



The adaptation and validation of the global competence scale among educational psychology students

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ABSTRACT

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Global competence is supposed to possess a transformative capacity allowing for building bridges across cultural diversity to foster international cooperation. Literature searches indicate the paucity of robust tools evaluating global competence. This research strove to adapt and validate a measure for the assessment of students' global competence in Kazakhstan. For this purpose, the Global Competence Scale was chosen. A total of 467 graduate and undergraduate educational psychology students responded to the adapted scale. Based on the scores collected, the instrument was examined using exploratory and confirmatory factor analyses. Good reliability was yielded (Cronbach's alpha for the factors ranging from 0.722 to 0.924) and the original nine-factor structure was replicated and accounted for 61.84 % of the total variance. The model fit indices met the criteria set a priori. The Kazakh version of the Global Competence Scale was unprecedented and proved to be a reliable and valid tool for gauging the construct. In contrast to the original study, surveyees with international experience reported no superior scores relative to non-experienced counterparts. Holistically, findings suggest the respondents should work on their global competence, in particular with regard to international academic knowledge and communication. Further validation of the scale with larger sample sizes to increase its generalizability and use is encouraged.

Contribution/Originality: This research is first to appraise the scale designed to estimate the level of student global competence in a Kazakhstani educational context. The resulting measurement is a promising diagnostic tool. The study advances the investigation into the global competence concept and may bestow valuable information for educators.

1. INTRODUCTION

1.1. Background and Problem Statement

Global competence is operationalized as a multifaceted construct often being alternated with several overlapping terms such as cross-cultural competence when referred to Romijn, Slot, and Leseman (2021). There is currently no uniform definition of global competence, as well as consensus regarding mindsets and behaviors that might be recognized as globally competent. At the same time, there is probably widespread agreement on the assumption that global competence in some way encompasses dimensions of knowledge, skills and attitudes and can be described accordingly. Sälzer and Roczen (2018) claim that global competence comprises skills, knowledge, and attitudes that enable a person to engage in productive and respectful relationships with people from diverse backgrounds and strive for a more inclusive and sustainable society. However, the definitions generally share a

common goal to foster understanding of the world, positive relationships and transformative participation in and for society. Having scrutinized an extensive body of literature on the topic, [Leal, Gómez, and Toma \(2022\)](#) proposed to construe global competence as a lifelong learning objective that starts from a self-reflection facilitating individual's capacity and willingness to acknowledge local, global and intercultural issues, understand and appreciate global interdependencies, different perspectives and worldviews, as well as establish positive relationships in conditions of equality and respect, with the aim of being transformative agents that seek social justice and sustainability of the planet.

In the literature on strategy and organization, global competence is mentioned as drawing upon the notion of absorptive capacity, i.e., the ability of organizations to recognize, harness, and exploit new external knowledge to propel their innovative performance ([Cohen & Levinthal, 1990](#)). Numerous researchers posit that the phenomenon arises from individual absorptive capacity in the vein that the innovation processes are likely to be catalyzed when individuals actively scan the outside environment to identify, assimilate, reshape and employ external sources ([Schweisfurth & Raasch, 2018](#); [Yildiz, Murtic, Klofsten, Zander, & Richtner, 2021](#)). This is fairly consistent with global competence from the perspective of international cooperation in matters of education once the concept is addressed as 'seeking to understand cultural norms and expectations of others, leveraging this gained knowledge to interact, communicate and work effectively outside one's environment' ([Breitkreuz & Songer, 2015](#)).

The processes of globalization observed these days entail geopolitical and societal changes which are reflected particularly in the elevating cosmopolitanism of communities around the world due to the coexistence and interaction of people with different cultural backgrounds ([Alhothali, 2021](#)). With the advent of globalization, intercultural contact inevitably takes place in a variety of contexts, including the workplace, education, and others. Individuals displaying sufficient global competence are not only able to function effectively and appropriately in cross-cultural situations, but also to mediate between various cultures by interpreting diverse worldviews. At the same time, research shows that many students lack the necessary inter-cultural skills (e.g. [Yarosh, Lukic, and Santibáñez-Gruber \(2018\)](#)). Apparently, the lack of global competence may arouse prejudice on account of the limited common understanding among persons belonging to different cultural backgrounds, as can be seen *inter alia* from the case described in [Summers and Craig \(2016\)](#). Global competence nurtured through language learning, studying abroad programs and alike, could theoretically serve to build bridges across cultural diversity in response to the avowed urge of colleges and universities to internationalize.

