Maturing Measurement: Validity and Reliability

Trials of a Measure of Global Citizenship For High School Students

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Abstract

Global citizenship and other noncognitive skills have been relegated from conversations about what should count—and be counted—during students’ K-12 experiences. Recognizing that assessment drives the outcomes that educational systems prioritize, this study sought to explore how to measure global citizenship among high school students. To date, global citizenship literature has been diffuse, featuring multiple definitions, at least 140 extant measures, and potential overlaps 11 other constructs. Moreover, few previous studies have applied these measures to K-12 populations; sampling high school students with sufficient background in global citizenship is a particular challenge due to its subordinate status. Therefore, I generated a unique sample of International Baccalaureate students and teachers, gathering data through separate student and teacher focus groups and students’ global citizenship levels on three extant measures. I combined findings from content analysis of qualitative data with results of exploratory and confirmatory factor analyses of survey data, reporting the extent to which students’ and teachers’ understanding of global citizenship confirms, complements, and/or contradicts the behavior of three measures that purport to tap global citizenship. Results provide evidence that more work is needed, likely partnering researchers and educators, before there is a high school-ready measure of global citizenship.

Keywords: global citizenship, International Baccalaureate, mixed methods, noncognitive skills
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Scholars from various disciplines share an aphorism: “We treasure what we measure and measure what we treasure” (e.g., Amiot, 1998, p. 245). One outcome that education researchers and practitioners have not measured—and therefore not treasured—in K-12 schools is global citizenship, which has been defined variously. Broadly, global citizenship entails the knowledge, skills, and attitudes one would need to learn, live, and work in an increasingly interdependent world. Scott (2005) chronicled a 60-year history of U.S. elected officials demanding that high school and college graduates develop traits associated with global citizenship, but there has been little progress toward institutionalizing that priority in K-12 schools (Zhao, 2015).

Global citizenship is a noncognitive skill that receives little attention in K-12 schools despite its potential to provide critical outcomes for students in the 21st century (Hammer, 2011; Rapoport, 2014; 2015). The National Education Association (2010) identified as a pressing concern the need to revise U.S. students’ school experiences to include preparation for a globalizing world. Rationales for prioritizing global citizenship in education have included (a) enhancing employability (Lambert, 1996); (b) aiding diplomacy/national security (Zemach-Bersin, 2007); (c) solving dilemmas larger than nations can tackle alone (Mansilla & Jackson, 2011); and (d) establishing a harmonious global village (Reimers 2009; Zhao, 2009). Still, opportunities for students to develop global citizenship, especially before they enter universities (if they are among the 2 in 3 U.S. students who do), remain peripheral to typical education settings. The absence of an agreed-upon approach to measuring global citizenship in K-12 populations is one reason that practitioners have been unable to embrace the construct in their classrooms amid pressures from accountability-driven measures (Choi, 2012). Without reliable
assessment options, how can K-12 educators make valid inferences to inform educational experiences that might engender global citizenship?

**Definitional Challenges**

Global citizenship’s absence from the mainstream of K-12 assessment does not reflect a lack of measures. Measurement of global citizenship and associated constructs dates back to Likert’s (1932) dissertation on attitudes toward international issues. Since the seminal contribution of his scale, scholars have produced a glut of attitudinal measures in the pursuit of tapping global citizenship or its related constructs (Fantini, 2009; Soland, Hamilton, & Stecher, 2013). The presence of so many measures might imply a useful variety of approaches. Actually, it represents a challenge that has thwarted researchers and practitioners from defining, implementing, and assessing global citizenship. Scholarly literature on global citizenship has conflated the term with nearly a dozen related constructs. Singh and Jing (2013) examined 170 peer-reviewed articles, books, and international curriculum guidelines, finding global citizenship to have been used interchangeably with 11 terms:

1. common humanity
2. cosmopolitanism
3. cultural intelligence
4. global competence
5. global mindedness
6. intercultural understanding
7. international mindedness
8. multiliteracies
9. omniculturalism
10. peace and development

11. world-mindedness

Such variety reflects continual evolution of the concept across more than a century of efforts from education, engineering, international business, government, and other sectors that have felt impacts from globalization (Deardorff, 2004; Hunter, White, & Godbey, 2006). Perhaps unsurprisingly, this variety has led to the creation of more than 140 measures for these potentially overlapping constructs (Deardorff, 2014). The presence of so many measures suggests a field that is not yet adequately understood. Diffusion in this area of scholarship is one reason that Zhao (2015) suggested American schools do not “count what counts,” nudging global citizenship on the outside of the battery of tests that K-12 students take.

