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Adaptation of the Global Citizenship Scale–Short Form (GCS-SF) into Turkish

Küresel Vatandaşlık Ölçeği Kısa Formunun (KVÖ-KF) Türkçe'ye Uyarlanması

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Abstract
In present study, we aimed to adapt the Global Citizenship Scale–Short Form (GCS–SF), which was developed by Moaris and Ogden (2011) and its short form was created by Lo et al. (2016), into Turkish. Contrary to the previous studies in which the full version of the global citizenship scale was adapted into Turkish, the fact that the abbreviated form of the scale will be adapted into Turkish in current research constitutes the original value of the paper. We conducted our research on 582 undergraduates. Before the analysis, we removed the data from outliers and performed psychometric analyses on a data file of 563 participants. We applied confirmatory factor analysis (CFA) in order to provide evidence for the validity of the measurements acquired with the Turkish version of the GCS–SF. The CFA outputs revealed that the fit indices remained within acceptable limits and that the three-dimensional structure in the original form of the scale was confirmed in Turkish culture with the factor loadings ranged .39 to .81. Reliability analysis showed that McDonald's ω coefficients of the whole scale and its sub-dimensions ranged from .65 to .87. As a result of item analysis, we determined that the single item-rest of items correlations varied between .33 and .77. All these results signify that the GCS–SF's Turkish version yields valid and reliable measures.

Keywords: Global citizenship, global citizenship scale, short form of global citizenship scale, scale adaptation.

Öz
Bu çalışmada Moaris ve Ogden (2011) tarafından geliştirilen ve kısa formu Lo vd. (2016) tarafından oluşturulan küresel vatandaşlık ölçeği (KVÖ–KF) Türkçeye uyarlanmıştır. Küresel vatandaşlık ölçeğinin uzun formunun Türkçeye uyarlandığı önceki çalışmaların aksine bu araştırmada ölçeğin kısa formunun Türkçeye uyarlanması çalışmanın özgün değerini oluşturmaktadır. Araştırma 582 lisans öğrencisinin katılımı ile gerçekleştirilmiştir. Analiz öncesinde veri seti uç değerlerden arındırılmış ve psikometrik analizler 563 katılımcıdan oluşan veri dosyası üzerinden gerçekleştirilmiştir. Çalışmada KVÖ-KF'nin Türkçe formu ile elde edilen ölçümlerin geçerliliğine kanıt sağlamak için doğrulayıcı faktör analizi (DFA) uygulanmıştır. DFA sonucunda uyum indekslerinin kabul edilebilir sınırlar içerisinde kaldığı belirlenmiş ve ölçeğin orijinal formundaki üç boyutlu yapının Türk kültürü için de geçerliği olduğu saptanmıştır. Rapor edilen faktör yüklerinin ise .39 ile .81 arasında değiştiği tespit edilmiştir. Güvenirlik analizi, ölçeğin geneli ve alt boyutlar için kestirilen McDonald's ω katsayılarının .65 ile .87 arasında sıralandığını ortaya koymuştur. Madde analizi sonuçlarına göre madde korelasyonları .33 ile .77 arasında yer almıştır. Tüm bu sonuçlar KVÖ–KF'nin Türkçe versiyonunun geçerli ve güvenilir ölçümler ürettiğini yansıtmaktadır.

Anahtar Kelimeler: Küresel vatandaşlık, küresel vatandaşlık ölçeği, küresel vatandaşlık ölçeği kısa formu, ölçek uyarlama

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1. Introduction

Worldwide hunger, food, and water security, climate change-global warming, migration, epidemics, ethnic and political power wars between countries, the race for technological superiority, etc. crises have increased the need for global citizenship. The knowledge, skills, and attitudes required for the individual to work, subsist and learn in the globalizing world constitute the concept of global citizenship. The ability to notice and explore one's cultural biases and tendencies, accept the shared liability to solve universal problems, and participate in actions to contribute to a better world are considered under global citizenship (Van Ongevalle & Carabain, 2014, p. 8–9). In this sense, global citizenship is characterized as a multidimensional construct that encompasses awareness, responsibility, and participation on a global scale (Schattle, 2009, p. 3). As a matter of fact, Moaris and Ogden (2011) explained global citizenship through a three–dimensional structure: social responsibility, global competence, and global citizenship engagement. Based on their extensive literature review, they elucidated the main features of these three interrelated dimensions as follows: The social responsibility dimension reflects the perceived degree of interdependence and social relevance to others, to society, and to the environment. Global competence dimension captures being open-minded in the course of actively trying to apperceive others' cultural norms and expectations and employing this knowledge to interrelate and work effectively outside one's environment. Global civic engagement dimension, on the other hand, encloses the displaying of action and/or disposition toward recognizing local, state, national, and global community matters and reacting (Morais & Ogden, 2011, p. 447–448).