However, the evidence points to the scarcity of robust psychometric instruments for evaluating global competence ([Chen & Gabrenya Jr, 2021](#); [Zhang & Zhou, 2019](#)). Furthermore, [Liu, Yin, and Wu \(2020\)](#) discovered that the situation is deplorable in the case of measuring global competence in an academic context and elaborated their own questionnaire aimed at graduate students, namely the Global Competence Scale (GCS), which is made up of 35 five-point Likert scale items distributed among three dimensions (knowledge, skills, and attitudes). The empirical examination in the Chinese sample revealed that the tool is reliable and valid. Hence the scale was selected for the present study, although the latter involved both graduate and undergraduate educational psychology students.

1.2. Relevance of the Study

Reliable investigation of global competence is regarded as context-specific ([Genkova, 2020](#)). Unfortunately, this parameter has not been properly assessed in Kazakhstani students heretofore, and no relevant scale adapted to the sample in Kazakhstan could be found. It is therefore imperative to address these gaps.

1.3. Aim of this Study

This research was designed to adapt the GCS to the local context and examine whether the Kazakh version of the scale is a valid and reliable instrument for measuring global competence among students in Kazakhstan. It was

hypothesized that participants with self-reported international experience would score higher on at least one domain in comparison to those who reported the absence thereof.

2. METHODS

2.1. Instrument Adaptation and Review

Prior to translating from English and back to Kazakh, the GCS questionnaire items were adapted after taking prior permission to adapt them from the authors. Taking into account the Kazakh-Russian bilingualism in Kazakhstan that derives from a number of historical reasons, the direct and reverse translation of the questionnaire was carried out by professional translators into Kazakh (the translator is a native speaker of Kazakh and Russian) and Russian (the translator is a native Russian speaker). The resulting translations were subjected to an expert review: a group of teachers specialized in international communication, who revised the GCS content. In order to test the content validity of the instrument, i.e., ensure that it measures what it was designed to measure, each statement in both language versions was given a value from -1 to 1, depending on the extent to which its meaning corresponds to the purpose of the questionnaire. Then, using an ad hoc formula for calculating the index of item-objective congruence (Turner & Carlson, 2003), an individual value was obtained for each item, none of which was lower than the minimum acceptable (0.75).

None of the statements were therefore deleted and the preliminary text was approved and pilot-tested for content comprehension using the think aloud technique (Finck et al., 2021) on four volunteers, namely a Russian speaking Baccalaureate student, a Kazakh speaking Master's student, and two Doctor of Philosophy (PhD) students whose medium of instruction was both Kazakh and Russian. They were asked to read all the items aloud, identify difficult to comprehend or ambiguous points, and provide appropriate feedback. As a result, the undergraduate student recommended that item 6 on the functions of international organizations and institutions should be supplemented with examples to prevent incorrect associations. For items 30 to 32, one of the PhD students presumed that some respondents might not have experience in communicating with foreigners, so it would be preferable to use the future tense. The remarks were accepted and the amendments were applied. Ultimately, the final version of the GCS was thus adopted. Table 1 shows the English, Kazakh and Russian versions of the adapted statements from the GCS, along with the overall means and standard deviations obtained by the respondents.

In terms of linguistic adjustments to the original items, the following amendments were made:

1-3: 'at least partly' added to make the sentence more flexible.

6: 'roles' replaced by 'functions' for being more specific in Russian; 'and society' deleted since 'world' overlaps the term; examples of international organizations and institutions added.

11: 'at least' added to make the sentence more flexible; 'apart from Kazakh and Russian' added given the bilingualism in Kazakhstan.

15: the sentence rephrased and 'interactions' used for the sake of communication.

17: the sentence rephrased and 'quickly' changed to 'fluently' in order to avoid the emphasis on one's speaking speed; 'apart from Kazakh and Russian' added given the bilingualism in Kazakhstan.

