

## **Adaptation of the Global Citizenship Scale in a Multicultural Country: Kazakhstan**

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### **Abstract**

With the increased involvement of universities in the internationalization process, educational institutions in Kazakhstan are modifying their programs and curricula to align with evolving labor markets and the national education environment. Therefore, it is crucial to examine the perceived discourse of global citizenship among Kazakh college students. The primary objective of this study is to adapt the Global Citizenship Scale to the context of the research. The research design employed in this study is a cross-sectional approach, utilizing quantitative methods to gather data and analyze the findings. Three hundred seventy-four (374) college students completed the scale. Based on the results of the exploratory factor analysis, confirmatory factor analysis, and reliability calculations conducted for the adaptation of the Global Citizenship Scale, it has been determined that the scale is applicable within the context of Kazakhstan.

**Keywords:** Global citizenship, Kazakhstan, scale.

### **Introduction**

In today's interconnected world, the concept of global citizenship (GC) has gained popularity. Global citizenship entails an individual's feeling of belonging to a broader community that extends beyond their own society, and it promotes the importance of active participation and engagement in global issues. In the introduction, the authors explore the various definitions and conceptualizations of global citizenship and examine how it is understood and practiced.

While there is no unanimous agreement among scholars regarding the definition of global citizenship, a common point of agreement among many is that it encompasses a sense of belonging to both a global and local community and active engagement in addressing global challenges (UNESCO, 2018). Indeed, Schattle (2009) emphasizes the sense of belonging to a global community, active participation, and commitment to promoting the common good. Nonetheless, the idea of belonging to a global community has sparked controversy in numerous countries,

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especially those with a legacy of colonialism, significant multicultural populations, or instances of rights being restricted or denied to specific communities (DeJaeghere, 2009).

After World War II, the idea of cosmopolitanism, an influential notion of global citizenship rooted in Ancient Greece, emerged as a result of the quest for shared humanity and moral obligations to one another (Nussbaum, 2002). Indeed, global citizenship is also associated with democracy, human rights, and peace (Oxley & Morris, 2013). Cabrera (2010) contends that GC can be perceived as the matured form of individual cosmopolitanism when it is backed by a human rights framework.

The economic conception of global citizenship is also discussed by several scholars due to the advancement of ICT and interconnectedness. The interaction of capital, labor, resources, and the human condition are the main areas of economic global citizenship (Garriga & Melé, 2004; Richardson, 2008). In addition, some scholars emphasize the cultural perspectives of the concept. For instance, Waks (2008, p. 204) postulated that being a global citizen entails being accepting of people from other cultures, showing an interest in them, learning about them, and even developing a unique sense of self as a cosmopolitan via such encounters. Frequent exposure to diverse cultures, languages, practices, and perspectives, as well as fostering the development of open-mindedness (van Werven et al., 2023), awareness, and embracing cultural diversity (Reysen & Katzarska-Miller, 2013) are examples of cultural global citizenship aspects.

The concern for the environment aligns with the concept of global citizenship because environmental challenges are inherently global in scope (Damoah & Adu, 2022; Husen et al., 2022; Oxley & Morris, 2013). Sustainable development is promoted within environmental global citizenship. It also includes climate change, caring for the world, reducing consumption, and biodiversity (Espino et al., 2020; Leite, 2022; Sung & Choi, 2022). Over the past few years, critical global citizenship has surfaced as a response to escalating inequality and social injustice on a global scale. Critical global citizenship promotes decolonization, ethical and eco-critical values, and diversity while allowing individuals to analyze beliefs, conceptions, values, and identities in relation to the complexity of local and global structures (Bosio, 2022). Osler and Starkey (2005) argue that global citizenship involves developing a “critical consciousness” that enables individuals to question dominant discourses and power structures that perpetuate inequality and injustice. They also emphasize the importance of a pedagogy that is based on dialogue and collaboration rather than on transmitting knowledge from an authority figure to a passive recipient.

The concepts that most readily intersect within the current discourse on global citizenship are responsibility, awareness, and engagement (Schattle, 2009). Indeed, scholars consistently recognize three primary dimensions of global citizenship: social responsibility, global competence, and engagement in global civic affairs (Morais & Ogden, 2011). Social responsibility is one of the most prevalent characteristics of global citizenship definitions in the related literature. Social responsibility is the definition of producing goods and services in a manner that does not harm society (Kilinc & Tarman, 2018). It also promotes cooperation for the solution of global issues. According to the Council of Europe (2012), global citizenship involves assuming social responsibility for effecting changes at the local level, which can influence the global landscape through inclusive strategies and approaches.

Global competence is another expected characteristic of global citizenship (Kilinc & Tarman, 2022). Hunter (2004) characterized global competence as the capacity to embrace an open-minded perspective while actively striving to grasp the cultural norms and expectations of others, and employing this acquired knowledge to engage, communicate, and cooperate effectively beyond one's familiar environment. According to Fantini et al. (2001), global competence comprises a range of abilities that develop through engagement with diverse cultures.

