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Abstract

The purpose of this article is to report on the initial development of a theoretically grounded and empirically validated scale to measure global citizenship. The methodology employed is multi-faceted, including 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 findings provide support for a three-dimensional Global Citizenship Scale that encompasses 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. The Global Citizenship Scale and its conceptual framework have important implications for education abroad outcomes research and practice.

Keywords

global citizenship, scale development, education abroad

In much of the language promoting the benefits of international education, *global citizenship* has become a widely used concept that seems to be universally understood, but is rarely conceptually or operationally defined. Although some scholars have debated the meaning of the term (Parekh, 2003) and others have criticized its ubiquitous usage in higher education (Roman, 2003; Zemach-Bersin, 2009), many assert that the integration of education abroad experiences into the undergraduate curriculum is an effective pathway on which to guide students toward becoming engaged global citizens (Brown, 2006; Hunter, White, & Godbey, 2006; Praetzel, Curcio, & Dilorenzo, 1996). However, there are no instruments that appropriately measure global citizenship, and as a result,

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Table 1. Global Citizenship Literature by Thematic Grouping

	Social responsibility	Global competence	Global civic engagement
Falk, 1994; Urry, 2000	Global reformers: feel, think and act for the sake of humanity	Elite global business people: unified around shared business interests	Global environ-mental managers, politically conscious regionalists, transnational activists
Andrzejewski & Alessio, 1999	Understanding of ethical behavior in personal, professional, and public life	Knowledge and skills for responsible citizenship at local, state, national, and global levels	Committed to civic responsibilities to others, to society and to the environment
Lagos, 2001	Acknowledges universal rights and advocates for human rights	Aware of intergovernmental organizations, bureaucracies, new electronic spheres of communication, etc.	Engages in grassroots activism; redefines ties between civic engagement and geography
Parekh, 2003	Sense of responsibility to citizens of other countries and feels the need to respond to their pleas for help	Understands policies of one's country to ensure they do not damage the interests of others	Committed to creating a just world order in which countries work together with mutual concern
Dobson, 2003; Westheimer & Kahne, 2004	Personally responsible citizen; honest, responsible and understands the need to solve problems and improve society	Justice-oriented citizen; knows how to assess social, political, and economic structures and how to effect systemic change	Participatory citizen; actively participates and takes leadership positions within established systems and community structures
Noddings, 2005	Understands that local decisions have global economic consequences	Understands and values multicultural, religious, and intellectual diversity	Committed to the elimination of poverty and protecting the earth
Carens, 2000; Langran, Langran, & Ozment, 2009	Psychological dimension; has sense of identity in a global political community	Political dimension; distinguish among different international organizations and understands role of own country	Legal dimension; reflects the responsibilities that come from the interconnectedness of the world

there is no body of literature supporting or challenging such claims. Therefore, the purpose of this article is to report on the initial development and empirical validation of a theoretically grounded scale to measure global citizenship as an outcome of education abroad.

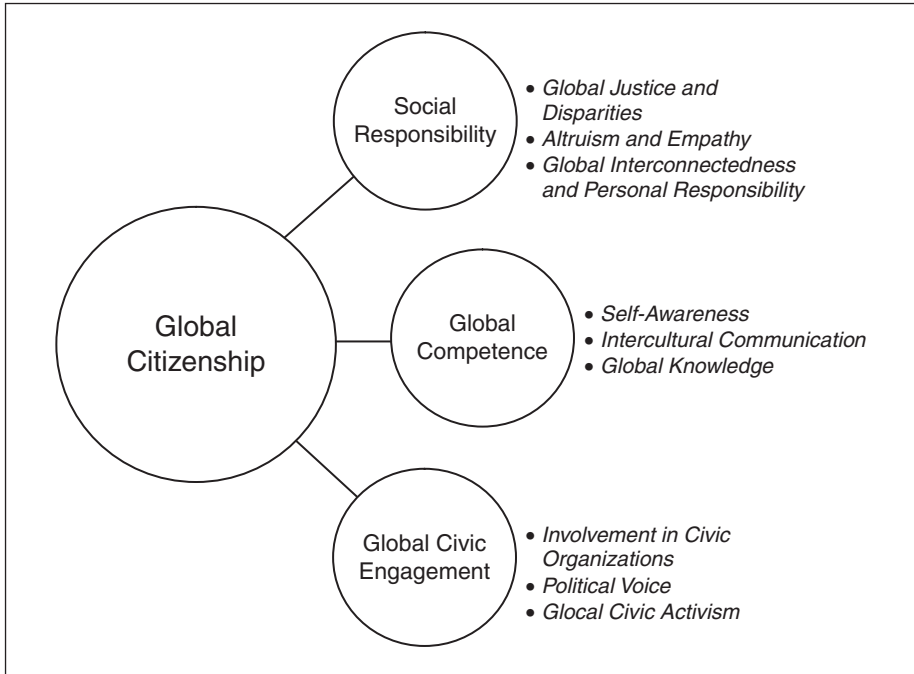


Figure 1. Global citizenship conceptual model.