18 and 19: 'apart from Kazakh and Russian' added given the bilingualism in Kazakhstan.

22: the list of databases laconized to Scopus; 'with my supervisors' deleted to make the sentence more flexible.

23, 24, and 29: 'apart from those speaking Kazakh or Russian' added given the bilingualism in Kazakhstan.

25: the word order changed for the sake of clarity.

30-32: present tense shifted to the first conditional structure to avoid choice motivated by a lack of the corresponding experience in a surveyee's life.

Table 1. The global competence scale items with their translation and adaptation.

No.	Original item	Translated and adapted item (Kazakh / Russian)	Mean (SD)
1	Other than my own country, I know (At least partly) about the history and geography of at least one other country (At least partly)*.	Өз елімнен басқа, мен (толықтай болмаса да) кем дегенде бір басқа елдің тарихы мен географиясымен таныспын / Кроме собственной страны, я (хотя бы частично) знаком(а) с историей и географией как минимум ещё одной страны.	3.62 (1.12)
2	Other than my own country, I know (At least partly) about the political and economic systems of at least one other country*.	Өз елімнен басқа, мен (толықтай болмаса да) кем дегенде бір басқа елдің саяси және экономикалық жүйелерінің құрылымы туралы білемін / Кроме собственной страны, я (хотя бы частично) знаю об устройстве политической и экономической систем как минимум ещё одной страны.	3.32 (1.17)
3	Other than my own country, I know (At least partly) about the language, cultural norms, religions, beliefs, and customs of at least one other country*.	Өз елімнен басқа, мен (толықтай болмаса да) кем дегенде бір басқа елдің тілі, мәдени нормалары, діндері, нанымдары мен әдет - ғұрыптары туралы білемін / Кроме собственной страны, я (хотя бы частично) знаю о языке, культурных нормах, религиях, верованиях и обычаях как минимум ещё одной страны.	3.70 (1.10)
4	I understand the globalization concept and its development trends.	Менде жаһандану тұжырымдамасы мен оның даму тенденциялары туралы түсінік бар / Я имею представление о концепции глобализации и тенденциях её развития.	3.46 (1.07)
5	I understand the effect of globalization on a country's development, individual lifestyles and scientific research activities.	Жаһандандудың елдің дамуына, оның халқының өмір салтына және ғылыми-зерттеу қызметіне әсері маған түсінікті / Мне понятно влияние глобализации на развитие страны, образ жизни её населения и научно-исследовательскую деятельность.	3.59 (1.00)
6	I understand the functions of international organizations and institutions (Such as UN, UNESCO, EU) in today's world*.	Маған қазіргі (әлемдегі БҰҰ, ЮНЕСКО, ЕО) сынды халықаралық ұйымдар мен институттардың функциялары түсінікті / Мне понятны функции международных организаций и институтов (таких как ООН, ЮНЕСКО, ЕС) в современном мире.	3.54 (1.02)
7	I pay attention to global events and international affairs.	Мен жаһандық оқиғалар мен халықаралық мәселелерге назар аударамын / Я уделяю внимание глобальным событиям и вопросам международного характера.	3.58 (1.00)
8	I know the internationally accepted theories and schools of thought in my field of study or profession.	Мен өзімнің зерттеу бағытымдағы немесе мамандығым саласындағы халықаралық танылған теориялармен және ғылыми мектептермен таныспын / Я знаком(а) с международно признанными теориями и научными школами в моей области исследований или специальности.	3.43 (1.02)
9	I know the international cutting-edge research problems, issues, and theories in my field of study or profession.	Мен өзімнің зерттеу саламадағы немесе мамандығымдағы өзекті халықаралық зерттеу мәселелерімен, сұрақтарымен және теорияларымен таныспын / Я знаком(а) с актуальными международными исследовательскими проблемами, вопросами и теориями в моей области исследований или специальности.	3.45 (0.98)
10	I know the main internationally accepted research methods in my field of study or profession.	Мен өзімнің зерттеу саламадағы немесе мамандығымдағы зерттеу жүргізудің халықаралық тұрғыда қабылданған негізгі әдістерімен таныспын / Я знаком(а) с основными международно принятыми методами проведения исследования в моей области исследований или специальности.	3.51 (0.95)
11	I can easily read and write in at least one foreign language (apart from Kazakh and Russian)*.	Мен кем дегенде бір шетел тілінде (қазақ немесе орыс тілдерінен басқа) еркін оқи және жаза аламын / Я могу свободно читать и писать как минимум на одном иностранном языке (не казахском или русском).	3.74 (1.06)
12	I can easily use MS Office, PDF Reader, and other common international software.	Мен MS Office, PDF Reader және басқа да халықаралық бағдарламалық жасақтамаларды оңай пайдалана	3.87 (1.00)