The final element of global citizenship is global civic engagement. It refers to civic obligations aimed at addressing local, national, and global challenges, which may involve raising political awareness and collaborating with organizations to identify solutions to global and local issues (Morais, Ogden, & Buzinde, 2009). Brunell (2013) contended that global-civic competence stands as the central dimension of global citizenship since global issues directly affect local communities and individuals. For instance, extensive migration, refugee crises, and economic interdependence have direct repercussions on our local communities. Encouraging students to assume responsibility, cooperate with others, and initiate projects within their communities can cultivate the growth of responsible citizenship.

Global citizenship is a recently emerging topic in Kazakhstan, and discussions surrounding it have only recently commenced. Like numerous other countries, Kazakhstan needs to redefine and reconceptualize the concept of citizenship. As the universities in Kazakhstan become more involved in the internationalization process, they are adapting their programs and curricula to align with the evolving labor market and national education environment (Abazov, 2021). The United Nations Academic Impact (UNAI) has played a crucial role in integrating universities in

Kazakhstan into the global UNAI network of universities since 2011. UNAI has stimulated and facilitated its involvement in internationalization initiatives and global civic engagement activities (Seidikenova et al., 2020). Therefore, examining the perceived discourse of global citizenship of Kazakh college students is imperative. This study aims to adapt the Global Citizenship Scale for use in Kazakhstan.

Kazakhstan is home to 130 different ethnic groups, with Kazakhs and Russians being the largest groups. As a result, both Russian and Kazakh languages are officially recognized in the country. However, in the 1990s, the Kazakh language faced a decline in demand, especially among Kazakhs living in urban areas who did not know their native language well. Over the years, there has been an increase in the Kazakh population, reaching 60 percent of the total population, and consequently, the usage of the Kazakh language has seen a rise (Abdullina, 2013). During the Soviet era, the term “Kazakhstani” carried more political and ideological weight than national identity. Kazakh identity was seen as an ethnicity and social community, rather than a political community or country, within the Soviet framework. However, after the collapse of the USSR and gaining independence, changes occurred not only in Kazakhstan’s civic identity but also in the search for a new identity within the former Soviet space.

Another important difficulty in establishing Kazakhstani identity is going through Soviet and Western terminology and interpreting old and new concepts. This shift in terminology posed challenges for authors compiling the ethnopolitical lexicon in 2014. Aygul Sadvakasova, Project Director of the “Ethno-Political Terms and Concepts,” noted that the transition from the Soviet scientific approach to the modern one led to the interpretation, articulation, and understanding of certain concepts and categories differently. As a result, some people in Kazakhstan use Western terminology that may not be fully understood by others (Tuymebaev et al., 2020). For instance, the term “diaspora” was often used to refer to non-Kazakhs in Kazakhstan, even by journalists. Not more accepted, many non-Kazakhs felt themselves to be part of Kazakhstan, part of the Kazakhstani people, and not as a diaspora. It is because they are citizens of Kazakhstan. Such linguistic changes, which are replacing or not using certain terms, create difficulties for the residents of Kazakhstan in understanding and adapting to the evolving lexicon. In an interview, Ahmet Muradov, Chairman of the Association for the Advancement of Chechen and Ingush Peoples in Kazakhstan and a member of the parliament, shared his viewpoint on the challenges posed by ethno-political terminology. He stated that many terms in the ethnopolitical lexicon were

completely unfamiliar to him, and some concepts in the book had different meanings from what he knew (Temirbayeva, Aygojin, & Bespaev, 2015). Similarly, the term “nationality” has been synonymous with ethnic origin from the Soviet period to the present day, indicating a person’s ethnic group in official documents. Today “nationality,” which used to be synonymous with “patriotism,” carries a negative connotation under certain conditions. Moreover, terms like “ethnic minorities,” commonly used in international practice, are not officially used in Kazakhstan.

Considering Kazakhstan’s diverse multiethnic population, a 2019 survey conducted by ZOIS (Center for East European and International Studies) among residents of Almaty unveiled a prevalent tendency toward ethnic self-identification among the respondents. Concurrently, the concept of civic Kazakhstani identity resonates strongly, leading to the characterization of the population’s identity as “multiple identities.” In the early 1990s, the newly independent Republic of Kazakhstan addressed the challenges of its multiethnic makeup by adopting a dual approach: promoting ethnic Kazakh identity for the Kazakh population and civic Kazakhstani identity for all citizens, irrespective of their ethnicity. Nevertheless, some notable observers and scholars highlight an ongoing tension between these two forms of identity, as well as between Kazakhs and non-Kazakhs in practical terms (Eschment & Sutormina, 2020). Apart from the general division between Kazakhs and non-Kazakhs, there is an internal division among Kazakhs themselves based on their proficiency in the Kazakh language. There are those who fluently speak the Kazakh language and are considered real “nagyz Kazakhs,” and others who do not speak their own language well, known as “shala-Kazakhs.” This internal division within the Kazakh population has a negative impact on the formation of a unified Kazakhstani identity. According to Werjbizki (2013), the existence of such divisions within the Kazakh population highlights the problems of ethnonationalism and primordial conceptions of the nation in the post-Soviet space. In a society where differentiation and mixing of the population are prevalent, these divisive ideologies have no place and hinder the development of a cohesive and harmonious Kazakhstani society.