Reyzen and Katzarska-Miller (2013, p. 858) elucidate global citizenship as awareness, respecting and interiorizing cultural diversity while encouraging social justice and sustainability, coupled with a sense of liability to act. As seen in this definition, they emphasized the social justice aspect of global citizenship. According to them, global citizen is conscious of her/his own role as a world citizen, cares and appreciates diversity; she/he has cognizance of how the world works in terms of economic, political, social, cultural, technological, and environmental; she/he challenges social unrighteousness and is worried about the environment; participates and contributes to communities at various levels from local to global; she/he is ready to take action to create a more sustainable world and takes responsibility for his/her actions.

1.1. Global Citizenship Education

Inequality, infringement of human rights, and destitution still endanger world peace and environmental sustainability. Attempts to overcome these hardships have brought global citizenship education to the fore, and global citizenship education has been shown as a way to equip students for an alternative, inclusive, and sustainable world (Akkari & Maleq, 2020, p. 3). Many international institutions (e.g., UNESCO, UN, and The Council of Europe) have intensely verbalized the requirement to strengthen the understanding of global citizenship. For example, among the policies of the Council of Europe, a leading institution in the domain of human rights and intercultural education, the goal of enabling students to understand global problems and empowering them to take action has gained importance. Thereupon the Council of Europe adopted a declaration on the European Charter on Education for Democratic Citizenship and Human Rights Education (EDC/HRE) in 2010 (Tibbitts, 2016, p. 9). Similarly, UNESCO (2014, p. 5) has defined the structure of global citizenship education as a tool to make the world a better place, based on the United Nations 2012 Secretary-General's Global Education First Initiative (GEFI). It was underlined that students of all ages should be developed both locally and globally in order to have the values of respect, diversity, indulgence, empathy, and cooperation and to contribute actively to a fairer, peaceful, tolerant, inclusive, safe, and sustainable life via global citizenship education (UNESCO, 2014, p.5). Dill (2013, p. 4) denominated that global citizenship education is based on two main purposes: The first one is to gain global competencies that include the knowledge and skills required for economic accomplishment in the cosmopolitan age. The second purpose is the development of global consciousness that it is an awareness of other viewpoints, a vision of oneself as part of a global community of humanity as a whole, and a moral conscience to act for the good of the world. UNESCO (2014, p.17) asserted that while global citizenship education may take various forms, it has some agreed components that comprise promoting in students the following competencies. Figure 1 denotes these competencies that UNESCO draws attention to.

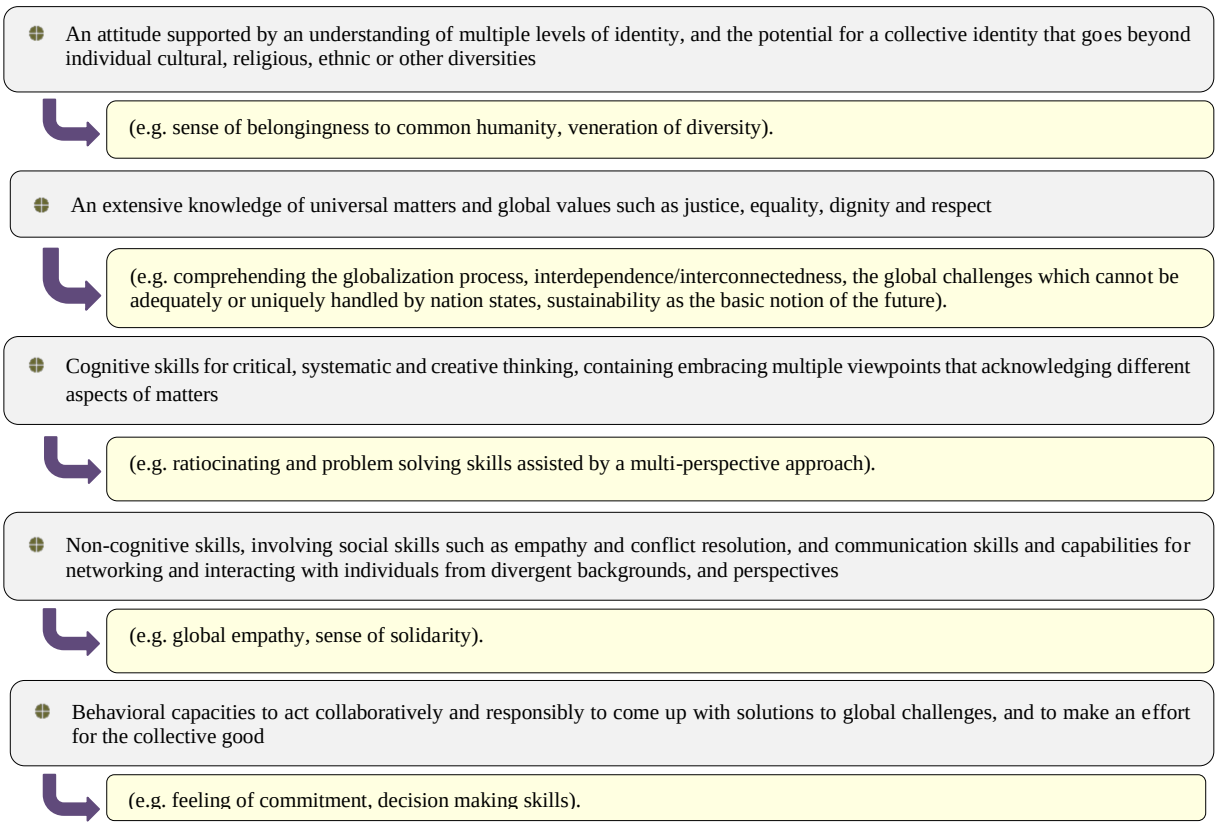

Figure 1. The goals of global citizenship education (UNESCO, 2014, p.17)