		аламын / Я могу легко использовать MS Office, PDF Reader и прочее международное программное обеспечение.	
13	I can easily browse foreign language websites to obtain knowledge and the requisite information.	Мен білімді жетілдіру мен қажетті ақпаратты алу үшін шет тілдеріндегі сайттарды оңай қарай аламын / Я могу легко просматривать сайты на иностранных языках, чтобы получить знания и необходимую информацию.	3.58 (1.03)
14	I can analyze and evaluate issues from the perspective of a foreign culture.	Мен белгілі бір мәселелерді біреудің өзге мәдениеті тұрғысынан талдап, бағалай аламын / Я могу анализировать и оценивать те или иные проблемы с точки зрения чужой культуры.	3.65 (0.95)
15	I usually make efforts to better understand foreigners in order to facilitate our interactions*.	Әдетте мен өзара қарым-қатынасты жеңілдету үшін шетелдіктерді жақсырақ түсінуге тырысамын / Обычно я стараюсь лучше понять иностранцев, дабы облегчить наше взаимодействие.	3.67 (0.94)
16	I can be aware of cultural differences in my interactions with people from different cultures.	Мен басқа мәдениеттердің өкілдерімен өзара әрекеттесу кезіндегі мәдени айырмашылықтарды білемін / Я осознаю имеющиеся культурные различия при взаимодействии с представителями иных культур.	3.76 (0.94)
17	When interacting with people from different cultures, I can communicate in a common language fluently (Apart from Kazakh and Russian)*.	Өзге мәдениет өкілдерімен өзара араласқанда, мен олармен ортақ тілде (қазақ немесе орыс тілдерінен басқа) еркін сөйлей аламын / Взаимодействуя с представителями иных культур, я могу бегло говорить с ними на общем языке (не казахском или русском).	3.46 (1.01)
18	I have the ability to adjust to language and communication outside of my own culture (Apart from Kazakh and Russian ones)*.	Мен өз мәдениетімнен тыс (қазақ немесе орыс мәдениетінен басқа) тіл мен коммуникацияға бейімделе аламын / Я умею адаптироваться к языку и коммуникации за пределами моей культуры (не казахской или русской).	3.67 (0.94)
19	I can learn, work, and live outside of my own culture (Apart from Kazakh and Russian ones)*.	Мен өз мәдениетімнен тыс (қазақ немесе орыс мәдениетінен басқа) жерде оқи аламын, жұмыс істей аламын және өмір сүре аламын / Я могу учиться, работать и жить за пределами моей культуры (не казахской или русской).	3.66 (0.97)
20	I can easily comprehend foreign literature in my field of study or profession.	Мен өзімнің зерттеу салам немесе мамандығым бойынша шетелдік әдебиеттерді оңай түсінемін / Я легко понимаю иностранную литературу по моей области исследований или специальности.	3.36 (0.98)
21	When faced with problems in understanding professional literature, I can take the initiative to contact and consult the author.	Кәсіби әдебиетті түсінудегі қиындықтар туған жағдайда мен жеке бастамамен авторға хабарласып, консультация ала аламын / Столкнувшись с проблемами в понимании профессиональной литературы, я могу проявить инициативу и связаться с автором для консультации.	3.19 (1.02)
22	I have made efforts to publish papers in journals or conferences indexed in Scopus or other credible academic databases*.	Мен Scopus немесе басқа беделді академиялық мәліметтер базасында индекстелетін журналдарда немесе конференцияларда мақалалар жариялауға тырыстым / Я прилагал усилия для публикации статей в журналах или конференциях с индексацией в Scopus или других авторитетных академических базах данных.	2.78 (1.11)
23	I can actively seek foreign scholars (Apart from those speaking Kazakh or Russian) to discuss research questions and issues at international academic conferences*.	Мен халықаралық ғылыми конференцияларда зерттеу сұрақтары мен мәселелерін талқылау үшін шетелдік (қазақ тілді және орыс тілді емес) ғалымдарды белсенді іздеумен айналыса аламын / Я умею заниматься активным поиском зарубежных учёных (говорящих не на казахском или русском) для обсуждения исследовательских вопросов и проблем на международных научных конференциях.	3.06 (1.09)
24	I can easily discuss research questions and issues with foreign scholars	Мен халықаралық ғылыми конференцияларда шетелдік ғалымдармен (қазақ тілді және орыс тілді	2.99 (1.07)