Similar results were obtained in 2010 by the author of “Kazakhstan in the Global World: Challenges and Identity Preservation.” (Nisanbayev, et al., 2011). They conducted a study in various regions of Kazakhstan and surveyed 1,000 respondents from different ethnic groups. The study concluded that for the majority of people living in Kazakhstan, ethnic belonging plays a determining role in their identity, ranking higher than civic identity. The authors argue that the “right of nations to self-determination” must be recognized, allowing individuals and ethnic groups

to conduct their own ethnic identification based on the criteria they consider defining. However, the state's nation-building policy in the Republic of Kazakhstan should effectively influence the process of creating mass ethnic self-awareness toward embracing the idea of a nation as a co-citizenship. In this manner, Kazakhstan's national policy should first acknowledge two modalities of the country: ethnic nation and civic nation, and, second, be guided by the assumption of the task of shaping and cultivating a modern civic awareness, prioritizing civic-political understanding of the nation over traditional and ethnocentric views (Nisanbayev, Kosichenko, & Seitahmetova, 2011). The authors consider it essential to establish a framework of measures to promote cultural pluralism, similar to the one conducted in favor of internationalism. It is necessary to strengthen control over the creation of educational materials to prevent misrepresentation of political and cultural history in favor of some nations at the expense of others. They also emphasize the importance of conducting reconciliatory meetings among historians, philologists, and ethnologists to achieve a consensus on the most contentious issues of historiography and ethnic history of the peoples of Kazakhstan. Thus, in the future, it can be anticipated that civic-political understanding of the country will prevail over traditional and ethnocentric understandings (Nisanbayev, Kosichenko, & Seitahmetova, 2011).

### **Method**

This study aims to adapt the Global Citizenship Scale for use in Kazakhstan. The research design is a cross-sectional study conducted with a quantitative method. In this section, more information about the methodology and research design of the research will be presented.

The following questions were determined as research questions:

1. Are the structures of the factors measuring social responsibility, global competence, and global civic engagement consistent with predetermined structures?
2. Do the factors that measure social responsibility, global competence, and global civic participation dimensions have structural validity?
3. What are the reliability levels of the factors that measure social responsibility, global competence, and global civic participation dimensions?

### ***Sample***

The study selected university students from Kazakhstan as its voluntary participants, informing them that they could withdraw at any stage. A total of 374 individuals constituted the initial sample for this adaptation study, which did not require gathering any demographic details. Subsequently, a separate group of 189 university students with comparable traits was surveyed for confirmatory factor analysis.

### ***Data Collection Tools***

The Global Citizenship Scale (Morais & Ogden, 2011) was used in the study. The scale consists of declarative statements for which there are varying degrees of agreement with or endorsement of global citizenship. The original form of the Global Citizenship Scale is in English. The scale developers conducted two expert face validity trials, extensive exploratory and confirmatory factor analyses with multiple datasets, and a series of three small-group interviews utilizing nominal group technique to verify the scope of the global citizenship construct. The scale was tested with a sample of students enrolled in faculty-led education abroad programs, as well as a sample of students enrolled in courses with similar academic foci but without embedded international travel. The responses to each item were measured using a 5-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5). The Global Citizenship Scale encompasses three dimensions of global citizenship: social responsibility, global competence, and global civic engagement. Global competence and global civic engagement are both strong dimensions of global citizenship, and each has three reliable subdimensions that add further refinement to the construct. Social responsibility proves to be a dimension of global citizenship with a less clearly defined structure. Exploratory and confirmatory factor analysis for the scale were performed separately for Social Responsibility, Global Competence, and Global Civic Engagement dimensions (Morais & Ogden, 2011).

### ***Data Analysis***

The aim of this study is to examine the factor structure and reliability of the Social Responsibility, Global Competence, and Global Civic Engagement subdimensions of the Global Citizenship Scale. To give the survey to students in Kazakhstan, the authors had to translate the questions into Russian or Kazakh. Because most students in Almaty, including many students from Kazakh

groups, can speak Russian well, we decided to translate the questions from English to Russian so that more students might understand them.

To ensure that the translations were correct, the research authors hired two experts to check the translation. After finishing the translation, the authors gave the translated questions to two more experts who are skilled in both Russian and English and do research in the social sciences. Some ideas in the questions needed to be better explained, so some questions ended up being longer in Russian than in English. Furthermore, the writers made some words and ideas easier to understand for students. They did this because some of these words are not used often in everyday Russian.