Meanwhile, global citizenship remains a poorly understood latent construct that shares the benefits and challenges that have become typical of noncognitive skills. These skills span academic disciplines, encompass lifelong dispositions and aptitudes (Anderson, Thier, & Pitts, under review), while fostering learners’ automatic awareness of their own knowledge and their ability to understand, control, and manipulate their own cognitive processes (Vockell, 2009). Still, global citizenship and other noncognitive skills present measurement challenges, likely one reason they have received far less attention from psychometricians or the wider educational research community (Conley, 2013; Zhao, 2015). There is a considerable gap in the validity accorded to noncognitive skills when compared to more traditional cognitive measures (Conley, 2013). Noncognitive skills are complex, requiring high-level processing, strategy selection, focused effort, and reflective thinking for development (Conley, Beach, Thier, Lench, & Chadwick, 2014). Given the series of unknowns around definitions and measures of global
citizenship, educational models that emphasize the construct demand further study (Perry & Southwell, 2011), making International Baccalaureate an interesting context for inquiry.

**International Baccalaureate**

International Baccalaureate, colloquially known as IB, has developed a continuum of educational programmes that are united in their pursuit of fostering global citizenship. IB offers four programmes across the P-12 continuum:

- Primary Years Programme for students aged 3–12
- Middle Years Programme, which runs from Grade 6 to Grade 10
- Diploma Programme, a two-year preuniversity course of study beginning in Grade 11
- Career-related Programme, a two-year hybrid of career and university preparation that also begins in Grade 11

With more than 4,400 schools in about 145 nations (IB, 2016), IB is the world’s largest provider of global citizenship education (Thier, under review). All four IB programmes share a mission to develop international mindedness, the term IB uses for global citizenship (IB, 2008). For example, the planning document for leaders of IB’s professional development workshop on Educating for International Mindedness declares, “the IB mission is to create global citizens” (IB, 2012, p. 6). Although IB considers international-mindedness its essential outcome and a feature that distinguishes it from other educational models, studies commissioned by IB have highlighted assessment of international mindedness as an area that is “under-researched” (Singh & Jing, 2013, p. 63) and “underdeveloped” (Castro, Lundgren, & Woodin, 2013, p. 60). The few previous studies that have sampled IB students and/or teachers have revealed themes that align with themes in the global citizenship research literature.
For example, focus group interviews with IB students, parents, and teachers \((n = 196)\) in schools \((n = 6)\) Australia, China, and India regarded education for international-mindedness in ways that evoked the rationales for global citizenship education: as (a) a tool for individual gain, (b) an orientation toward shared understanding, and (c) a way to push boundaries for change (Sriprakash, Singh, & Jing, 2014). In a study of middle schools in the United Kingdom, Stevenson, Thomson, and Fox (2014) found that “schools teaching an IB curriculum have the potential to raise levels of open-mindedness among their pupils, particularly with regard to awareness of cultural difference and diversity, but also regarding religious and cultural beliefs, and their own beliefs” (p. 98). Similarly, Merryfield, Augustine, Choi, Harshman, and Mcclimans (2012) concluded that IB educators might be “fundamentally different from educators in other school settings” (p. 18) due to their shared emphasis on producing global citizens. Furthermore, a recent qualitative study of IB alumni \((n = 23)\) featured one former IB participant in China who regarded the creation of global citizens as “the core value of IB” (Wright, 2015, p. 27). For these reasons, Castro et al. (2013) identified IB schools as “rich opportunities … for adapting current intercultural assessment models” (p. 6).