In addition to the goals listed in Figure 1, it has become more important to raise individuals who have mindful attention and awareness of the solution to global economic, social, environmental, and cultural crises, are willing to take action, are a part of the solution of problems or take initiatives to solve the problem. In parallel, global citizenship education was included in the UN Sustainable Development Goals in 2015 (Dyrness, 2021, p. 445). According to the United Nations, education for the 21st century should advocate for sustainable development through the recognition of cultural diversity. Global citizenship education has abruptly turned into a powerful policy focus on international agendas, especially the 2030 Agenda for Sustainable Development, which was internalized at the United Nations Sustainable Development Summit in September 2015 (Akkari & Maleq, 2020, p. 3). Thus, the scope of global citizenship education has been expanded as presented in Figure 1 (Akkari & Maleq, 2020, p. 213).

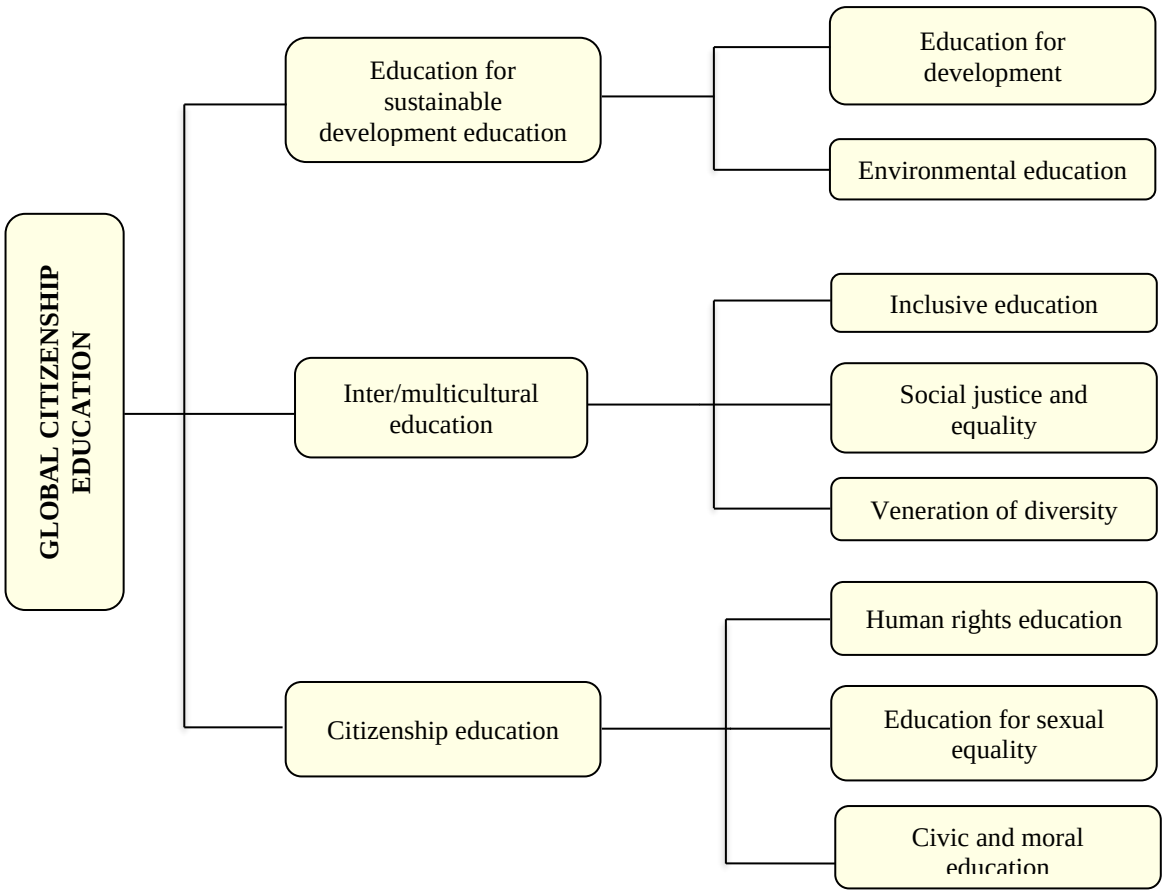

Figure 2. Operationalization of global citizenship education

As can be seen in Figure 2, global citizenship education has become the new and most comprehensive model by bringing together all previously existing positive purposes and practices such as multicultural education, human rights education, peace education, and environmental education (Estellés, & Fischman, 2020, p. 3).