After finishing the survey, the authors performed a pilot study with 55 students to see if the students understood the survey questions and how they reacted to them. The authors also made sure the students understood the Russian text correctly by checking their answers for accuracy. During the time when data was being gathered, the authors talked with the students in the classroom and answered their questions. The survey questions were read and answered easily, and the data was collected successfully.

Before the analysis, the data were examined, and the incomplete data were cleaned. In the first step, Exploratory Factor Analysis (EFA) was performed. Then, the factor structure of the scales was confirmed by Confirmatory Factor Analysis (CFA). Finally, reliability and item analyses of the scales were performed.

The process of Exploratory Factor Analysis was carried out using the “maximum likelihood” subtraction method and the “varimax” rotation method (Williams et al., 2010; Yong & Pearce, 2013). Williams et al. (2010) suggest applying more than one method in the selection of method and rotation method, whichever explains the theoretical structure better. A similar method was followed in the rotation method. According to the EFA results, the factor loadings of the scales and the percentages of variance explained by the factors were determined. The results of these analyses were interpreted in line with the purpose of the study.

Based on the EFA results, Confirmatory Factor Analysis (CFA) was performed to confirm the factor structure of the scales (Brown, 2015; Harrington, 2009). CFA results show that the factor structure of the scales is at an acceptable level in terms of fit indices. Comments made by considering factor loadings, factor covariances, and model fit indices provide important information about the structural features of the scales. CFI, TLI, RMSE, and SRMEA are used for model indices. A value above 0.9 for CFI and TLI, and a value less than 0.8 for RMSEA and



SRMEA, is defined as an acceptable level (Hu & Bentler, 1999). A second-order CFA was also performed via the lavaan (0.6-15) package in RStudio to validate the overall scale structure of the model. Cronbach's  $\alpha$  and McDonald's  $\omega$  reliability coefficients were calculated to evaluate the reliability of the scales. The Jamovi program (The Jamovi Project, 2023) was used in all statistical processes. Additionally, calculations for Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), Average Shared Variance (ASV), and correlations were performed. Moreover, the Item Analysis involved computations for discrimination and item-total correlations. Given that the scale items are predicated on individual opinions, the calculation of item difficulty was deemed unnecessary. All computations were conducted using Python.

## Findings

### *Exploratory Factor Analysis Result*

Exploratory Factor Analysis was conducted separately for the three different constructs of the Global Citizenship Scale, Social Responsibility, Global Competence, and Global Civic Engagement, as in the original study. First, Bartlett's Test of Sphericity and KMO Sample Adequacy measure were applied for exploratory factor analysis of the sample. The assumption control results for the Social Responsibility structure are significant with a  $\chi^2$  value of 122 and a p-value  $<.001$  in Bartlett's Test of Sphericity. The KMO Sample Adequacy measure is generally 0.645, and the MSA values for each item vary between 0.627 and 0.691. The assumption control results for the Global Competence structure are significant with a  $\chi^2$  value of 438 and a p-value  $<.001$  in Bartlett's Test of Sphericity. The KMO Sample Adequacy measure is generally 0.747, and the MSA values for each item range from 0.665 to 0.803. The assumption control results for the Global Civic Engagement structure are significant with a  $\chi^2$  value of 1016 and a p-value  $<.001$  in Bartlett's Test of Globality. The KMO Sample Adequacy measure is generally 0.822, and the MSA values for each item range from 0.699 to 0.893. As a result, the assumption checks for the three different constructs of the Global Citizenship Scale, Social Responsibility, Global Competence, and Global Civic Engagement, showing that all three constructs are suitable for Exploratory Factor Analysis.

**Table 1***Factor loading and summary for each dimension*

Scale Structure	Factors	SS Loadings	% of Variance	Cumulative %	GCS Items	Factor Loadings	Uniqueness
Social Responsibility	1	0.97	19.4	19.4	GCS_1	0.525	0.724
					GCS_2	0.414	0.828
					GCS_3	0.523	0.727
					GCS_4	0.357	0.873
					GCS_5	0.349	0.878
Global Competence	1	1.035	11.5	11.5	GCS_10	0.455	0.740
					GCS_11	0.633	0.574
					GCS_12	0.518	0.684
	2	1.02	11.3	22.8	GCS_13	0.379	0.766
					GCS_14	0.648	0.508
					GCS_15	0.561	0.627
	3	0.953	10.6	33.4	GCS_7	0.634	0.593
					GCS_8	0.518	0.68
					GCS_9	0.367	0.821
Global Civic Engagement	1	1.79	17.9	17.9	GCS_24	0.689	0.475
					GCS_25	0.544	0.554
					GCS_26	0.724	0.441
					GCS_27	0.492	0.601
	2	1.78	17.8	35.7	GCS_16	0.451	0.723
					GCS_17	0.57	0.638
					GCS_18	0.678	0.442
					GCS_20	0.599	0.563
	3	1.26	12.6	48.3	GCS_28	0.4	0.726
					GCS_29	0.979	0.005

According to the results of the Exploratory Factor Analysis (Table 1), sub-factor structures were examined for the three different structures of the Global Citizenship Scale, Social Responsibility, Global Competence, and Global Civic Engagement. The “maximum likelihood” subtraction method and “varimax” rotation were used in the analysis. Items with a factor load below 0.4 were excluded from the scale.