In a position paper for IBO, Davy (2011) used the terms international mindedness and global citizenship synonymously as she called for development of assessment tools for these potentially overlapping constructs. Davy highlighted assessment of this poorly understood construct as an essential undertaking that has not yet materialized. She noted,

> If we value international-mindedness, then it follows that we must assess the concepts, skills, knowledge and attitudes that define it. We need practical examples of authentic assessment of open-mindedness, perspective thinking, and intercultural understanding in all IB programmes. (p. 5)
Purpose of the Current Study

As is often the case with attitudinal scales, the 140-plus global citizenship measures have depended almost exclusively upon university student samples for validation studies (e.g., Braskamp, Braskamp, & Engberg, 2013; Hett, 1993). Consequently, this field of measurement has produced no empirical scholarship on how global citizenship measures function among pre-university student populations. Until we learn more about how to measure global citizenship among high school students, secondary educators will continue to struggle to incorporate global citizenship education into their practices (Thier, 2015). Also, no published study of global citizenship had used multiple measures of the latent construct with the same subjects for comparative purposes. Deardorff (2004; 2014) has argued that reliable measurement of global citizenship depends upon using multiple methods to collect data from multiple reporters, though her theories have not yet been tested. Therefore, I designed this study to use a mix of qualitative and quantitative methods with an aim of extending research and practical knowledge of global citizenship measurement to include high school students. This exploratory study intended to address three questions:

1. What do IB students and teachers define as the core features of global citizenship?
2. How do measures of global citizenship perform among student survey-takers from IB high schools?
3. To what extent do IB students’ and teachers’ global citizenship definitions and global citizenship measures’ behaviors among student survey-takers reveal similarities and differences about approaches to understanding global citizenship?
Method

To address these questions, I used mixed methods in a convergent parallel design. I collected qualitative data through two focus groups (one each for students and teachers) and quantitative data by administering a survey instrument. Then, I combined the data sets after collection, but prior to inference-making (Creswell & Plano Clark, 2011). Convergent parallel designs are efficient for exploiting the relative strengths of quantitative and qualitative methods. This section describes the study’s (a) data sources, (b) protocols and measures, and (c) procedures for collecting and analyzing data.

Data Sources

Data collection for this study occurred during the IB World Student Conference at La Salle Campus – Ramon Llull University in Barcelona, Spain in July 2015. Conference participants included student attendees (n = 148) and the teachers (n = 5) who facilitated activities at the conference, which featured lectures from internationally renowned speakers and teacher-led Global Action Teams aimed at developing transnational solutions for global problems. Several months prior to data collection, IB staff estimated 200-250 student participants and 10-12 teachers for the six-day conference. Instead, the event drew 25-40% fewer students and less than half of the anticipated number of teachers.

Initially, I proposed data collection at the IB World Student Conference due to the unique nature of its student and teacher populations. For example, in the United States, the nation with the largest share of IB schools (38.9%), less than 1.5% of public schools offer IB. In the infrequent instances where IB exists, Perna et al. (2013) found that IB programme enrollment is typically homogenous, with students who are white and/or from affluent families enrolling in IB at disproportionate levels. Therefore, to achieve an array of perspectives on global citizenship.
from students and teachers who would be familiar with the concept, I deemed sampling at this conference to be crucial despite the lower-than-anticipated sample size.

Rising 11th- or 12th-grade students who were enrolled in an IB Diploma Programme were eligible to participate in the conference. Students paid about 900 USD to attend, so the majority of participants came from economically privileged families. IB provided a small number of participants with scholarships to attend the conference; some schools/communities raised money to fund attendance for some students from low-income families. The conference conducted all activities in English, so participants had to be conversant in that language. Most participants identified as female (59.0%). According to registration data, students represented 24 nationalities and came from schools located in 19 countries. The conference did not pay teachers, who provided their own transportation to the conference. IB paid for teachers’ lodging and accommodations. To lead a Global Action Team at the conference, individuals had to be current or former IB Diploma Programme teachers and/or administrators.

**Protocols and Measures**

This study featured similar protocols for each focus group (i.e., students and teachers), the procedures for which I presented in the ensuing section. Then, I presented the three extant scales that contributed items toward my survey instrument (Morais & Ogden, 2010; Reysen & Katzarska-Miller, 2013; Türken & Rudmin, 2013; see Table 1), plus the three demographic items I used to collect data for quantitative analysis.