	(Apart from those speaking Kazakh or Russian) at international academic conferences*.	емес) жүргізілетін зерттеу мәселелері мен проблемаларын оңай талқылай аламын / Я легко могу обсуждать исследовательские вопросы и проблемы с зарубежными учёными (говорящими не на казахском или русском) на международных научных конференциях.	
25	I would like to spend time and energy establishing contacts with foreigners and interacting with them*.	Мен шетелдіктермен байланыс орнатуға және олармен қарым-қатынаста болуға уақыт пен күш жұмсағым келеді / Я хотел(а) бы затрачивать время и энергию на установление контактов с иностранцами и общение с ними.	3.76 (1.00)
26	I would like to experience life and culture in other countries (Such as through tourism).	Мен басқа елдердің өмірімен және мәдениетімен танысқым келеді (мысалы, туризм арқылы) / Я хотел(а) бы познакомиться с жизнью и культурой других стран (например, с помощью туризма).	4.22 (0.88)
27	I would like to take the risk to experience cross-cultural learning and personal development (Such as through overseas study and work).	Мен мәдениетаралық оқыту мен жеке даму тәжірибесін алу мүмкіндігіне ие болғым келеді (мысалы, шетелде оқу немесе жұмыс істеу арқылы) / Я хотел(а) бы рискнуть получить опыт межкультурного обучения и личностного развития (например, посредством обучения или работы за рубежом).	4.06 (0.98)
28	I would like to go abroad and experience foreign countries' academic and research environments.	Мен шетелге барып, басқа елдердің академиялық және зерттеу ортасымен танысқым келеді / Я хотел(а) бы поехать за границу и познакомиться с академической и исследовательской средой других стран.	4.18 (0.91)
29	I would like to consult foreign scholars (Apart from those speaking Kazakh or Russian) in my areas of interest at international academic lectures and report sessions*.	Мен халықаралық академиялық лекциялар мен баяндама сессияларында мені қызықтыратын салалар бойынша шетелдік ғалымдармен (қазақ тілді және орыс тілді емес) кеңесіп көргім келеді / Я хотел бы консультироваться с зарубежными учёными (говорящими не на казахском или русском) по интересующим меня областям на международных академических лекциях и докладных сессиях.	3.91 (1.04)
30	If I communicate with foreigners, I will try to respect their cultures and values*.	Шетелдіктермен қарым-қатынас жасасам, мен олардың мәдениеті мен құндылықтарын құрметтеуге тырысатын едім / Общаясь с иностранцами, я бы старался проявлять уважение к их культуре и ценностям.	4.24 (0.84)
31	If I communicate with foreigners, I will try to understand their cultures and values*.	Шетелдіктермен қарым-қатынас жасасам, мен олардың мәдениеті мен құндылықтарын түсінуге тырысатын едім / Общаясь с иностранцами, я бы старался понять их культуру и ценности.	4.22 (0.86)
32	If I communicate with foreigners, I will try to appreciate their cultures and values*.	Шетелдіктермен қарым-қатынас жасасам, мен олардың мәдениеті мен құндылықтарын бағалауға тырысатын едім / Общаясь с иностранцами, я бы старался ценить их культуру и ценности.	4.21 (0.83)
33	I identify with my own country's culture and values.	Мен өзімді елімнің мәдениеті мен құндылықтарының бір бөлшегі ретінде айқындаймын / Я идентифицирую себя с культурой и ценностями моей страны.	4.22 (0.82)
34	I believe that my worldview is one of many equally valid worldviews.	Мен өз дүниетанымды көптеген балама дүниетанымдардың бірі ретінде қарастырамын / Я считаю, что моё мировоззрение - одно из множества равноценных мировоззрений.	3.98 (0.98)
35	I consider myself valuable to my country and society.	Мен өзімді елім мен қоғамым үшін құнды деп санаймын / Я считаю, что представляю ценность для своей страны и общества.	4.29 (0.81)