Dimensions of Global Citizenship

Within the contemporary global citizenship discourse, the ideas that converge most readily are related to responsibility, awareness, and engagement (Schattle, 2009). Although no one particular definition of *global citizenship* has been adopted in the international education profession and related academic fields, three overarching dimensions of global citizenship are consistently noted in the literature: *social responsibility*, *global competence*, and *global civic engagement*. These interrelated dimensions align well with the prominent theoretical and philosophical perspectives described in the literature (see Table 1); reflect how governmental entities, associations, and educators have framed global citizenship; and articulate ideas that resonate with the goals of undergraduate education abroad. Within each dimension are multiple subdimensions that further reflect the complexity of the construct (see Figure 1).

Social responsibility. Social responsibility is understood as the perceived level of interdependence and social concern to others, to society and to the environment (Andrzejewski & Alessio, 1999; Braskamp, Braskamp, & Merrill, 2008; Parekh, 2003; Westheimer & Kahne, 2004). Socially responsible students evaluate social issues and identify instances and examples of global injustice and disparity (Falk, 1994; Lagos, 2001). They examine and respect diverse perspectives and construct an ethic of social

service to address global and local issues (Noddings, 2005). They understand the interconnectedness between local behaviors and their global consequences.

1. *Global justice and disparities.* Students evaluate social issues and identify instances and examples of global injustice and disparity.
2. *Altruism and empathy.* Students examine and respect diverse perspectives and construct an ethic of social service to address global and local issues.
3. *Global interconnectedness and personal responsibility.* Students understand the interconnectedness between local behaviors and their global consequences.

Global competence. Global competence is understood as having an open mind while actively seeking to understand others' cultural norms and expectations and leveraging this knowledge to interact, communicate, and work effectively outside one's environment (American Council on Education, 2008; Deardorff, 2006; Hunter et al., 2006; Peterson et al., 2007; Westheimer & Kahne, 2004). Globally competent students recognize their own limitations and abilities for engaging in intercultural encounters. They demonstrate an array of intercultural communication skills and have the abilities to engage successfully in intercultural encounters. Globally competent students display interest and knowledge about world issues and events.

1. *Self-awareness.* Students recognize their own limitations and ability to engage successfully in an intercultural encounter.
2. *Intercultural communication.* Students demonstrate an array of intercultural communication skills and have the ability to engage successfully in intercultural encounters.
3. *Global knowledge.* Students display interest and knowledge about world issues and events.

Global civic engagement. Global civic engagement is understood as the demonstration of action and/or predisposition toward recognizing local, state, national, and global community issues and responding through actions such as volunteerism, political activism, and community participation (Andrzejewski & Alessio, 1999; Lagos, 2001; Paige, Stallman, & Josić, 2008). Students who are civically engaged contribute to volunteer work or assist in global civic organizations (Howard & Gilbert, 2008; Parekh, 2003; Westheimer & Kahne, 2004). They construct their political voice by synthesizing their global knowledge and experiences in the public domain and they engage in purposeful local behaviors that advance a global agenda (Falk, 1994; Putnam, 1995).

1. *Involvement in civic organizations.* Students engage in or contribute to volunteer work or assistance in global civic organizations.
2. *Political voice.* Students construct their political voice by synthesizing their global knowledge and experiences in the public domain.
3. *Glocal civic activism.* Students engage in purposeful local behaviors that advance a global agendas.

Table 2. Dimensions of Global Citizenship

Social responsibility	Global competence	Global civic engagement
Description Interdependence and social concern to others, to society, and to the environment	Understanding one's own and others' cultural norms and expectations and leveraging this knowledge to interact, communicate, and work effectively outside one's environment	Recognizing local, state, national, and global community issues and responding through actions such as volunteerism, political activism, and community participation
Core assumptions Global justice and disparities, altruism and empathy, and global interconnectedness and personal responsibility	Self-awareness, intercultural communication, global knowledge	Involvement in civic organizations, political voice, global civic activism
Sample perspectives "I respect and am concerned with the rights of all people, globally"	"I am informed of current issues that impact international relations"	"I volunteer my time by working to help individuals or communities"
"No one country or group of people should dominate and exploit others in the world"	"I am able to mediate interactions between people of different cultures by helping them understand each others' values and practices"	"I boycott brands or products that are known to harm marginalized people and places"

Thus, *global citizenship* is understood as a multidimensional construct that hinges on the interrelated dimensions of social responsibility, global competence, and global civic engagement (see Table 2). It is the presence of each of these dimensions that leads to global citizenship. For example, one can have a sense of social responsibility and the global competence needed to effectively engage the world, but does little beyond merely discussing issues. This person, akin to a coffee shop intellectual, does not engage in or take purposeful actions that advance global citizenship. Similarly, one can have a sense of social responsibility and be fully engaged in local and global issues, yet lack the competencies needed to engage effectively in the world. A naïve idealist, this person may not recognize his or her own knowledge limitations or have the intercultural communication skills needed to engage successfully in intercultural encounters. Finally, one may have the competence to effectively engage in the world and be actively doing so but may lack a sense of social responsibility or genuine concern for others. This person may be guided more by global economic forces and the market economy than any real commitment to an equitable civil society. Thus, all three dimensions are critical to global citizenship, and according to Noddings (2005), Westheimer and Kahne (2004),

and Andrzejewski and Alessio (1999), all should be incorporated into curricula, clearly identified in standards, and assessed in meaningful ways.