**Focus Group Protocols.** I convened separate focus groups with students ($n = 8$) and teachers ($n = 4$). Both group meetings were scheduled in coordination with conference staff to minimize time burden. The student focus group ran for 1.5 hours and featured six questions. The teacher group ran for two hours and featured seven questions. In both instances, focus group
meetings were audio-recorded and later transcribed. The first three questions, which are germane to this study, were identical across focus groups.

1. If a high school student wanted to be a global citizen, what types of knowledge would be necessary?
2. If a high school student wanted to be a global citizen, what skills would be necessary?
3. If a high school student wanted to be a global citizen, what attitudes would be necessary?

As the data collection for this study was part of a larger overall program of research, the focus groups included questions that this study did not address. The latter questions that do not pertain to this study were specified on the basis of the roles that focus group participants occupied in schools. For example, students were asked to discuss opportunities they have had in schoolwide or classroom settings to develop themselves as global citizens. By contrast, teachers were asked about the pedagogical decisions they and their colleagues have made to instill or develop global citizenship in their students.

**Quantitative Measures.** Adapting procedures Morais and Ogden (2010) and/or Türken and Rudmin (2013) used to develop their measures, I began by reviewing scholarly literature on global citizenship and its measures. I found 122 unique peer-reviewed articles from 74 journals listed in ERIC, ProQuest, and/or PsycNET. My examination of abstracts and/or full text of those articles informed the second step: selecting measures to inform my survey’s initial item pool. I included measures only if they (a) reported validity and/or reliability testing and (b) operationalized global citizenship as a multidimensional construct. To ensure that findings from this study could facilitate global citizenship measurement in various school settings to account for the inequitable access to global citizenship education mentioned previously, I excluded
measures that were not open-source materials (e.g., Hammer, 2011). Last, I excluded measures that were geared toward working professionals in international settings, according to their language, scope, or conceptualization of global citizenship (e.g., Van Dyne, Ang, & Koh, 2008). The remaining measures were the Global Citizen Scale, Global Citizenship Scale, and the Global Identity Scale. No previous study reported use of any of these scales with pre-university students.

**Global Citizenship Scale.** Morais and Ogden (2010) scored their 30 items on a Likert-type scale ranging from 1 = Strongly disagree to 5 = Strongly agree. The authors conceptualized global citizenship as a general latent construct composed of three latent variables: (a) *social responsibility* (i.e., the perceived level of interdependence and social concern to others, society, and to environment); (b) *global competence* (i.e., 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); and (c) *global civic engagement* (i.e., demonstrating 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). Morais and Ogden modeled global citizenship as a third-order factor, with global competence and global civic engagement as second-order factors each with three first-order factors. Meanwhile, social responsibility was a first-order factor connected directly to global citizenship. Global competence’s first-order factors included: *self-awareness, intercultural communication, and global knowledge*. Global civic engagement’s first-order factors included: *involvement in civic organizations, political voice, and glocal civic activism*. The six social responsibility items were reverse-coded; all others are forward-coded. After recoding reversed items, higher scores indicated higher levels of global citizenship.
Morias and Ogden’s university sample included students \( n = 310 \) from one of five campuses of Penn State University in February 2009. Overall, their scale showed moderate to strong internal consistency \((\alpha = .61-.92)\). Its factors varied in levels of internal consistency: social responsibility \((\alpha = .70)\), global competence \((\alpha = .61-.70)\), and global civic engagement \((\alpha = .72-.92)\). Morais and Ogden used SPSS 17 to conduct principal component exploratory factor analysis (see p. 454) with promax rotation due to a hypothesis of interrelated dimensions. They reduced the initial pool from 43 to 30 items before conducting a series of confirmatory factor analyses. Finding a non-normal data distribution, they used maximum likelihood estimation with robust estimation techniques in EQS. They reported a variety of goodness-of-fit statistics in their initial sample \((n = 310; \text{CFI} = 0.91; \text{RMSEA} = 0.05; \text{SRMSR} = 0.06)\) and in their validation sample \((n = 288; \text{CFI} = 0.98, \text{RMSEA} = 0.03, \text{SRMR} = 0.07)\).

