused (r=0.571, p<0.01) beliefs to win the next game as well as the beliefs for reaching the goals (r=0.757, p<0.01). It negatively correlated with the belief to lose the game (rindividual=-0.745, rteam-focused=-0.742). The OCESS strongly correlated with effort (r=0.826, p<0.01), ability (r=0.810. p<0.01), preparation (r=0.847, p<0.01), persistence (r=0.837, p<0.01), and unity (r=0.837, p<0.01), and the CESQ (r=0.883, p<0.01). Each item has a strong association with the subscales and total score of the CESQ, ranging between 0.660 and 0.836.

Table 4. Fit indexes of the OCESS structure for the athletes and coaches

	x^2	df	x^2/df	CFI	TLI	RMSEA	SRMR
Coaches	6,156	4	1,53	0.99	0.98	0.08	0.016
Athletes	12,920	5	2,58	0.98	0.97	0.08	0.020

Table 4 displays the fit indexes of the OCESS-Turkish for the athletes and coaches. The data fit properly for both the coaches (x2=6,15, df=4, x2/ df=1,53, CFI=0.99, TLI=0.98, RMSEA=0.08, SRMR=0.016) and athletes (x2=12,92, df=5, x2/ df=2,58, CFI=0.98, TLI=0.97, RMSEA=0.08, SRMR=0.020).

Results of the Study 3

In study 3, we tested the construct validity of the OCESS-Turkish by recruiting team sport coaches. The result was the same as it was in team athletes. The factor scores of five items ranged between 0.78 and 0.92 in CFA. Alpha score was high, displaying consistency of the scale. The correlation coefficients between OCESS-Turkish and outcome-oriented team confidence were higher than those in athletes. There were closer relationships between collective efficacy and outcome-oriented team confidence for coaches than athletes. Item and total score correlations were also higher in coaches than athletes. The OCESS-Turkish and its items positively correlated with the overall score of CESQ and its subscales. The fit indexes of the OCESS-Turkish for both athletes and coaches are displayed in table 3. Both groups' acceptable fit indexes, indicating that the measurement worked similarly. We can conclude that the OCESS-Turkish is also a valid measurement for use in team sports coaches.

Discussion and Conclusion

This study aimed to translate OCESS into Turkish and analyze its construct validity in both athletes and coaches. Fransen et al. (2014) proposed two measures, including process-oriented collective efficacy and outcome-oriented team confidence. Their results supported that the original OCESS was a valid measure of process-oriented collective efficacy.

According to Bandura (2000), people achieve their expected outcomes only with “interdependent efforts.” Therefore, collective efficacy is “an emergent group-level property.” Because collective efficacy is a dynamic construct (Myers & Feltz, 2007), the measurement for this construct should be designed so. Bandura (2000) proposed two different approaches to measure groups’ perceived efficacy, including “members’ appraisals of their capabilities to execute the particular functions they perform in the group” and “members’ appraisals of their group’s capability operating as a whole.” Measuring collective efficacy by summing the individuals’ judgments of other group members’ abilities may supply some information regarding collective efficacy. However, this approach misses the critical elements such as interaction, coordination, and integration (Zaccaro, Blair, Peterson & Zazanis, 1995).

The three consecutive studies reported in this paper were to conduct translation processes and carry out validity and reliability analysis of the OCESS (Fransen et al., 2014). This measure could assess process-oriented collective efficacy in a sports team. In study 1, we analyzed content validity by calculating the CVI, which was derived from the experts’ rating of content relevance of the items (Lynn, 1986; Waltz & Bausell, 1985). The Turkish version of the items was relevant to measure collective efficacy in Turkish team athletes and coaches according to the indexes.

In study 2, the construct validity of OCESS-Turkish was confirmed. CFA revealed high factor loadings for the athletes. Concurrent validity of criterion-related validity was applied. For the concurrent validity, the Turkish form of the OCESS correlated with the CESQ. The correlation coefficients between OCESS and CESQ showed that the OCESS-Turkish had concurrent validity. In study 3, we followed the same process in study 2. The analyses were run for the construct validity of the OCESS-Turkish for team sport coaches. The further results supported that the OCESS-Turkish was also a valid measurement for team sport coaches. The correlations between OCESS-Turkish and the items of outcome-oriented team confidence supported the evidence indicating OCESS was a different construct than outcome-oriented team confidence.

This study has revealed that the Turkish version of OCESS is a valid and reliable measurement to assess collective efficacy beliefs in sport for both the athletes and the coaches. Our study is limited because of a small sample size to run measurement invariance analysis between different groups. Future studies should analyze the differences between multiple models in sports context.

Author Note

This study was presented as a speech in 2. World Cognress of Sport Sciences Researches.

Financial Resources

No financial support was received from institutions and/or institutions during the preparation and writing of this study.

Conflict of Interest

We declare that there is no conflict of interest between the authors regarding the publication of this article.

Authors Contributions

Research idea: E, RG; Research design: İA; Data collection: EŞ, MY; Data analysis: EŞ; Writing: EŞ, MY; Critical Examination: İA, RG

References

1. **Bandura, A.** (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
2. **Bandura, A.** (1986). *Social foundations of thought and action.* NJ: Englewood Cliffs.
3. **Bandura, A.** (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science*, *9*(3), 75-78.
4. **Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B.** (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, *25*(24), 3186-3191.
5. **Dithurbide, L., & Feltz, D. L.** (2012). Self-efficacy and collective efficacy. *Measurement in sport and exercise psychology*, In Tenenbaum, G. E., Eklund, R. C., & Kamata, A. E. (Eds.), *Measurement in sport and exercise psychology*, (p. 251-263). Champaign: Human Kinetics.