1.2. Measuring global citizenship

Determining global citizenship competencies or revealing the level of achievement of the objectives of global citizenship education can be possible by measuring global citizenship. Nevertheless, measuring global citizenship is not easy. Because global citizenship is an umbrella construct that includes many components such as multicultural education, human rights education, sexual equality, identity, and moral education, social justice and equality, veneration of differences, peace education, environmental education, and sustainable development. Having a multidimensional complex structure has led up to the development of many different instruments to measure global citizenship. Indeed, even though the multidimensional structure of global citizenship is tried to be reflected in the existing scales when looking at the literature, it is difficult to come across a measurement tool that could do this exactly. Table 1 exhibits the global citizenship instruments in the international literature.

Table 1
The instruments in the international literature related to global citizenship

Research tag	The scale name
Braskamp, Braskamp, & Merrill, (2008)	Global Perspective Inventory (GPI)
Morais & Ogden, (2011)*	Global Citizenship Scale (GCS)
Lee , Chang, Choi, Kim, & Zeidler, (2012)*	Character and Values for Global Citizens Assessment (CVGCA)
Van Gent, Carabain, De Goede, Boonstoppel, & Hogeling, (2013)	Global Citizenship Inventory (GCI)
Lo, Kwan, Chan, & Ngai, (2016)	Global Citizenship Scale–Short Form (GCS-SF)

* These scales were adapted also to Turkish.

The Global Perspective Inventory in Table 1 only measures cognitive, intrapersonal and interpersonal learning domains (Braskamp, et al., 2008, p. 21–22). However, it doesn't capture the social responsibility or global civic engagement. The scale developed by Moaris and Ogden (2011), on the other hand, social responsibility and global civic engagement dimensions are also included. The scale developed by Lee et al. (2012), focuses on the moral and ethical characteristics that global citizens should have and their willingness to take action. The theoretical framework of the global citizenship survey created by Van Gent et al., (2013) is based on shared responsibility, equality of human beings, and mutual dependency. Finally, Lo et al. (2016) created the short form Moaris and Ogden's (2011) global citizenship scale. In this instrument, the original scale was shortened from 30 items to 15 items, the core dimensions named as Social Responsibility, Global Competence, and Global Civic Engagement in the original scale were preserved, and it was determined that the dimensions and subscales of the full and short versions were strongly correlated.

In the national literature, World Citizenship Scale and World Citizenship Competency Perception Scale developed by Şahin, Şahin, & Göğebakan Yıldız, (2016) detect the level of individuals having global citizenship competencies. The global citizenship scale, which is another measurement tool in the Turkish culture (Balbağ, 2016), was developed taking into account the theoretical structure proposed by Moaris and Ogden (2011). Nevertheless, unlike the three-dimensional structure suggested by Moaris and Ogden (2011), a single-factor structure was obtained in the scale just mentioned. The global citizenship attitude scale developed by Göl (2013), consists of 33 items under the dimensions of respect for life, ecological integrity, justice, equality, and peace.

1.3. Purpose and importance of the research

There has been an increasing tendency to create short-forms of instruments over the last 20 years (Koğar, 2022). The main justifications for using the short-form of the parent instrument are to reduce administration time of the instrument, to ensure that the length and effort required are suited to the capabilities of respondents and thus to alleviate the cost of test administration (Kleka & Soroko, 2018). This trend is observed easily within a broad range of social sciences, in particular in education and educational psychology (Hagtvet & Sipos, 2016). For example, Kruyen, Emons and Sijtsma (2013) searched six leading psychological journals for articles that dealt with short scales in a five-year time period and encountered 164 abbreviated instruments (ca. 7% of all reviewed articles) (as cited in Schroeders, Wilhelm & Olaru, 2016). In fact, when we screened the keyword of "short form" on the database of ERIC in late December 2022, we found 4336 results. These results reveal the importance of offering the short forms of the scales to the literature. Therefore, we believed that the studies on adapting the existing short forms to different cultures are also important. Our study is driven by this thought. When we look at the literature, we see that the most used measurement tool in studies on global citizenship is Morais and Ogden's (2011) global citizenship scale. So much so that the full form of the said instrument was adapted to Turkey within the scope of three different studies (see Akın, Sarıçam, Akın, Yıldız, Demir, & Kaya, 2014; Şahin & Çermik, 2014; Tutkun, 2019). On the other hand, we did not find any study in which the short form of the scale just mentioned was adapted into Turkish. In this respect, we thought that the Turkish adaptation of the global citizenship scale-short form (GCS–SF) would contribute to the literature and researchers who will study global citizenship. From this point of this view, we aimed to adapt the GCS–SF developed by Morais and Ogden (2011) and shortened by Lo et al. (2016) into Turkish.

2. Method

2.1. Participants

We conducted our research on 582 undergraduates aged between 18 and 42 ($\bar{X}$=22.11, *SD*=3.12). While 411 (70.60%) of the participants were female and 171 (29.40%) were male. Table 2 presents the distribution of students by their grade levels and branches.