Note: * = The original items amended for the purpose of adaptation. SD = Standard deviation. UN = The United Nations. UNESCO = The United Nations educational, scientific and cultural organisation. EU = The European union. MS = Microsoft. PDF = Portable document format.

2.2. Participants and Procedure

The study protocol was reviewed and approved by the Research Ethics Board of the author's institution (approval number 1564), after which graduate as well as undergraduate educational psychology students from several local universities were invited to provide written informed consent and participate in this anonymous survey available through SurveyPlanet from February to May 2022 using the five-point Likert scale (from 'strongly disagree' to 'strongly agree') equivalent to the one utilized in the original measure. Given that it would be troublesome to inquire whether a respondent is fluent in Russian or Kazakh, the items and answer options were presented in Kazakh and Russian simultaneously. Eventually, a total of 467 individuals with an average age of 21.8 years filled out the questionnaire. Since all 35 items along with socio-demographic data were mandatory to submit, no incomplete records were returned. Characteristics of the participants are summarized in Table 2.

Table 2. Socio-demographic characteristics of the respondents (n = 467).

Characteristic	Value	n	%
Gender	Female	385	82.4
	Male	82	17.6
Country where they were born and raised in	Kazakhstan	453	97
	Other country	14	3
Family location	City	193	41.3
	Rural	274	58.7
Degree level	Bachelor's	366	78.4
	Master's	64	13.7
	Doctorate	37	7.9
International study and/or communication experience	None	399	85.4
	3 days to 1 month	16	3.4
	1 - 3 months	16	3.4
	3 - 6 months	27	5.8
	6 - 12 months	4	0.9
	1 year or above	5	1.1

2.3. Statistical Analyses

Exploratory factor analysis (EFA) was performed on the data to extract the underlying number of factors of the GCS using principal component analysis involving a varimax rotation method with a parallel analysis. The structure and dimensionality of the GCS were examined by confirmatory factor analysis (CFA). The goodness of model fit was evaluated based on recommended threshold values (Alkharji & Cheong, 2022; Yiğit & Demiralp, 2022) for root mean square error of approximation (RMSEA <0.08), Tucker-Lewis index (TLI >0.90), standardized root mean square residual (SRMR <0.08), comparative fit index (CFI >0.90), and chi-squared-degree of freedom ratio ($\chi^2/df <3.0$).

To figure out how much the items of the GCS are interrelated, the internal consistency of the retained factors was appraised using Cronbach's alpha with 0.6 considered as a minimal threshold, while values exceeding 0.80 and 0.90 were interpreted as good and excellent consistency respectively (Hair, Black, Babin, & Anderson, 2014; Schakib-Ekbatan, Lechner, & Schweiker, 2019). Moreover, the split-half reliability was computed via the random split method, with the Spearman-Brown coefficient (rSB) correcting the estimate for the number of items. The outcome was handled the same way as for Cronbach's α .

To inspect the hypothesis outlined earlier, difference between experienced and inexperienced learners was calculated through independent-samples t-test. Lastly, Kruskal-Wallis test with post-hoc pairwise comparisons was employed to explore there was difference in the gathered scores between the scale dimensions. Significance was declared at levels below $p <0.01$ in accordance with contemporary recommendations (Maier & Lakens, 2022). All the analyses were conducted in R environment.

3. RESULTS

3.1. Structural Validity

Upon inspection for skewness and kurtosis, data were deemed normally distributed. EFA revealed that three is the optimal number of factors for the data. The three-factor model explained 50.88% of total variance. Results from CFA suggest that this model fit the data not quite well ($\chi^2/df = 2.12$; RMSEA = 0.078, 90% confidence interval (CI) [0.074, 0.082]; CFI = 0.846; TLI = 0.828; SRMR = 0.055), with half of criterions not meeting the cut-offs recommended in the literature. Then, the original nine-factor structure with all 35 items was found explaining 61.84% of total variance. When subjected to CFA, the model demonstrated global fit indices that met the determined thresholds ($\chi^2/df = 2.69$; RMSEA = 0.051, 90% CI [0.046, 0.056]; CFI = 0.913; TLI = 0.926; SRMR = 0.053), so it was chosen for the further analysis.