A single factor solution was obtained for Social Responsibility. Item 6 was removed from the scale. When the items were examined, the nomenclature in the original scale was used because it was related to “global justice and disparities.” The percentage of the total variance explained by this factor is 19.4%. Factor loadings range from 0.349 to 0.525, and uniqueness values for each item range from 0.724 to 0.878.

Three factor solutions have been obtained for Global Competence. When the items collected in Factor 1 were examined, the factor was named with the same name since they were items related to “intercultural communication” in the original scale. When the items collected in Factor 2 were examined, the nomenclature was preserved as they were items related to “global knowledge.” In

Factor 3, items related to “self-awareness” were collected. The factor name was used with the naming in the original scale. The percentages of total variance explained by these factors are 11.5%, 11.3%, and 10.6%, respectively, and cumulatively 33.4%. Factor loadings and uniqueness values vary in different factors for each item.

A three-factor solution has been obtained for Global Civic Engagement. The items collected in Factor 1 are related to the “political voice.” The items collected in Factor 2 are about “involvement in civic organizations.” In Factor 3, the items collected are related to “global civic activism.” Items with factor loadings below 0.4 (19, 21, 22, 23, and 29) were excluded from the scale. The percentages of total variance explained by these factors are 17.9%, 17.8%, and 12.6%, respectively, with a cumulative 48.3%.

As a result, the Exploratory Factor Analysis results reveal different factor structures for the three different structures of the Global Citizenship Scale, Social Responsibility, Global Competence, and Global Civic Engagement. One-factor solutions were obtained for Social Responsibility, and three-factor solutions were obtained for the other two structures.

### *Confirmatory Factor Analysis Results*

**Table 2**

#### *Model indices for each dimension*

Scale Dimension	$\chi^2/df$ (<5)	CFI (>0.9)	TLI (>0.9)	SRMR (<0.8)	RMSEA (<0.8)	RMSEA 90% CI
Social Responsibility	3.73/3 = 1.17	0.993	0.975	0.0233	0.0305	0.00 - 0.13
Global Competence	28.3/24=1.18	0.975	0.963	0.0449	0.0306	0.00 - 0.069
Global Civic Engagement	51.3/28= 1.83	0.96	0.935	0.0445	0.0663	0.036 - 0.095

When the model fit indices are examined (Table 2), the models are at an acceptable level since CFI and TLI in all three dimensions are greater than 0.9 and SRMR and RMSEA values are less than 0.8.