Table 2
The distribution of the students in the participant group according to their grade level and the department they studied

Demographics		Frequency (Percentage)
Grade	Preparatory	20 (3.44%)
	1	143 (24.57%)
	2	118 (20.27%)
	3	178 (30.58%)
	4	123 (21.13%)
Department	Classroom teaching	65 (11.17%)
	Elementary mathematics teaching	126 (21.65%)
	English language teaching	86 (14.78%)
	Geography teaching	14 (2.41%)
	Pre-school teaching	90 (15.46%)
	Science teaching	120 (20.62%)
	Social studies teaching	81 (13.92%)

2.2. Instrument

We collected the research data through GCS–SF. The global citizenship scale was developed by Morais and Ogden (2011), and its short form was created by Lo et al. (2016). GCS–SF has five-point grading scale from *Strongly Disagree* (1) to *Strongly Agree* (5). The scale comprises 15 items and these items are grouped under three main dimensions Social Responsibility, Global Competence, and Global Civic Engagement. However, the Global Civic Engagement dimension consists of two factors labelled as Involvement in Civic Organization and Political Voice. Table 3 summarizes the results obtained for the psychometric properties of the GCS–SF in Lo et al.'s (2016) study.

Table 3
The results reported by Lo et al.'s (2016) regarding the psychometric properties of the GCS–SF

Dimensions		Number of items	Cronbach's alpha	Factor loadings		Fit indices for CFA
				EFA	CFA	
Social Responsibility		4	.70	.49 to .64	.52 to .71	χ^2 = 363 df = 80 CFI = .93 TLI = .91 NFI = .91 RMSEA = .060
Global Competence		5	.76	.53 to .71	.51 to .66	
Global Civic Engagement	Involvement in Civic Organization	3	.76	.43 to .83	.52 to .81	
	Political Voice	3	.80	.62 to .77	.71 to .79	

2.3. Translation of the GCS–SF to Turkish

In the adaptation process, we grounded on the scale adaptation principles recommended by International Test Commission–ITC (2017). The scale adaptation standards suggested by ITC and the steps we have taken in line with these standards were listed bellows:

- ***Before making any adaptations, get consent from the person in charge of the test's intellectual property rights*:** We contacted the researchers who created the short form of the scale in order to obtain their approval for the adaptation study. To this end, we sent an e-mail to Kenneth W.K. Lo on January 16, 2022, and requested his permission for the adaptation study. Kenneth W.K. Lo informed us that they approved the adaptation of GCS–SF to Turkish on February 8, 2022.

- ***Judge that the amount of overlap in the definition and content of the trait measured by the scale and the item content in the target populations is sufficient for the intended use of the scores:*** One of the researchers of the current study was an expert with respect to the trait measured, and who was familiar with the participant groups to which the scale will be administered. This researcher confirmed the legitimacy of the construct measured in the cultural group in which the research was conducted. In addition, the adaptation of the full form of the global citizenship scale into Turkish on groups of undergraduates also verified this situation.

- ***Reduce the influence of any linguistic and cultural distinctions that are irrelevant to the intended uses of the scale in the populations of interest:*** Three experts with a proficient level in English, one of whom was in the field of social studies education and the other two were in the field of measurement and evaluation in education, translated the scale into Turkish. Then, we compared the translated forms and determined the most appropriate Turkish counterparts of each item. Two of the experts suggested a revision in an item, stating that today's communication is provided by social media rather than traditional devices such as newspapers and television. Since we focused on functionality rather than literal equivalence, we arranged the relevant item in line with the suggestion of the experts.

- ***Provide evidence that the item formats and response categories are suitable for intended populations:*** The original form of the scale has a five-point compilation. The studies carried out in Turkish culture in order to determine the optimal number of response categories have also revealed that a five-point rating is ideal (e.g., Aybek & Toraman, 2022; İlhan & Güler, 2017). So, we used a five-point rating in the Turkish version of the scale, as in the original form, and thus the GCS–SF's Turkish form gets ready for administration. We adhered to the steps proposed in the ITC guidelines also for the administration process and data analysis procedures of the scale and explained these in the following title.

2.4. Collection and analysis of the data

We obtained the ethics committee's permission to proceed to the data collection phase. With the letter dated March 24, 2022, and numbered 255753, Dicle University Social and Humanities Ethics Committee stated that the research was in accordance with scientific ethical principles. Following the ethics committee's approval, we collected data between March and April 2022. We implemented the instrument to the students in a paper-pencil format and on a voluntary basis in their actual class. The administrations were made by one of the researchers. The researcher informed the students about the aim of the study before the application, emphasizing that the collected data would be used for only scientific purposes and would not be shared with any other person or institution. After presenting the necessary explanations, the researcher took care to remain passive as much as possible so as not to affect the students' responses while they were answering the scale.

Subsequent to the data collection process being completed, we moved on to the analysis. First, we checked up the dataset in terms of univariate and multivariate outliers. We did not encounter any participants whose standardized Z-score was outside the ±3 boundaries, so we concluded that the dataset does not contain univariate outliers. On the other hand, we detected 19 multivariate outliers and removed them from the dataset. Table 4 depicts the skewness and kurtosis coefficients for the outliers–free dataset, and the results of the Henze-Zirkler (HZ) test of multivariate normality.