**Global Citizen Scale.** Reysen and Katzarska-Miller (2013) scored their 22 items on a Likert-type scale ranging from 1 = Strongly disagree to 7 = Strongly agree. Reysen and Katzarska-Miller assessed nine subscales.

- **Normative environment:** the perception that others in one’s environment believe that people ought to identify as global citizens
- **Global awareness:** an individual’s understanding of cultural interactions, awareness of their own role in interdependence, and attempts to stay informed on international issues
- **Global citizenship identification:** one’s self-description as a global citizen
- **Intergroup empathy:** one’s ability to empathize with people from other countries
- **Valuing diversity:** one’s interest in experiencing cultures other than one’s own
• *Social justice:* one’s belief in the universal right to basic services
• *Environmental sustainability:* one’s belief in conservation and responsible use of natural resources
• *Intergroup helping:* one’s desire to help others regardless of their nation of origin
• *Responsibility to act:* one’s feeling that they should involve themselves in global issues

Their undergraduate sample (*n* = 726) received either course credit in a psychology class or extra credit in a non-psychology course. The sample (*M* = 28.90 years; *SD* = 9.98) had a female majority (57.6%). Reysen and Katzarska-Miller categorized the nine subscales as antecedents (two), identification (one), and outcomes of global citizenship (six). Antecedents included normative environment (*α* = .82) and global awareness (*α* = .80). Global citizenship identification was a highly reliable subscale (*α* = .89). Outcomes of global citizenship ranged in increasing reliability as follows: social justice (*α* = .74), intergroup empathy (*α* = .76), environmental sustainability (*α* = .76), intergroup helping (*α* = .76), responsibility to act (*α* = .78), and valuing diversity (*α* = .91). All items were forward-coded. Higher scores indicated higher levels of global citizenship. Reysen and Katzarska-Miller used AMOS 19 to examine measurement and moderation structural equation models with the data from the student surveys. They reported goodness-of-fit statistics such as CFI (0.95) and RMSEA (0.07).

**Global Identity Scale.** Türken and Rudmin (2013) scored their 10 items on a Likert-type scale ranging from 1 = Strongly agree to 6 = Strongly disagree. They wrote an equal number of forward-coded and reverse-coded items, and cross-nationally validated their measure to show that coding direction yielded orthogonal relations between two factors: *cultural openness* (5 forward-coded items) and *tendencies toward non-nationalism* (5 reverse-coded items). Overall,
the scale achieved moderate to strong internal consistency ($\alpha = .79–.85$). After recoding reversed items, higher scores indicate higher levels of global identity.

The Global Identity Scale used a multi-national sample ($n = 1,695$), though all participants were university students with Norwegians ($n = 684$), Turks ($n = 605$), and Americans ($n = 406$). Factor loadings were stable across all three national groups; correlations between factor loadings for each pair of nations $> r = .94$. Like Morais and Ogden, Türken and Rudmin used principal components analysis in SPSS to analyze their data. However, Türken and Rudmin applied varimax rotation due to their approach of including an equal number of forward- and reverse-coded items. Türken and Rudmin did not report goodness-of-fit statistics.

**Data Collection and Analysis**

In this section, I have reported the qualitative procedures for data collection and analysis that pertain to the first research question: *What do IB students and teachers define as the core features of global citizenship?* Next, I reported the corresponding quantitative procedures I used to address the second research question: *How do measures of global citizenship perform among student survey-takers from IB high schools?* I concluded with the mixed-methods procedures I used to combine data sets and address the third research question: *To what extent do IB students’ and teachers’ global citizenship definitions and global citizenship measures’ behaviors among student survey-takers reveal similarities and differences about approaches to understanding global citizenship?* All data collection activities for this study followed procedures authorized by the University of Oregon’s Institutional Review Board Protocol No. 06092015.011.