**Table 3***Factor loading based on CFA for each dimension*

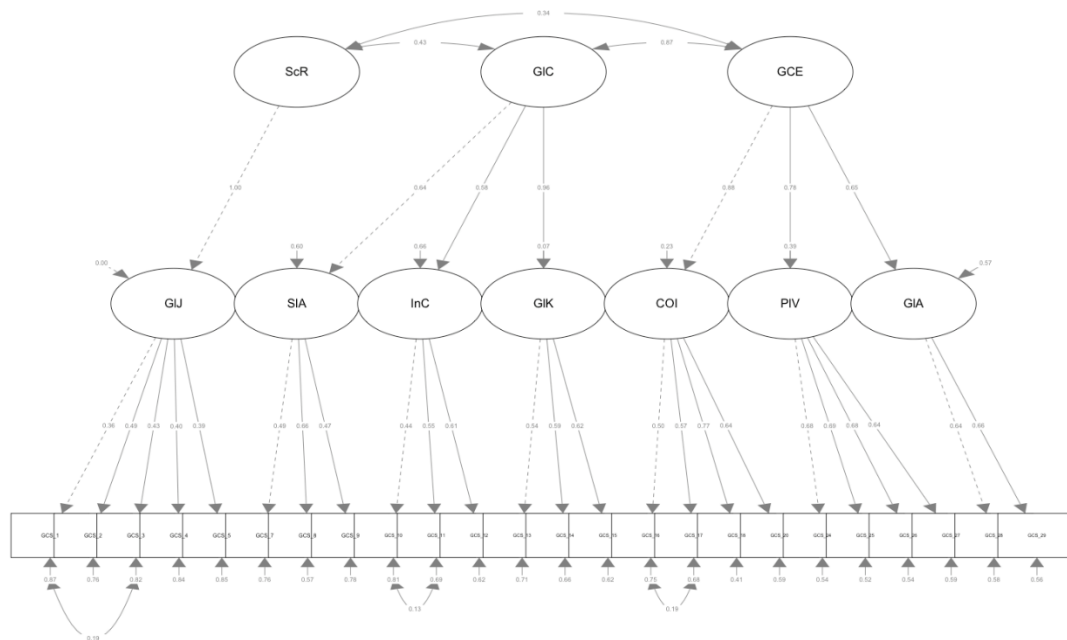
Dimension	Factor (Scale)	Indicator	Estimate	SE	Z	p
Social Responsibility	Global Justice and Disparities	GCS_1	0.922	0.143	6.457	< .001
		GCS_2	0.812	0.108	7.498	< .001
		GCS_3	0.823	0.123	6.697	< .001
		GCS_4	0.859	0.095	9.080	< .001
Global Competence	Self-Awareness	GCS_5	0.813	0.102	7.963	< .001
		GCS_7	0.927	0.082	11.374	< .001
		GCS_8	0.684	0.087	7.826	< .001
		GCS_9	0.877	0.090	9.744	< .001
		GCS_10	0.960	0.074	13.026	< .001
	Intercultural Communication	GCS_11	0.755	0.090	8.352	< .001
		GCS_12	0.792	0.077	10.246	< .001
		GCS_13	0.976	0.083	11.830	< .001
	Global Knowledge	GCS_14	0.890	0.082	10.867	< .001
		GCS_15	0.684	0.086	7.991	< .001
Global Civic Engagement	Involvement in Civic Organizations	GCS_16	0.925	0.071	13.065	< .001
		GCS_17	0.826	0.063	13.028	< .001
		GCS_18	0.821	0.066	12.515	< .001
		GCS_20	0.791	0.068	11.649	< .001
	Political Voice	GCS_24	0.968	0.062	15.630	< .001
		GCS_25	0.826	0.069	11.954	< .001
		GCS_26	0.824	0.059	13.966	< .001
		GCS_27	0.733	0.069	10.701	< .001
	Glocal Civic Activism	GCS_28	0.920	0.084	10.992	< .001
		GCS_29	0.849	0.074	11.411	< .001

According to Table 3, when factor loadings and related p values are examined, there are five indicators in the Global Justice and Disparities factor, and factor loadings vary between 0.344 and 0.692. The Self-Awareness factor in the Global Competence dimension has three indicators and factor loadings range from 0.412 to 0.551. There are three indicators in the Intercultural Communication factor and their factor loads range from 0.438 to 0.563. There are three indicators in the Global Knowledge factor and their factor loadings range from 0.465 to 0.589. The Involvement in Civic Organizations factor in the Global Civic Engagement dimension has four indicators and factor loadings range from 0.486 to 0.686. There are four indicators in the Political Voice factor and their factor loadings range from 0.574 to 0.624. There are two indicators in the Glocal Civic Activism factor and factor loadings range from 0.540 to 0.581. All these indicators were statistically significant ( $p < .001$ ). According to the table, the factor loadings of the indicators for all factors are significant and positive. This shows that the factors are related to their own indicators and that the scales are valid. The relationships between the relevant factors and

indicators indicate that the model used is suitable for representing the factor structure of these scales.

### *Second Order Confirmatory Factor Analysis*

The chi-square statistic for the model was  $\chi^2/df=525.945/240=2.19$ , suggesting a significant discrepancy between the observed and estimated covariance matrices. The Comparative Fit Index (CFI) was 0.912, and the Tucker-Lewis Index (TLI) was 0.901, both of which are above to the recommended threshold of 0.90, indicating an acceptable fit. The Root Mean Square Error of Approximation (RMSEA) was 0.056, with a 90% confidence interval ranging from 0.050 to 0.063. An RMSEA value less than 0.08 is generally considered an acceptable fit, and the p-value for the test of close fit (RMSEA  $\leq$  0.05) was 0.053, further supporting the model fit. Additionally, the Standardized Root Mean Square Residual (SRMR) was 0.060, which is below the commonly accepted threshold of 0.08, indicating an acceptable residual.



**Figure 1.** *Second Order CFA Path Diagram*

For Global Justice, all indicators had significant loadings, with values ranging from 1.00 (GCS\_1) to 1.305 (GCS\_2). Self-Awareness had loadings ranging from 1.000 (GCS\_7) to 1.343 (GCS\_8). Intercultural Communication, Global Knowledge, Civic Organization Involvement, Political Voice, and Glocal Activism all had significant loadings for their respective indicators. For the

second-order factors, Social Responsibility was significantly represented by Global Justice. Global Competence was significantly represented by Self-Awareness ( $\lambda=1.000= 1.000$ ), Intercultural Communication ( $\lambda = 0.814$ ,  $p < .001$ ), and Global Knowledge ( $\lambda = 1.867$ ,  $p < .001$ ). Global Civic Engagement was significantly represented by Civic Organization Involvement ( $\lambda = 1.000$ ), Political Voice ( $\lambda = 1.041$ ,  $p < .001$ ), and Glocal Activism ( $\lambda = 0.851$ ,  $p < .001$ ). The second-order CFA model showed an acceptable fit to the data, with most fit indices meeting the recommended thresholds. The factor loadings for both first and second-order constructs were significant, suggesting that the indicators appropriately represent their respective latent variables.