Measuring Global Citizenship

Although there are excellent scales currently being used in education abroad outcomes research, these scales are either narrowly focused in scope or do not align with the operational definition of global citizenship that emerges from the literature. For example, the Intercultural Development Inventory measures intercultural competency development and does not address other areas of global citizenship (Bennett, 1993; Hammer, Bennett, & Wiseman, 2003). Similarly, the Cross-Cultural Adaptability Inventory (CCAI; Kelley & Meyers, 1992) is a self-assessment questionnaire that measures individuals' adaptability in four dimensions affecting the ability to have a successful experience in another culture (i.e., emotional resilience, flexibility and openness, perceptual acuity, and personal autonomy). The scale, however, is not intended to be a standalone instrument but rather as part of a battery of interviews and tests. Braskamp et al. (2008) developed the Global Perspective Inventory (GPI) as a measure of holistic student development in regards to cognitive, intrapersonal, and interpersonal learning domains. The Global Competence Aptitude Assessment instrument measures the knowledge, skills, attitudes, and experiences necessary to become globally competent (Hunter et al., 2006); however, although this instrument seems to reliably assess global competence, it does not address individuals' social responsibility or global civic engagement. Although all of these scales have relevant utility and value in education abroad outcomes research, none accounts for nor claims to measure global citizenship. Thus, it was the purpose of this study to develop a statistically reliable and valid measure of global citizenship to be used in the context of undergraduate education abroad.

Method

The scale development process was informed by an 8-step process proposed by DeVellis (1991). The multifaceted process included two expert face-validity trials, extensive exploratory and confirmatory factor analyses (CFA) using quantitative data from a sample of North American postsecondary students, and a series of nominal group technique (Delbecq & VandeVen, 1971) interviews. The following section provides a brief description of the methods and findings at each step of the process.

Step 1: Focus of Measurement

It was critical at the outset of this study to determine with specificity the conceptual scope and operational definition of global citizenship. As earlier summarized, an extensive literature review was conducted to better understand the conceptual boundaries of the construct and to bring greater clarity to its dimensions. Considerable attention was focused on the theoretical dimensions of the construct, as well as the related subdimensions anchored within each.

Step 2: Item Pool Generation

Global citizenship encompasses dimensions that have been partially operationalized in related research. Therefore, related scales were studied to generate a pool of items for social responsibility, global competence, and global civic engagement. The following are among the scales examined to construct the initial item pool:

- Citizenship, Involvement, Democracy Survey (Howard & Gilbert, 2008)
- Civic Attitudes and Skills Questionnaire (Moely, Mercer, Ilustre, Miron, & McFarland, 2002)
- Civic Measurement Models (Flanagan, Syvertsen, & Stout, 2007)
- Core Indicators of Engagement (Lopez et al., 2006)
- Cross-Cultural Adaptability Inventory (Kelley & Meyers, 1992)
- Global Beliefs in a Just World Scale (Lipkus, 1991)
- Global Competence Aptitude Assessment (Hunter et al., 2006)
- Global Mindedness Scale (Hett, 1993)
- Global Proficiency Inventory (Braskamp, 2008; Braskamp et al., 2008)
- Intercultural Development Inventory (Hammer et al., 2003)
- Social Dominance Orientation Scale (Pratto, Sidanius, Stallworth, & Malle, 1994)
- South Pacific Studies Abroad Survey (Tarrant, 2008)

When selecting and adapting items from these scales, care was taken to primarily ensure that each reflects the scale's purpose and secondarily to align each item with related subdimensions. At this stage of the scale development process, redundancy of items was tolerated. The number of items was also not restricted, favoring instead to generate a larger pool of items so as to maintain a degree of flexibility when later conducting reliability analyses. Exceptionally lengthy items, double-barreled items, and items with ambiguous pronoun references were edited for improved readability.

Step 3: Format for Measurement

The items on the Global Citizenship Scale were declarative statements for which there are varying degrees of agreement with or endorsement of global citizenship; therefore, a 5-point Likert-type scale was used to measure responses to each item. The measurement ratings ranged from *strongly disagree* (1) to *strongly agree* (5).

Step 4: Expert Review of Item Pool

The items were reviewed and subsequently refined through two independent, face-validity trials conducted in October 2008 at the Pennsylvania Council on International Education (PACIE) annual conference, and, in November 2008, at the Active Global Citizenship conference held at Lock Haven University. As *global citizenship* is a construct that cannot be directly measured, these trials were essential to determine whether there was any discrepancy between what the items are intended to measure and what

they appear to measure according to the feedback provided by subject-matter experts (Krathwohl, 2004). At each conference, approximately 40 education abroad professionals were invited to a working session beginning with an overview of the conceptual scope of global citizenship and its three dimensions. Participants were then provided hard copies of a "Global Citizenship Scale Item Pool" that included operational definitions of the dimensions of global citizenship and 12 groups of items. They were asked to work in pairs or in small groups and assign each group of items into one of the three dimensions of global citizenship. In addition, participants were requested to make direct editing suggestions to the items to improve clarity. Both sessions lasted approximately 90 min, during which the last 20 min were used to moderate an unstructured discussion of the emerging scale and to solicit general feedback.

The feedback was collected and compiled into one master document that was used to refine the scale items as needed. Only items rated consistently in one of the three dimensions were retained. In addition, ambiguous items or items with potentially misleading statements were modified, items with similar meanings were deleted, and the wording was revised considerably to an appropriate undergraduate student readability level. In general, the majority of the participants agreed with the proposed dimensions and assigned items to each of them accordingly, thus providing preliminary validation of the item pools of the three dimensions of global citizenship. These data were also used to edit and simplify the pool of items to create the initial version of the Global Citizenship Scale. Table 3 lists the items, subdivided by dimensions and subdimensions.