**Qualitative.** The last item of the survey that participating students completed at the IB World Student Conference asked if they would be willing to participate in a focus group during the six-day event. Of the 122 survey respondents, 78 indicated willingness to participate in a
focus group (63.9%). I randomly selected 20 of those 78 students and stratified by sex. I approached the 20 students, some of whom attended the same schools. I used coin tosses to exclude four students who attended the same schools, seeking to avoid saturating the focus group with participants that had shared educational experiences. I excluded another five students because their parents were unavailable by phone to consent to their children’s participation in the focus group. Another three students declined to participate due to scheduling conflicts, yielding a final sample with several unique features. The eight students who participated in the focus group self-reported as having eight mother tongues, knowing five additional languages, attending schools in eight countries, and being citizens of seven countries (see Table 2). After receiving parental consent, I asked interested focus group participants to complete an assent process.

For the teacher focus group, one of the five teachers at the conference declined to participate. The rest received consent forms that they signed before the focus group began. Focus-group teachers reported having experience in an array of IB roles and having taught all Diploma Programme subject groups except Mathematics. They averaged 7.25 years of IB experience ($SD = 2.59$) and 11.50 years of overall teaching experience ($SD = 2.60$).

At the start of each focus group, I provided participants with printed copies of the questions. I read each question aloud at appropriate times before allowing participants a silent, two-minute thought and note-taking period. We followed a prescribed order for participants, so we could hear from everyone who wanted to contribute once before we heard from some participants two or more times. For each successive question, I varied the starting point of the order, so we did not have the same participants leading off each time. I displayed each question at the appropriate time on a laptop screen that all participants could see. After the focus groups, data were transcribed and coded for ethnographic summary and content analysis, a combination
that Morgan (1988) recommended due to their mutually reinforcing strengths. This analytical approach facilitates the gathering of rich quotations and the precision of systematic counting. For this study, I treated the 18 factors from the three extant measures used for quantitative analysis as focused codes (Saldana, 2009), counting the number of times participants identified one of the 18 factors as essential knowledge, skills, or attitudes for high school students’ global citizenship development. During analysis, I distinguished factors that at least 25% of the 12 focus group members identified from those factors that were identified with less frequency.

**Quantitative.** Before the conference, parents received digital consent forms that explained this study’s purposes and procedures. During on-site registration, conference organizers invited the 148 high school students in attendance to participate. Interested students met with me to ask questions about the study and sign assent forms if they wanted to participate. I provided students whose parents had consented and who provided their own assent with a pen-and-paper survey as a pre-test before any conference activities began. Students took the survey under my supervision in a small anteroom off of the lobby where registration was held.

The 65-item survey included all 62 items from three extant global citizenship measures (Morais & Ogden, 2010; Reysen & Katzarska-Miller, 2013; Türken & Rudmin, 2013). The survey featured a 5-level, Likert-type scale (1 = Strongly disagree to 5 = Strongly agree) for those 62 items. The survey also included three demographic items: a dichotomous item about student’s sex (0 = female; 1 = male) and two items about students’ previous IB experience. The first item asked if students were entering their first or second years of an IB Diploma or Career-Related Programme (0 = first; 1 = second). The second item asked if the Diploma or Career-Related Programme was a student’s first IB experience, which I coded as 0, or if the student had previously participated in either IB’s Primary or Middle Years Programmes, which I coded as 1.
In total, 122 of 148 eligible participants completed the survey, an 82.4% response rate that fell within an acceptable 80-85% range for a face-to-face administration. I asked participating students to complete a follow-up survey during the last day of the conference with the same conditions as the pre-test. Among 122 pre-test completers, I retained 111 (91.0%). The post-test was identical to the pre-test, except it did not contain the focus group item.