### Reliability Analysis

**Table 4**

#### Reliability results for each dimension

Scale Dimension	Cronbach's $\alpha$	McDonald's $\omega$
Social Responsibility	0.638	0.604
Global Competence	0.697	0.673
Global Civic Engagement	0.816	0.843

The Cronbach's  $\alpha$  value for the Social Responsibility dimension is 0.638 and the McDonald's  $\omega$  value is 0.604. These values show that the scale is moderately reliable. The Cronbach's  $\alpha$  value for the Global Competence dimension is 0.697 and the McDonald's  $\omega$  value is 0.673. These values show that the scale is reliable at an acceptable level. The Cronbach's  $\alpha$  value for the Global Civic Engagement dimension is 0.816 and the McDonald's  $\omega$  value is 0.843. These values show that the scale is highly reliable. The result is that all three scales show different levels of acceptability in terms of reliability.

**Table 5**

#### CR, AVE, MSV, and ASV for each dimension

Factor	CR	AVE	MSV	ASV	GJD	SA	ICC	GK	ICO	PV	GCA
Global Justice and Disparities	0.717	1.000	0.106	8.29	1						
Self-Awareness	0.700	0.765	0.227	9.13	-0.251	1					
Intercultural Communication	0.706	0.817	0.251	12.72	-0.122	0.236	1				
Global Knowledge	0.740	0.880	0.302	10.98	-0.190	0.327	0.369	1			
Involvement in Civic Organizations	0.710	0.868	0.350	11.15	-0.159	0.283	0.245	0.493	1		
Political Voice	0.709	0.772	0.350	8.64	-0.174	0.351	0.131	0.448	0.535	1	
Glocal Civic Activism	0.780	0.747	0.251	11.89	-0.097	0.186	0.280	0.375	0.354	0.312	1

Table 5 presents a comprehensive analysis of several factors related to global citizenship, civic engagement, and intercultural communication. Each factor is evaluated based on various metrics, including Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV). The composite reliability (CR) is a measure of internal consistency, indicating the extent to which all items in a construct measure the same underlying concept. A CR value above 0.7 is generally considered acceptable, and all the factors in the table meet this threshold, indicating good internal consistency. The highest CR is for Global Civic Activism (0.780), suggesting that the items in this construct are particularly cohesive. The average variance extracted (AVE) measures the amount of variance captured by a construct relative to the amount of variance due to measurement error. An AVE value above 0.5 is considered acceptable, indicating adequate convergent validity. Interestingly, the AVE for Global Justice and Disparities is exactly 1.000. The maximum shared variance (MSV) and the average shared variance (ASV) metrics measure the amount of variance a construct shares with other constructs in the model. Ideally, the AVE of each construct should be greater than its MSV and ASV, supporting the discriminant validity of the construct.

The table also includes correlations between the factors. Most correlations are positive, indicating that as one-factor increases, the other tends to increase as well. However, there are a few negative correlations, such as between Global Justice and Disparities and Self-Awareness (-0.251), indicating a slight inverse relationship between these constructs. Overall, the table suggests that the constructs have good internal consistency and convergent validity, although there may be an issue with the AVE value for Global Justice and Disparities. The correlations between constructs are generally positive, suggesting that the constructs are related but distinct. It is also worth noting that some correlations are relatively low, indicating that the constructs capture different aspects of the underlying phenomena being studied.

**Table 6***Item analysis*

Items	Discrimination	Item-Total Correlation
GCS_1	0.631	0.631
GCS_2	0.587	0.587
GCS_3	0.624	0.624
GCS_4	0.559	0.559
GCS_5	0.559	0.559
GCS_7	0.700	0.700
GCS_8	0.741	0.741
GCS_9	0.725	0.725
GCS_10	0.690	0.690
GCS_11	0.771	0.771
GCS_12	0.745	0.745
GCS_13	0.707	0.707
GCS_14	0.753	0.753
GCS_15	0.776	0.776
GCS_16	0.728	0.728
GCS_17	0.731	0.731
GCS_18	0.778	0.778
GCS_20	0.730	0.730
GCS_24	0.780	0.780
GCS_25	0.751	0.751
GCS_26	0.798	0.798
GCS_27	0.742	0.742
GCS_28	0.846	0.846
GCS_29	0.843	0.843

Table 6 presents the item analysis for a scale: discrimination, item difficulty, and item-total correlation. The discrimination metric indicates how well an item can differentiate between participants with higher and lower overall scores on the scale. Higher discrimination values suggest that the item is better at distinguishing between different levels of the trait being measured. In this table, the discrimination values range from 0.559 (GCS\_4 and GCS\_5) to 0.846 (GCS\_28), suggesting that overall, the items have good discriminatory power. Notably, GCS\_28 and GCS\_29 have the highest discrimination values (0.846 and 0.843, respectively), indicating that they are particularly effective at distinguishing between participants with different levels of global citizenship. The item-total correlation metric indicates the correlation between a particular item and the total score on the scale (excluding the item in question). Higher values suggest that the item is more related to the overall construct being measured. In this table, the item-total correlation values are the same as the discrimination values, which is a bit unusual but might be due to the specific analysis method used. Overall, the table suggests that the items on this scale have good discriminatory power and are well correlated with the overall construct being measured.