Table 4
The skewness and kurtosis values of the data and multivariate normality test results

Skewness		Kurtosis		HZ Test
Statistic	Std. Error	Statistic	Std. Error	
–.11	.10	–.12	.21	1.29*

* $p<.05$

If absolute z values attained by dividing the skewness and kurtosis statistics by their respective standard errors are less than 1.96 (which assumes an alpha of .05), we can deduce that the distribution is normal (Whittaker & Schumacker, 2022, p. 36). Accordingly, the values in Table 4 regarding the skewness and kurtosis coefficients indicate the presence of univariate normality. As Pituch and Stevens (2016, p. 229) point out, univariate normality is necessary but not sufficient for multivariate normality. Namely, multivariate normality might not be achieved even if univariate normality does. Indeed, statistically significant results of the Henze–Zirkler test reflect that multivariate normality was not held. Once decontaminating the datasets from outliers and executing the essential inspections for the characteristics of distribution, we tested the psychometric qualities of the GCS–SF's Turkish version.

We initially applied factor analysis to provide evidence for the validity of the measurements acquired with the Turkish version of the GCS–SF. We aimed to test whether the factorial structure in the original form of the scale was true for Turkish culture in factor analysis, namely, there was empirical evidence that clearly specifies the number of factors and which items are included in which factor. Hence we did not see the need to perform exploratory factor analysis. We only implemented confirmatory factor analysis (CFA) because of the absence of multivariate normality we selected the Unweighted Least Squares method for the estimation in CFA. Table 5 demonstrates the fit indices and the threshold values for these indices, which we took into account to evaluate the model–data fit in CFA. Additionally, we adhered to Tatobachnick and Fidell's (2019) boundary of .32, i.e. %10 or more variance, while judging the factor loadings.

Table 5
The fit indices examined in CFA and the cut-off points for close and adequate fit regarding these indices

Fit Indices	Close Fit	Adequate Fit	Reference
χ^2/df	$0 \leq \chi^2/df \leq 2$	$2 < \chi^2/df \leq 3$	Schermelleh-Engel, Moosbrugger & Müller (2003)
RMSEA	$0 \leq RMSEA \leq .05$	$.05 < RMSEA \leq .08$	Pituch & Stevens (2016)
SRMR	$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$	
NNFI	$95 \leq NNFI \leq 1.00$	$.90 \leq NNFI < .95$	Sümer (2000)
NFI	$95 \leq NFI \leq 1.00$	$.90 \leq NFI < .95$	Whitley & Kite (2013)
CFI	$95 \leq CFI \leq 1.00$	$.90 \leq CFI < .95$	
GFI	$95 \leq GFI \leq 1.00$	$.90 \leq GFI < .95$	Dimitrov (2012)

In the research, we calculated the McDonald's ω coefficients within the scope of reliability analysis. McDonald's ω is an index of composite reliability put forward by McDonald (1970) as an alternative reliability measure to alpha coefficient (Padilla & Divers, 2015). In cases where assumptions uncorrelated errors (i.e., the error variance of any pair of items is uncorrelated) and tau-equivalence (i.e., all items have equal factor loadings in a factorial model) are not met, Cronbach's alpha produces biased reliability estimates (DeVellis, 2017; Rae, 2006; Zimmerman, Zumbo & Lalonde, 1993) and in such conditions, the McDonald's ω coefficient provides more precise reliability estimates compared to Cronbach's alpha (Yurdugül, 2006). McDonald's ω has the same cut-off criteria as Cronbach's alpha for an acceptable level of reliability and the value of .70 is accepted as the lower boundary for reliability (Collier, 2020, p. 29). However, as internal consistency coefficients increase as a function of the number of composite items (Bryant King, & Smart, 2007, p. 69), lower thresholds such as .60 or even .50 are allowable for the scale with fewer items (İlhan & Çetin, 2021, p. 195). Considering the small number of items in the dimensions of the GCS–SF, we took the value of .60 as a reference when discussing obtained internal consistency coefficients.

Finally, we analysed item discrimination by calculating single item–rest of items correlations. As a rule of thumb, an item with an item correlation of less than about .30 is considered problematic (Field, 2009, p. 678). Based on this benchmark, we concluded that if the single item–rest of items correlation was above .30, the item had reasonable discrimination. In the research, we used the web tool developed by Aybek (2021), in which the R programming

language runs in its background, to determine multivariate outliers and test the multivariate normality assumption. We conducted all other statistical analyses in JASP 0.16.2 software (JASP Team, 2022).

3. Findings

This heading comprises analysis outputs regarding the GCS–SF's psychometric properties. At first, we exerted CFA and obtained following fit indices: χ^2/df=2.40 [χ^2=208.75, df=87], RMSEA=.050 [90% CI (.041, .059)], SRMR=.067, CFI=.97, NNFI=.96, NFI=.95 and GFI=.98. These fit indices indicate that the model–data fit is ensured for the three-dimensional structure. The measurement model of the three-dimensional structure in question was presented in Figure. Figure 3 exhibits that factor loadings vary between .43 and .78 in Social Responsibility dimension, between .39 and .61 in Global Competence dimension and between .67 and .81 in Global Civic Engagement dimension. Accordingly, the factor loadings of all items are above the .32 cut-off point.