Step 5: Development Administration

The Global Citizenship Scale was then tested with a sample of students enrolled in faculty-led, education abroad programs, which are most often referred to as *embedded programs*, or those international undergraduate programs that include a brief experience abroad as a minor component of a course for which the substantive content is provided within the United States. The scale was also administered to a sample of students enrolled in courses with similar academic foci but without embedded international travel. In total, 11 embedded courses and 11 residential courses participated in the study.

The scale was administered at the end of February 2009 on five Penn State campuses. The instructors of these courses allowed a researcher to visit class at a designated time to administer the questionnaire. The researcher read a statement of consent and distributed the questionnaires and an informed consent form. A negligible number of students declined to participate. In total, 126 usable questionnaires were collected from students enrolled in embedded courses and 222 questionnaires were collected from students enrolled in the matched courses.

Step 6: Exploratory Scale Testing and Development

After developing, scrutinizing, and refining the scale, it was necessary to determine whether its proposed dimensional structure reliably assessed global citizenship by

Table 3. Initial Item Pool of Global Citizenship Scale

Social responsibility (SR): global justice and disparities

SR.1.1 I think that most people around the world get what they are entitled to have.

SR.1.2 It is OK if some people in the world have more opportunities than others.

SR.1.3 I think that people around the world get the rewards and punishments they deserve.

SR.1.4 In times of scarcity, it is sometimes necessary to use force against others to get what you need.

SR.1.5 The world is generally a fair place.

SR.1.6 No one country or group of people should dominate and exploit others in the world.

Social responsibility: altruism and empathy

SR.2.1 The needs of the worlds' most fragile people are more pressing than my own.

SR.2.2 I think that many people around the world are poor because they do not work hard enough.

SR.2.3 I respect and am concerned with the rights of all people, globally.

Social responsibility: global interconnectedness and personal responsibility

SR.3.1 Developed nations have the obligation to make incomes around the world as equitable as possible.

SR.3.2 Americans should emulate the more sustainable and equitable behaviors of other developed countries.

SR.3.3 I do not feel responsible for the world's inequities and problems.

SR.3.4 I think in terms of giving back to the global society.

Global competence (GC): self-awareness

GC.1.1 I am confident that I can thrive in any culture or country.

GC.1.2 I know how to develop a place to help mitigate a global environmental or social problem.

GC.1.3 I know several ways in which I can make a difference on some of this world's most worrisome problems.

GC.1.4 I am able to get other people to care about global problems that concern me.

Global competence: intercultural communication

GC.2.1 I unconsciously adapt my behavior and mannerisms when I am interacting with people of other cultures.

GC.2.2 I often adapt my communication style to other people's cultural background.

GC.2.3 I am able to communicate in different ways with people from different cultures.

GC.2.4 I am fluent in more than one language.

GC.2.5 I welcome working with people who have different cultural values from me.

GC.2.6 I am able to mediate interactions between people of different cultures by helping them understand each other's values and practices.

Global competence: global knowledge

GC.3.1 I am informed of current issues that impact international relationships.

GC.3.2 I feel comfortable expressing my views regarding a pressing global problem in front of a group of people.

GC.3.3 I am able to write an opinion letter to a local media source expressing my concerns over global inequalities and issues.

Global civic engagement (GCE): involvement in civic organizations

GCE.1.1 Over the next 6 months, I plan to do volunteer work to help individuals and communities abroad.

(continued)

Table 3. (continued)

GCE.1.2	Over the next 6 months, I will participate in a walk, dance, run, or bike ride in support of a global cause.
GCE.1.3	Over the next 6 months, I will volunteer my time working to help individuals or communities abroad.
GCE.1.4	Over the next 6 months, I plan to get involved with a global humanitarian organization or project.
GCE.1.5	Over the next 6 months, I plan to help international people who are in difficulty.
GCE.1.6	Over the next 6 months, I plan to get involved in a program that addresses the global environmental crisis.
GCE.1.7	Over the next 6 months, I will work informally with a group toward solving a global humanitarian problem.
GCE.1.8	Over the next 6 months, I will pay a membership or make a cash donation to a global charity.
Global civic engagement: political voice	
GCE.2.1	Over the next 6 months, I will contact a newspaper or radio to express my concerns about global environmental, social, or political problems.
GCE.2.2	Over the next 6 months, I will express my views about international politics on a website, blog, or chat room.
GCE.2.3	Over the next 6 months, I will sign an e-mail or written petition seeking to help individuals or communities abroad.
GCE.2.4	Over the next 6 months, I will contact or visit someone in government to seek public action on global issues and concerns.
GCE.2.5	Over the next 6 months, I will display and/or wear badges/stickers/signs that promote a more just and equitable world.
GCE.2.6	Over the next 6 months, I will participate in a campus forum, live music, or theater performance or other event where young people express their views about global problems.
Global civic engagement: global civic activism	
GCE.3.1	If at all possible, I will always buy fair-trade or locally grown products and brands.
GCE.3.2	I will deliberately buy brands and products that are known to be good stewards of marginalized people and places.
GCE.3.3	I will boycott brands or products that are known to harm marginalized global people and places.

examining interrelationships among the items (Krathwohl, 2004). Accordingly, the structure reliability of each dimension was examined using principal component exploratory factor analysis (EFA; Statistical Package for the Social Sciences, 17.0) and Cronbach's coefficient alpha (Cronbach, 1951), respectively. Promax rotation was used to clarify the factor structure obtained from the EFA because it was expected that the dimensions would be somewhat interrelated. All negatively worded items were reverse coded before analysis (i.e., social responsibility [SR]: SR.1.1, SR.1.2, SR.1.3, SR.1.4, SR.1.5, SR.2.2, SR.3.3, SC.1.7, SE.1.3, SE.1.6).