According to the results of the exploratory factor analysis, confirmatory factor analysis and reliability calculation performed for the Global Citizenship Scale adaptation, the scale has become usable according to the context of Kazakhstan, which is a multicultural country.

### **Discussion**

The primary emphasis of the discussion section is to interpret the study's findings and offer valuable insights into the research questions at hand. This section further highlights the significance of the results by examining their implications, aligning them with existing literature, and elucidating their contribution to the comprehension of global citizenship within the context of Kazakhstan.

The study's objective was to adapt the Global Citizenship Scale for use in Kazakhstan and assess the factor structure and reliability of its three dimensions: social responsibility, global competence, and global civic engagement. The findings from the Exploratory Factor Analysis (EFA) provided valuable insights into the factor structure of each dimension.

In terms of social responsibility, a single-factor solution was obtained. This factor encompassed items related to "global justice and disparities." This factor accounted for 19.4% of the total explained variance. The factor loadings ranged from 0.349 to 0.525, indicating the strength of the relationship between the items and the underlying construct of social responsibility. These results indicate that the modified scale successfully encapsulates the notion of social responsibility within the framework of global citizenship in Kazakhstan.

For global competence, a three-factor solution emerged. Factor 1 represented items related to "intercultural communication," Factor 2 included items related to "global knowledge," and Factor 3 comprised items related to "self-awareness." Each factor delineated a unique facet of global competence, underscoring the significance of intercultural communication, awareness of global issues, and self-awareness in the realm of global citizenship. These findings align with previous research on global competence and confirm the multidimensional nature of this construct (Anderson, 2019; Deardorf, 2006; Kilinc & Tarman, 2022).

Regarding global civic engagement, the authors also identified a three-factor solution. Factor 1 included items related to "participation and activism," Factor 2 encompassed items related to "local and global collaboration," and Factor 3 consisted of items related to "political awareness." These dimensions reflect the diverse aspects of global civic engagement, emphasizing the need for

active participation, collaboration, and political awareness in addressing global challenges. The findings are consistent with previous literature on global citizenship and reinforce the multidimensional nature of global civic engagement (Adler & Goggin, 2005; Ajaps & Obiagu, 2021; Andrews & Aydin, 2020; Tarman & Kilinc, 2022).

The Cronbach's  $\alpha$  coefficient for the Social Responsibility dimension yielded a score of 0.638 in our adapted scale, while the Global Competence dimension achieved a value of 0.697, and the Global Civic Engagement dimension obtained a coefficient of 0.816. In the original scale, the Cronbach's  $\alpha$  coefficient for the Social Responsibility dimension was 0.70, the Global Competence dimension was 0.61, and the Global Civic Engagement dimension was 0.92.

Overall, the factor structure derived from the EFA demonstrates that the customized Global Citizenship scale adeptly encompasses the aspects of social responsibility, global competence, and global civic engagement within the context of Kazakhstan. Following the outcomes of the exploratory factor analysis, confirmatory factor analysis, and reliability assessments conducted during the adaptation process of the Global Citizenship Scale, it has been established that the scale is indeed suitable for use within the context of Kazakhstan.

### **Conclusion**

The results of this study carry noteworthy implications for the comprehension and advancement of global citizenship in Kazakhstan. By adapting and validating the Global Citizenship Scale, this study provides a valuable tool for researchers and practitioners to measure and assess global citizenship among Kazakh college students. The scale can facilitate the identification of strengths and areas for improvement in global citizenship education programs and guide the development of interventions to enhance global citizenship competencies.

The study also contributes to the existing literature on global citizenship by providing empirical evidence from the Kazakh context. As global citizenship is a recently emerging topic in Kazakhstan, this study fills a gap in knowledge by examining the perceived discourse of global citizenship among Kazakh college students. The findings shed light on the understanding and practice of global citizenship in Kazakhstan and contribute to the global discourse on global citizenship by offering insights from a diverse cultural and educational context.

Nevertheless, it is essential to recognize specific constraints of this study. The sample primarily comprised university students in Kazakhstan, potentially constraining the extent to which the

findings can be extrapolated to other populations. Future research could include a more diverse sample to ensure broader representation. Also, the study employed a quantitative research design, and future studies could incorporate qualitative approaches to gain a deeper understanding of the experiences and perspectives of Kazakh college students regarding global citizenship.

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