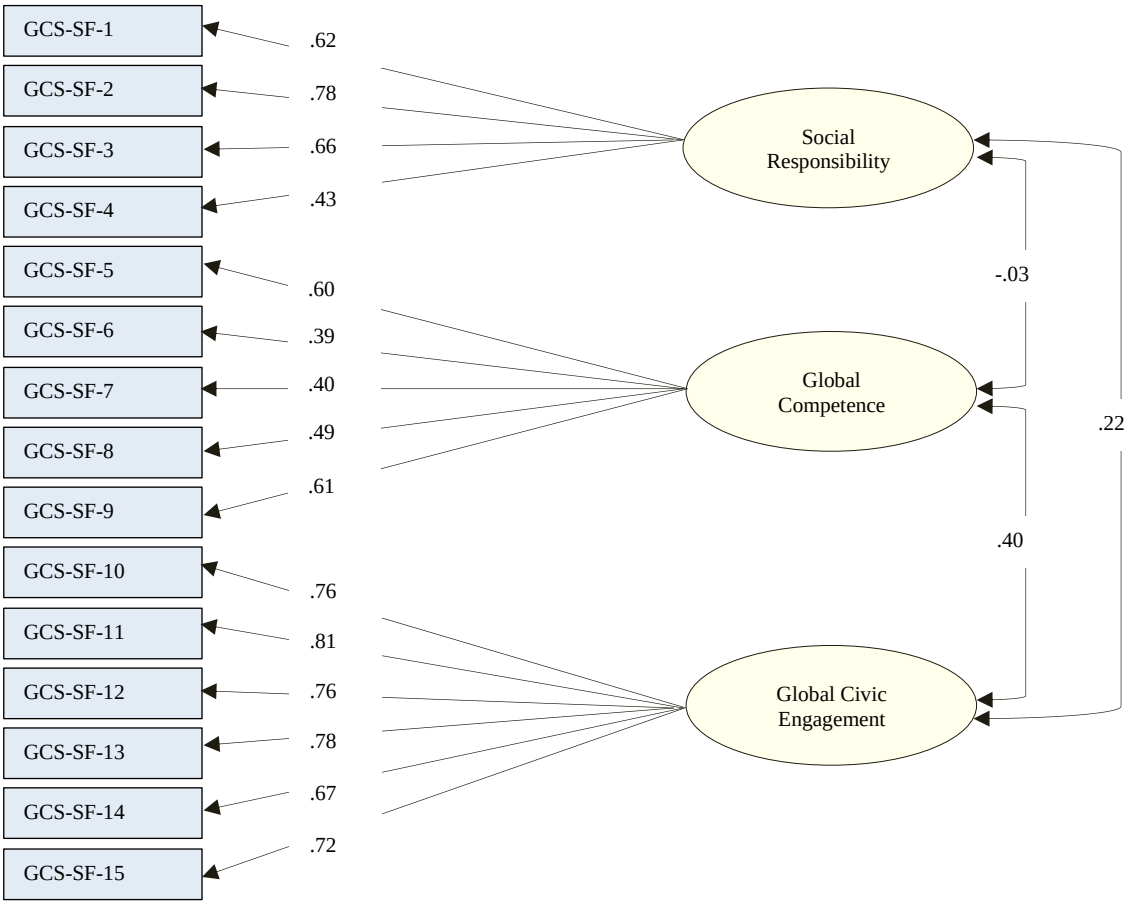

Figure 3. Measurement model of the Turkish version of GCS–SF

On completion of the factor analyses, we moved on to reliability and item-rest of item correlation (i.e., corrected item-total correlation) calculations. Table 6 infers the reliability and item analysis results of the GCS–SF's Turkish version. As can be seen from the table the item correlations range from .330 to .770 in the Turkish version of GCS–SF. Table 6 set out that the McDonald's ω coefficients for the entire scale and dimensions of GCS–SF are between .650 and .870.

Table 6
The reliability and item analysis results of the GCS–SF's Turkish version

Factor 1: Global Civic Engagement		Factor 2: Social Responsibility		Factor 3: Global Competence	
Item ID	r_{jx}	Item ID	r_{jx}	Item ID	r_{jx}
GCS-SF-10	.709	GCS-SF-1	.497	GCS-SF-5	.359
GCS-SF-11	.770	GCS-SF-2	.594	GCS-SF-6	.403
GCS-SF-12	.726	GCS-SF-3	.534	GCS-SF-7	.472
GCS-SF-13	.731	GCS-SF-4	.330	GCS-SF-8	.406
GCS-SF-14	.691			GCS-SF-9	.402
GCS-SF-15	.570				
McDonald's ω = .870 [95%CI (.853, .887)]		McDonald's ω = .693 [95%CI (.652, .733)]		McDonald's ω = .650 [95%CI (.605, .696)]	
McDonald's ω for the whole scale = .791 [95%CI (.767, . 816)]					