The EFA revealed four distinct factors within social responsibility (see Table 4). With the exception of Factor 1 (global justice and disparities), the factors did not align

Table 4. Exploratory Factor Analysis of Global Citizenship Scale

Dimensions and items	Pattern coefficients			
	Factor 1	Factor 2	Factor 3	Factor 4
Social responsibility (SR)				
SR.1.1	.755 ^a	.130	-.101	.089
SR.1.3	.748 ^a	.109	-.082	.166
SR.1.5	.640 ^a	-.037	.192	.112
SR.1.2	.587 ^a	.377	-.051	-.184
SR.2.2	.511 ^a	.308	.276	-.149
SR.2.3	.160	.755	.077	.077
SR.3.4	.040	.674	.199	.108
SR.1.6	.112	.659	-.061	.269
SR.1.4	.207	.511 ^a	.043	-.373
SR.3.1	-.179	.079	.788	-.130
SR.3.3	.396	.146	.514	.124
SR.2.1	.126	.275	-.089	.719
SR.3.2	.152	.027	.512	.547
Eigen values	3.394	1.392	1.201	1.082
% of total variance	26.111	10.709	9.239	8.323
Cumulative % of variance	26.111	36.820	46.059	54.382
Cronbach's alpha (retained items)	.70	—	—	—
Retained items per factor	6	—	—	—
Global competence (GC)				
	Factor 1	Factor 2	Factor 3	Factor 4
GC.3.3	.745 ^a	.029	-.021	
GC.3.2	.734 ^a	.088	.081	
GC.2.6	.620	.288	.289	
GC.2.5	.487	-.066	.444	
GC.3.1	.475 ^a	.377	.008	
GC.1.2	.150	.740 ^a	-.008	
GC.1.3	.292	.639 ^a	-.046	
GC.1.1	-.111	.618	.359	
GC.2.4	-.004	.481	.345	
GC.1.4	.463	.474 ^a	.159	
GC.2.1	-.005	.060	.808 ^a	
GC.2.2	.161	.126	.773 ^a	
GC.2.3	.316	.416	.524 ^a	
Eigen values	3.994	1.484	1.235	
% of total variance	30.726	11.413	9.497	
Cumulative % of variance	30.726	42.138	51.636	
Cronbach's alpha (retained items)	.61	.64	.70	
Retained items per factor	3	3	3	
Global civic engagement (GCE)				
	Factor 1	Factor 2	Factor 3	Factor 4
GCE.1.1	.851 ^a	.045	.125	
GCE.1.3	.846 ^a	.241	.147	

(continued)

Table 4. (continued)

Dimensions and items	Pattern coefficients			
	Factor 1	Factor 2	Factor 3	Factor 4
GCE.1.4	.792 ^a	.373		.178
GCE.1.5	.710 ^a	.373		.108
GCE.1.8	.616 ^a	.409		.039
GCE.1.7	.599 ^a	.575		.209
GCE.1.2	.571 ^a	.360		.151
GCE.1.6	.556 ^a	.550		.214
GCE.2.2	.198	.792 ^a		.069
GCE.2.1	.213	.743 ^a		.153
GCE.2.4	.321	.697 ^a		.171
GCE.2.6	.402	.632 ^a		.250
GCE.2.5	.418	.578		.382
GCE.2.3	.453	.531		.218
GCE.3.1	.119	-.007		.847 ^a
GCE.3.2	.267	.251		.731 ^a
GCE.3.3	.024	.438		.666 ^a
Eigen values	8.595	1.483		1.089
% of total variance	50.559	8.723		6.406
Cumulative % of variance	50.559	59.282		65.688
Cronbach's alpha (retained items)	.92	.82		.72
Retained items per factor	8	4		3

Note: Italicized items reflect initial predominant factor loadings.

a. Items maintained for subsequent analyses.

with the intended theoretical subdimensions of social responsibility. In light of these results, individual items were reviewed in terms of their relation to the subdimensions, and as a result, Item SR.1.4 was judged to theoretically align with Factor 1. In the end, Factor 1 was the only factor to be retained and included 6 items with a Cronbach's alpha coefficient of .70.

Regarding global competence, the results from the EFA revealed that items (global competence [GC]: GC.3.3, GC.3.2, GC.2.6, GC.2.5, and GC.3.1 loaded on Factor 1. However, Item GC.2.5 was not retained in the factor because it cross-loaded with Factor 3. In addition, Cronbach's reliability analysis revealed that item GC.2.6 reduced the overall reliability of the subdimension and as such was omitted. In the end, Factor 1 (global knowledge) consisted of items GC.3.3, GC.3.2, and GC.3.1 ($\alpha = .61$); Factor 2 included items GC.1.2, GC.1.3, GC.1.1, GC.2.4, and GC.1.4 ($\alpha = .64$); and Factor 3 (intercultural communication) included items GC.2.1, GC.2.2, and GC.2.3 ($\alpha = .70$). The reliability of these factors was considered acceptable on the basis of the work of several authors that indicate that .6 is a moderate level of reliability for scales with reduced number of items (Cortina, 1993; Hatcher, 1994; Nunnally, 1978).