3.2. Internal Consistency

Split-half reliability test yielded $r_{SB} = 0.965$ [0.958, 0.971], hence allowing for stating that the two halves of the questionnaire measure the same underlying construct. The overall Cronbach's α was equal to 0.954 [0.948, 0.960], pointing to excellent internal consistency of the instrument. The internal consistency coefficients were in the acceptable range and varied from 0.606 to 0.922. Thus, the overall goodness-of-fit of the original nine-factor solution was adequate. The factor structure and corresponding Cronbach's alpha values are presented in Table 3.

3.3. Global competence of the Sample in Kazakhstan

The average score for the GCS completed by the sample was 3.684 out of 5.0, which is slightly higher than the outcome reported for Chinese students (Liu et al., 2020). In line with the original GCS investigation, Kazakhstani surveyees reported the highest mean scores for items representing Attitude and Values domain ($M = 4.116$), followed by Knowledge and Understanding ($M = 3.521$), and Skills ($M = 3.460$). Kruskal-Wallis test detected significant differences across all three dimensions ($p < 0.001$).

Table 3. Descriptive statistics and Cronbach's alpha for each GCS factor ($n = 467$).

No.	Factor	Number of items	Mean	SD	Cronbach's α
1	World knowledge	3	3.548	1.145	0.780
2	Understanding globalization	4	3.543	1.026	0.820
3	International academic knowledge	3	3.464	0.985	0.848
4	Use of tools	3	3.731	1.036	0.722
5	Cross-cultural communication	6	3.644	0.962	0.866
6	International academic communication	5	3.077	1.070	0.866
7	Intent to interact	5	4.023	0.977	0.872
8	Open attitude	3	4.223	0.843	0.924
9	Values	3	4.164	0.883	0.786

3.4. Known Group Validity

As is evident from Table 4, participants with international study/communication experience scored almost equally to those lacking such experience, and t-test yielded no any significant difference ($p > 0.01$), so the hypothesis is rejected. Liu et al. (2020) established that the GCS has the discriminant power sufficient to diverge experienced and non-experienced respondents, so it should be assumed that the transnational experience acquired by the students sampled herein has failed to better equip them with the capacities and constructs constituting global competence.

Table 4. Comparison of global competence scores between students with international experience (n = 68) and without it (n = 399).

Variable	Experienced		Non-experienced		t	p
	Mean	SD	Mean	SD		
Entire scale	3.700	1.080	3.681	1.052	0.842	0.400
Dimension 1. Knowledge and understanding	3.491	1.107	3.526	1.042	0.766	0.444
Factor 1. World knowledge	3.475	1.176	3.561	1.139	0.981	0.327
Factor 2. Understanding globalization	3.504	1.087	3.550	1.015	0.690	0.490
Factor 3. International academic knowledge	3.490	1.067	3.459	0.971	0.412	0.681
Dimension 2. Skills	3.474	1.048	3.458	1.059	0.431	0.666
Factor 4. Use of tools	3.667	0.991	3.742	1.044	0.958	0.338
Factor 5. Cross-cultural communication	3.613	1.000	3.650	0.956	0.714	0.475
Factor 6. International academic communication	3.191	1.082	3.057	1.067	2.136	0.033
Dimension 3. Attitudes and values	4.179	0.933	4.105	0.919	2.035	0.042
Factor 7. Intent to interact	4.121	0.996	4.006	0.974	1.999	0.046
Factor 8. Open attitude	4.250	0.843	4.218	0.843	0.500	0.617
Factor 9. Values	4.206	0.908	4.157	0.879	0.730	0.466

4. DISCUSSION

This survey-based study sought to adapt and validate the GCS version intended to gauge global competence in Kazakhstani students. Results support its reliability and validity. Despite EFA failed to replicate the original nine-factor structure, it was submitted to CFA in order not to violate the initial construct. Satisfactory model fit was obtained eventually. Internal consistency was also fine for the overall scale and its subscales. The summarized estimate for the sample indicates a medium level of global competence, akin to the outcome stated by the instrument inventors. This suggests the astounding similarity between Chinese and Kazakhstani post-secondary education students. Yet, the immediate target of the original GCS was graduate students, whereas 4/5 of the sample in the current research were Baccalaureate students. This is one of the major limitations this research contains, not to mention the rather modest sample size, necessitating further validation of the GCS with larger sample sizes to increase its generalizability and use.