6. **Dithurbide, L., Sullivan, P., & Chow, G.** (2009). Examining the influence of team-referent causal attributions and team performance on collective efficacy: A multilevel analysis. *Small Group Research, 40*(5), 491-507.
7. **Edmonds, W. A., Tenenbaum, G., Kamata, A., & Johnson, M. B.** (2009). The role of collective efficacy in adventure racing teams. *Small Group Research*, *40*(2), 163-180.
8. **Feltz, D. L.** (1982). Path analysis of the causal elements in Bandura's theory of self-efficacy and an anxiety-based model of avoidance behavior. *Journal of Personality and Social Psychology*, *42*(4), 764.
9. **Feltz, D. L., & Mugno, D. A.** (1983). A replication of the path analysis of the causal elements in Bandura's theory of self-efficacy and the influence of autonomic perception. *Journal of Sport Psychology*, *5*(3), 263-277.
10. **Feltz, D. L., Bandura, A., & Lirgg, C. D.** (1989, August). Perceived collective efficacy in hockey. In D. Kendzierski (Chair) Self perceptions in sport and physical activity: Self efficacy and self image. Presented at Symposium conducted at the Meeting of the American Psychological Association, New Orleans, LA.
11. **Feltz, D. L., Short, S. E., & Sullivan, P. J.** (2008). *Self-efficacy in sport*. Champaign: Human Kinetics
12. **Fransen, K., Kleinert, J., Dithurbide, L., Vanbeselaere, N., & Boen, F.** (2014). Collective efficacy or team outcome confidence? Development and validation of the Observational Collective Efficacy Scale for Sports (OCESS). *International Journal of Sport Psychology, 45,* 121–137.
13. **Gully, S. M., Incalcaterra, K. A., Joshi, A., & Beaubien, J. M.** (2002). A meta-analysis of team-efficacy, potency, and performance: interdependence and level of analysis as moderators of observed relationships. *Journal of Applied Psychology, 87*(5), 819-832.
14. **Hampson, R., & Jowett, S.** (2014). Effects of coach leadership and coach–athlete relationship on collective efficacy. *Scandinavian Journal of Medicine & Science in Sports*, *24*(2), 454-460.
15. **Hodges, L., & Carron, A. V.** (1992). Collective efficacy and group performance. *International Journal of Sport Psychology, 23*(1), 48-59.
16. **Keshtan, M. H., Ramzaninezhad, R., Kordshooli, S. S., & Panahi, P. M.** (2010). The relationship between collective efficacy and coaching behaviors in professional volleyball league of Iran clubs. *World Journal of Sport Sciences*, *3*(1), 1-6.
17. **Kozub, S. A., & McDonnell, J. F.** (2000). Exploring the relationship between cohesion and collective efficacy in rugby teams. *Journal of Sport Behavior*, *23*(2), 120-130.
18. **Myers, N. D., & Feltz, D. L.** (2007). From self-efficacy to collective efficacy in sport. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of Sport Psychology* (3rd ed., p. 799-819). Hoboken, NJ, US: John Wiley & Sons Inc.
19. **Myers, N. D., Feltz, D. L., & Short, S. E.** (2004). Collective efficacy and team performance: a longitudinal study of collegiate football Teams. *Group Dynamics: Theory, Research, and Practice*, *8*(2), 126-138.
20. **Myers, N. D., Paiement, C. A., & Feltz, D. L.** (2007). Regressing team performance on collective efficacy: Considerations of temporal proximity and concordance. *Measurement in Physical Education and Exercise Science*, *11*(1), 1-24.
21. **Öncü, E., Feltz, D. L., Lirgg, C. D., & Gürbüz, B.** (2016, November). *Sporda kolektif yeterlik ölçeği Türkçe versiyonunun psikometrik özellikleri*. 14. Uluslararası Spor Bilimleri Kongresinde sunulan bildiri. Spor Bilimleri Derneği, Antalya.
22. **Oncu, E., Feltz, D., Lirgg, C., & Gürbüz, B.** (2018). The examination of the psychometric properties of the Turkish Collective Efficacy Questionnaire for Sports. *Acta Gymnica*, *48*(1), 27-35.
23. **Short, S. E., Sullivan, P., & Feltz, D.** (2005). Development and preliminary validation of the collective efficacy questionnaire for sports. *Measurement in Physical Education and Exercise Science, 9*(3), 181-202.
24. **Davis, L. L.** (1992). Instrument review: Getting the most from your panel of experts. *Applied Nursing Research, 5*(4), 194–197.
25. **Polit, D. F., & Beck, C. T.** (2006). The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*, *29*(5), 489-497.
26. **Polit, D. F., & Beck, C. T.** (2004). *Nursing research: Principles and methods*. Philadelphia: Lippincott Williams & Wilkins.
27. **Polit, D. F., Beck, C. T., & Owen, S. V.** (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health*, *30*(4), 459-467.
28. **Waltz, C. F., & Bausell, R. B.** (1981). *Nursing research: Design, statistics, and computer analysis*. FA: Davis Co.
29. **Lynn, M. R.** (1986). Determination and quantification of content validity. *Nursing Research, 35*, 382-385.
30. **Zaccaro, S. J., Blair, V., Peterson, C., & Zazanis, M.** (1995). Collective efficacy. In *Self-efficacy, adaptation, and adjustment* (pp. 305-328). Boston, MA: Springer.