Within the dimension of global civic engagement (GCE), a 3-factor solution best fit the data. Factor 1 (involvement in civic organizations) included items GCE.1.1,

GCE.1.2, GCE.1.3, GCE.1.4, GCE.1.5, GCE.1.6, GCE.1.7, and GCE.1.8 ($\alpha = .92$). The second factor (political voice) included items GCE.2.1, GCE.2.2, GCE.2.4, and GCE.2.6 ($\alpha = .82$). Factor 3 (glocal civic activism) included items GCE.3.1, GCE.3.2, and GCE.3.3 ($\alpha = .72$).

As an added reliability measure, a Spearman–Brown split-half reliability coefficient was calculated to represent the internal consistency between the first half and second halves of the modified scale (with retained items only; Carmines & Zeller, 1979; Krathwohl, 2004). The scale revealed a strong Spearman–Brown coefficient of .91, which offers further indication of the overall reliability of item intercorrelation on the scale.

Step 7: Confirmatory Scale Testing and Refinement

On the basis of the modifications found within each dimension, we created a refined overall scale. A series of CFA were then conducted on the 30-item Global Citizenship Scale. EQS for Windows 6.1 (Multivariate Software, Inc.) was used to assess whether the observed data fit the expected factor structure for each scale. In order to most efficiently conduct the analyses, respondents with any missing data were removed, thus resulting in a sample size of 310 individuals. For the purposes of model identification, the path coefficient of 1 item per factor in each dimension was fixed to a value of 1.0. It was found that, on the basis of the EFA results, the item yielding the most reliable loading per subscale across subscales was the one fixed to 1.0. In addition, the variance of the third-order factor was also fixed to a value of 1.0. Lastly, the associated error terms in both models were fixed to 1.0, which is the default in EQS.

Maximum likelihood (ML) estimation on a covariance matrix with raw data as input was used for the analysis. The normalized estimate of the Mardia coefficients indicated that the data were not normally distributed (Mardia, 1970); therefore, robust estimation was used (Ullman, 2007). Several criteria were used to assess the goodness of fit to the data. The first was the chi-square statistic; however, due to its sensitivity to sample size (Bentler & Bonett, 1980), the following fit criteria were also used: (a) a ratio of chi-square to degrees of freedom less than 2 (Hair, Anderson, Tatham, & Black, 1995), (b) two incremental indices (comparative fit index [CFI] and nonnormed fit index [NNFI]) greater than or equal to .90 (Hu & Bentler, 1999), (c) a standardized root mean square residual (SRMR) smaller than or equal to .07 (Hu & Bentler, 1999), and (d) a root mean square error of approximation (RMSEA) smaller than or equal to .07 (Browne & Cudeck, 1993).

A higher-order, 10-factor model provided an optimal fit to the data ($\chi^2 = 707.79$, χ^2 to $df = 1.80$, CFI = 0.91, NNFI = 0.90, RMSEA = 0.05, SRMR = 0.06). The resulting measurement model consisted of six first-order factors (self-awareness, intercultural communication, global knowledge, involvement in civic organizations, political voice, global civic activism), three second-order factors (social responsibility, global competence, global civic engagement), and one higher-order factor

(global citizenship). All parameter estimates were statistically significant ($z > 1.96$, $p < .01$) with the exception of Factor 7 loading on Factor 10. Effect sizes for each parameter were moderate to large (Cohen, 1988), with all greater than or equal to .10. The Global Citizenship Scale measurement model is illustrated in Figure 2. Although social responsibility had a much weaker path to global citizenship, the overall goodness-of-fit indices were within an acceptable range. The findings support the proposed theoretical model for global citizenship, but additional work is needed to more adequately assess social responsibility.

Step 8: Scale Validation

Two approaches were taken to assess the construct validity (Krathwohl, 2004) of the scale: (1) qualitative group interviews, and (2) a CFA using data collected from a subsequent administration of the scale.

Qualitative group interviews. Three small-group interviews were conducted in April 2009, utilizing Nominal Group Technique (Delbecq & VandeVen, 1971) and with the goal of further illustrating, defining, and validating the constructs of global citizenship. Group interviews with 4, 9, and 12 students, all of whom had recently completed the international travel component of their respective courses, were conducted in April 2009. Nominal group technique interviews generate safe environments where individuals feel comfortable to share ideas much like in focus groups, but the structure of the interviews ensure that all informants have similar opportunities to contribute (Delbecq & VandeVen, 1971). As such, each of the three interviews began with an explanation of global citizenship and each of its three dimensions. Students were then asked to silently generate ideas about the first domain for about 5 min. In a round-robin fashion students were asked to offer one idea, which was written on flipchart paper so that all generated ideas would be visible to the group. This process continued until no more ideas were offered. Once all the ideas were collected, they were reviewed to ensure that the entire group was familiar with them. Related ideas were grouped or merged together at this stage. The process was repeated for all three dimensions of global citizenship. Table 5 offers a list of the most frequently raised ideas with regard to each of the three dimensions of global citizenship. *Social responsibility* seemed a difficult concept for students to understand, but in general the group interviews supported the proposed scale.