4. Conclusion and Discussion

In the current study, we adapted the GCS–SF, which was developed by Morais and Ogden (2011) and its short form created by Lo et al. (2016), into Turkish. In the first step of the adaptation process, we tried to effectuate a Turkish form that is linguistically equivalent to the original form of the scale. In order to accomplish this, we benefited from expert opinions. The validity of the measurements obtained with the Turkish version of the scale was tested with CFA. In the CFA, we found that the fit indices of the tested three-dimensional structure remained within acceptable limits. We determined that the factor loadings reported ranged from .39 to .81s. Tabachnick and Fidell (2019) claim that for an item to remain on the scale it must have a factor loading of at least .32. Based on this benchmark, we can infer that there is no item in the Turkish version of GCS–SF that diminish the validity of the scale. These results regarding the CFA reflect that the validity of the GCS–SF's Turkish form was provided. Based on the consistency in the factorial structure observed in the original and Turkish form of the GCS–SF, we can assert that although the understanding of citizenship may vary from one society to another (Gezer, 2022), global citizenship is a construct with a common framework that remains the same across cultures.

McDonald's ω coefficients between .650 and .870 were estimated in the reliability analysis. The acceptable lower limit for internal consistency reliability varies depending on various factors. One of these is the number of items in the instrument. The internal consistency coefficient is a function of the number of items in the measurement tool and as the number of items increases the calculated reliability coefficient gets higher values. Therefore, it is expressed that in scales with fewer items, a value of .60 can be taken as a reference instead of .70 (İlhan & Çetin, 2021, p. 195). Considering all these points, we can remark that GCS–SF produces reliable measurements. As a result of item analysis, we ascertained that item–rest correlations for all items in the Turkish version of GCS–SF were above .30. Accordingly, we can conclude that all items in the Turkish version of the scale serve the purpose of measuring global citizenship. In summary, the study results reflect that the GCS–SF's Turkish version is an instrument that brings forth valid and reliable measurements.

5. Limitations and Future Directions

In this paper, we tested the psychometric qualities of the GCS–SF's Turkish version on a participant group consisting of undergraduates. So, validity and reliability tests can be performed on different groups in further studies. In the research, the evidence of validity presented was limited to CFA and the argument of reliability was restricted to the internal consistency coefficient. In future studies, test-retest reliability can be examined and different validity proofs such as convergent-divergent and concurrent validity can be investigated. Another limitation of the study is stemmed from the measurement theory utilized. More clearly, we conducted validity and reliability analyses in line with classical test theory in the present research. In this sense, we can suggest scrutinising the psychometric properties of the GCS–SF based on item response theory in further studies.

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Appendix 1: Turkish form of Global Citizenship Scale-Short Form (GSC-SF)[*]

Sosyal Sorumluluk	**1.** Dünyadaki çoğu insanın, hak ettiği şeylere sahip olduğunu düşünüyorum.
	2. Dünyanın her yerinde insanların hak ettikleri ödüller ile cezaları aldığını düşünüyorum.
	3. Dünya genel olarak adil bir yerdir.
	4. Yeterince çalışmadıkları için dünyadaki birçok insanın yoksul olduğunu düşünüyorum.
Küresel Yeterlik	**5.** Beni endişelendiren küresel sorunlarla başkalarının da ilgilenmesini sağlayabilirim.
	6. Genellikle iletişim tarzımı diğer insanların kültürel özelliklerine göre düzenleyebilirim.
	7. Çeşitli kültürlerden insanlarla farklı şekillerde iletişim kurabilirim.
	8. Uluslararası ilişkileri etkileyen güncel konular hakkında bilgi sahibiyim.
	9. Acil bir küresel sorun hakkındaki görüşlerimi, bir grup insanın önünde rahat bir şekilde ifade edebilirim.
Küresel Sivil Katılım	**10.** Önümüzdeki 6 aylık süre zarfında, yurtdışındaki bireylere ve topluluklara yardım etmek için gönüllü çalışmalar yapmayı planlıyorum.
	11. Önümüzdeki 6 aylık süre zarfında, yurtdışındaki bireylere veya topluluklara yardım etmek için gönüllü olarak çalışacağım.
	12. Önümüzdeki 6 aylık süre zarfında, dünyanın farklı yerlerinden zor durumda olan insanlara yardım etmeyi planlıyorum.
	13. Önümüzdeki 6 aylık süre zarfında, küresel düzeydeki çevresel, sosyal veya politik sorunlarla ilgili endişelerimi ifade etmek için TV kanallarıyla ve dijital ortamlarda (youtube, twitter, instagram vb.) takipçi/abone sayısı fazla olan kişilerle iletişime geçeceğim.
	14. Önümüzdeki 6 aylık süre zarfında, online platformlarda (web sitesi, blog, kişisel sosyal medya hesapları vb.) uluslararası politika hakkındaki görüşlerimi ifade edeceğim.
	15. Önümüzdeki 6 aylık süre zarfında, küresel sorunlar ve endişeler hakkında kamusal bir eylem çağrısında bulunmak amacıyla hükümetten bir yetkiliyle temasa geçeceğim veya onu ziyaret edeceğim.

[*] Ölçeğin kullanımı için kaynak gösterimi yeterlidir, ayrıca yazarlardan izin alınmasına gerek yoktur.