The participants scored the highest on the Attitude and Values dimension, which is quite explainable given that the statements specified there are predominantly future-oriented. Conversely, scores obtained within the dimension gauging learners' cross-national skills were at the bottom, which is hardly surprising as well, since one can erroneously believe he/she is aware of cultural norms accepted in some overseas countries and consequently submit unintentionally overstated scores, whereas one definitively knows whether he/she can communicate with an English-speaking researcher or not, so the risk of response bias is somewhat smaller. Nonetheless, the skewed self-report estimate is a common phenomenon allegedly stemming from identity-related issues (Brenner & DeLamater, 2016).

The lack of appreciable dissimilarity between experienced and inexperienced respondents within the known group validity assessment informs us that students possessing cross-cultural experience do not benefit from it in terms of global competence level when compared with their counterparts that did not have that background at the point. This is dissonant with findings outlined in Liu et al. (2020) where surveyees who reported past international involvement significantly outperformed those who did not on five factors out of nine. The reason may root particularly in the quality of the communication/study practice Kazakhstani students have gone through. Global competence is generally viewed as resultant from praxis implying dynamic interaction between individuals rather than a set of static personality traits (Hammer, 2015). Having examined the effectiveness of a range of interventions intended to promote students' global competence, Zhang and Zhou (2019) established that all types of reviewed means proved effective, including classroom-based interacting activities, but the immersion in an overseas environment yielded the largest summarized effect size. At the same time, a study by Cushner and Chang (2015) demonstrated that even living and teaching in an overseas setting turned out to be insufficient for improving participants' global competence, with affective and behavioral facets being the key bottlenecks. More emphatically,

some scholars postulate that students' worldviews can be transformed towards global citizenship only by means of the integration of cultural or disciplinary frameworks throughout the curriculum rather than using discrete activities (Smith & Paracka, 2018). On the other hand, Akdere, Acheson, and Jiang (2021) underline several disadvantages of conventional ways to cultivate students' global competence including their scarce availability, while empirically proving the high potency of virtual reality technology as a customizable and widely scalable learning environment conducive to intercultural gains. However, the cross-sectional nature of the data presented herein precludes causal inferences.

This paper makes some contributions to the extant research in the field. It advances the cooperative endeavor to quantify global competence across varying contexts through specific psychometric tools (for instance, (Morais & Ogden, 2011; Stevens, Bird, Mendenhall, & Oddou, 2014)) extending the literature to the Central Asian population. The Kazakh version of the GCS enables the corresponding capacities and attitudes of students to be assessed. As for educational psychologists recruited for this survey, the findings signal that the students do need to boost their skills and awareness underpinning global competence, particularly those concerning international academic knowledge and communication. The results may offer insights for practitioners, university authorities, and designers of global programs on foci requiring improvements and thus navigate new learning strategies. As a diagnostic tool, the questionnaire provides an opportunity to monitor changes in students and elicit their strengths and learning needs to help them perform appropriately and effectively.

5. CONCLUSION

This study resulted in making an instrument with adequate psychometric properties. The nine-factor structure of the GCS was equivalent to that of the original questionnaire and fit the data well. Internal consistency of the factors was high ($\alpha = 0.722$ and greater) thus portraying a reliable measure of the construct. Students with international experience reported no superior scores relative to inexperienced counterparts. Holistically, the survey results suggest the respondents should work on their global competence, in particular with regard to international academic knowledge and communication. As the author is aware, this investigation pioneers an appropriate assessment of global competence in Kazakhstan. The adaptation obtained is unprecedented in this country and appears ready to be applied in further research.

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