Second administration/CFA. The complete scale was administered a second time to students in the same 22 courses in May 2009, approximately 2.5 months after the first test. In total, 288 students completed this second administration, of which 101 were students enrolled in embedded courses and 187 were students enrolled in matched courses. CFA revealed that the 30-item, higher-order, 10-factor Global Citizenship Scale once again had a desirable fit with the data ($\chi^2 = 465.64$, χ^2 to $df = 1.18$, CFI = 0.98, NNFI = 0.98, RMSEA = 0.03, SRMR = 0.07). All parameter estimates were statistically significant ($z > 1.96$, $p < .01$), except Factor 4 on Factor 9, Factor 5 on Factor

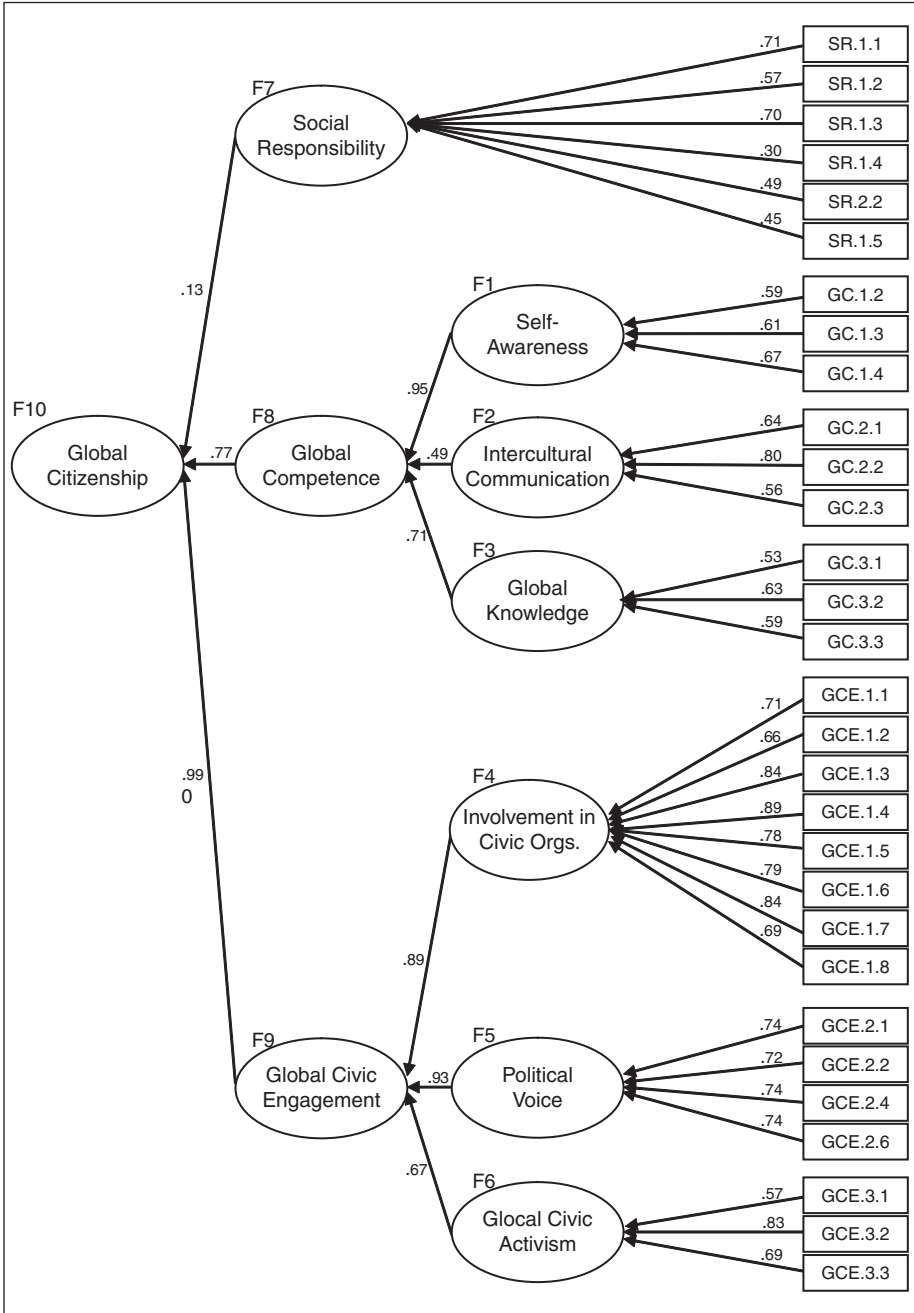


Figure 2. Final measurement model of the Global Citizenship Scale.

Table 5. Nominal group technique and student-generated ideas on global citizenship

Social responsibility	Global competence	Global civic engagement
Acknowledge that global disparities exist in the world	Be able to speak other languages	Reduce greenhouse gas and invest in renewable energy sources
When meeting people talk about cultural experiences, share knowledge base	Understand how U.S. policies impact national conditions elsewhere	Write to local and national leaders about important public policy issues
Recognize one's own privilege in the world	Be able to identify commonalities and differences across cultures	Build connections with people who have less power to help themselves
Take an active role in combating cultural stereotypes	Expand repertoire of communication and nonverbal skills	Engage in international mission trips and volunteer work
Be engaged with people you come in contact with, talk about it	Have humility, sensitivity, and respect for other cultural practices	Seek out individuals of other cultures who would be open to interacting one on one
Strive to minimize ignorance and confront narrow-mindedness	Understand the importance of diversity and embrace the diversity of other living conditions	Join organizations and student clubs that represent other cultural backgrounds and traditions
Adopt multiple cultural perspectives	Be adaptable, flexible, and open-minded to living in other cultures	Choose a cause, concentrate energy there to make an impact, make a difference
Pay attention to the state of the globe and remember that we are borrowing from our children	Have knowledge of the history, politics, religion, and major environmental issues of the destination	Recognize that it is not just about helping others, but to understand empathetically the needs of others

Table 6. Reliability Indices by Dimension (Global Citizenship)

Dimension and subscales	Cronbach's alpha
Social responsibility	.79
Global competence	
Self-awareness	.69
Intercultural communication	.76
Global knowledge	.67
Global civic engagement	
Involvement in civic organizations	.92
Political voice	.86
Glocal civic activism	.74

9, Factor 7 on Factor 10, and Factor 9 on Factor 10. Effect sizes for each parameter were moderate to large (Cohen, 1988), with all greater than or equal to .10, and all subdimensions were reliable (see Table 6).

Conclusions and Implications

The purpose of this study was to report on the initial development and empirical validation of the Global Citizenship Scale. The scale development process identified three dimensions of global citizenship with six related subdimensions. Social responsibility proved to be an unclear dimension, as demonstrated from both the nominal group technique and CFA. As such, additional work is needed to better operationalize this dimension. Global competence and global civic engagement are both strong dimensions of global citizenship, however, and each has three reliable subdimensions that substantiate the proposed conceptual scope of the scale. Although efforts to refine and adapt this scale should be ongoing, the scale is theoretically grounded and has been empirically validated; therefore, it stands as a potentially useful tool to be readily used in education abroad outcomes assessment research and practice.

Implications for research. In recent years, education abroad outcomes assessment research has grown increasingly complex and sophisticated (Bolen, 2007). However, common and often serious methodological and conceptual shortcomings undermine much of the existing research. Specifically, outcomes assessment research has often relied on student self-reports, or rather students' perceptions of the impact their experience abroad has had on outcome variables (Singleton & Straits, 2005). This approach potentially exposes data to bias because participants may consciously or unconsciously bias their answers to conform to social desirability or to justify their time and financial investment in their experiences abroad (Singleton & Straits, 2005).

The findings of this study revealed a measurement scale with which to potentially build upon this emerging, but often problematic, body of scholarship to better examine the extent to which education abroad experiences affect students. The Global Citizenship Scale does not rely on student self-reports of their experiences abroad, yet it has been designed to align closely with the goals of undergraduate education abroad. With some modification, the scale will ideally be used as a pre- and post-test instrument. Furthermore, because education abroad is not included in the questioning, the scale allows for the use of control groups in quasiexperimental research designs that include treatment and control groups. Lastly, this scale is also suitable to be used in research using Engle and Engle's (2003) classification system for education abroad programming in the attempt to discriminate how particular program characteristics (i.e., duration, program type, etc.) lead to individual gains in global citizenship.

Lastly, it is important to note that this article does not aim to provide a universal ready-to-use measurement scale. This article reports on the seminal efforts of developing a scale that must now be gradually refined as a consequence of subsequent efforts to adapt and apply the scale for different educational and cultural settings. The scholarly literature informing the proposed conceptualization of global citizenship includes mostly contributions from Western scholars; therefore, in the future it would be useful to see commentaries examining the applicability and limitations of this construct to varied cultural contexts. Furthermore, the operationalization of the Global Citizenship Scale used data from North American practitioners, academics and students; therefore, it would now be important to examine the applicability of the scale to student

populations from other cultures and other national contexts. Several authors (Parekh, 2003; Wagner, 2004) have noted that cosmopolitan individuals are now confronted with competing allegiances; that is, they might struggle to integrate potentially contrary obligations citizens on their nation, their macroregion (e.g., Europe), or the globe. Accordingly, it would be interesting to adapt the Global Citizenship Scale to examine, for example, how student's participation in an Erasmus program might be differentially influencing students' national, European, and global citizenship profiles.

Implications for practice. This article provides international educators with an instrument that aligns with the higher education mission to graduate global citizens and a tool with which to better understand and measure the impact of education abroad. Moreover, defining *global citizenship* and creating a measure of this construct provides practitioners with a conceptual roadmap for developing and implementing effective education abroad programs. This study provides validation of the conceptual and operational definition of global citizenship as a three-dimensional construct. When carefully adapted and applied to select cultures and particular educational settings, this conceptual framework may be used to inform the development of pedagogical approaches to teaching excellence structuring student activities and facilitating experiences that target specific global citizenship learning outcomes (e.g., Morais, Ogden, & Buzinde, 2009).

Whereas developing global citizens is ubiquitously identified as one of the primary goals of many institutions of higher education, students' academic development is undoubtedly these institutions' primary goal. Therefore, education abroad experience should be expected to contribute to academic development, and assessments of the impacts of education abroad should include measures accordingly. A review of select literature reveals, however, that there is a paucity of academic development measures adaptable to the context of education abroad outcomes assessment, which suggests that international education scholars have perhaps the opportunity and need to invest in the development of a tailored academic development scale.

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