Prior to analysis, I inspected the data visually for any irregularities and ran descriptive statistics and frequencies. I tested for multivariate normality (Mardia, 1970) before following a five-step process that included alternations of confirmatory and exploratory factor analyses (Kline, 2011). First, I used AMOS 21 to conduct three confirmatory factor analyses. Using the IB student pre-test data \((n = 122)\), I conducted separate confirmatory factor analyses using the models that the authors of each of the three extant measures of global citizenship had specified in their respective validation studies. I detected poor fit for each model using the IB student data. Second, I used SPSS 22 to conduct three exploratory factor analyses using principal axis factoring with the intention of reducing the number of factors and items from each of the validating models. Following Morais and Ogden’s (2010) hypothesis of interrelated dimensions, I used promax rotation. Third, I used AMOS 21 to conduct three new confirmatory factor analyses, again one each per measure, this time using the reduced numbers of factors and items that pertained to each extant measure. Again, I detected poor fit for each model. Fourth, I used SPSS 22 to conduct a final exploratory factor analysis that included all remaining factors (nine) and items (29) across measures. Fifth, I used AMOS 21 to conduct a confirmatory factor analysis of the nine factors and 29 items I retained from the previous round of exploratory factor analyses. At each step, I used SPSS 22 to calculate Cronbach’s (1951) \(\alpha\) for internal consistency.
In attempting to fit my IB data to all three models, I chose generalized least squares estimation due to a relatively small sample (Kline, 2011). Furthermore, size constraints required me to make one alteration to one of the specified models. My study treated social responsibility, global competence, and global civic engagement as first-order factors, expecting to retain the option of examining global citizenship as an overall latent construct only if the magnitudes of intercorrelations between the three first-order factors under analysis suggested I do so. Otherwise, my initial confirmatory factor analyses followed the authors’ specifications exactly. For each confirmatory factor analysis, I defined the scale of latent variables by constraining to 1.0 the value of the first exogenous variable (i.e., item). I used a combination of indicators to assess goodness of fit. I began with the $\chi^2$ statistic, but due to its sensitivity to sample size (Bentler & Bonett, 1980), I also employed Hoelter’s (1983) critical $n > 200$ along with one incremental fit index (CFI) and one indicator that directly measured residuals (SRMSR). I used the following cutoff criteria from Hu and Bentler (1999): $\chi^2, p > .05$; $\text{CFI} \geq .95$; $\text{SRMSR} \leq .06$. I also used Root Mean Square Error Approximation (RMSEA) to compare models as the parameters change, seeking a value between .05 and .08 (Hu & Bentler, 1999). For each confirmatory analysis, I conducted identification testing using Bollen’s (1989) $t$-rule. Each model was overidentified, except for the final confirmatory model, which was underidentified.

**Mixed Methods.** I analyzed each data set separately, but engaged in interpretive analysis by synthesizing data from each methodological tradition to disentangle areas of convergence, complementarity, and contradiction (Greene, Caracelli, & Graham, 1989). In instances of convergence between methodological approaches, I illustrated confirmation of results. In instances of complementarity, I juxtaposed qualitative and quantitative data to show shades of overlap and divergence. In instances of contradiction, I drew links between the weaknesses
found in findings from one data set (e.g., quantitative) and the complementary strengths of the other (e.g., qualitative). In the discussion, I stated explicitly how practitioners and researchers could harness areas of overlap for maximum utility.

Results

In this section, I reported qualitative findings, followed by the results of the iterations of confirmatory and exploratory factor analyses, and then areas of in which the data sets converged, complemented one another, or showed contradictions.

Qualitative Findings. Across the two focus groups, 13 concepts emerged as being salient components’ of global citizenship among high school students for at least 3-of-12 focus group participants (≥ 25%). Of those 13 concepts, 12 were among the 18 factors in the three validation models for the extant measures used in this study. A 13th concept from the measurement models was also salient as social responsibility and responsibility to act overlapped with one another in the qualitative data. In descending order, I reported those frequencies with which participants in each focus group (i.e., students and teachers) referenced those concepts, italicizing concepts that the three extant measures accounted for in their validation models.

All 12 focus group participants identified tendencies toward non-nationalism as salient, the only concept that was mentioned unanimously. All eight students and all but one of the four teachers underscored intercultural communication as being salient. Nine (six students and three teachers) highlighted global knowledge. Seven focus group participants, including all teachers and three students, suggested intergroup empathy. Six participants each listed valuing diversity (half of the members in each focus group) and cultural openness (two students and all teachers). Five participants indicated that risk-taking was a core component of global citizenship. This was the most frequently referenced concept among those not articulated in the three measurement
models. Four participants each identified *involvement in civic organizations* (all teachers, but no students), *social responsibility/responsibility to act* (all teachers, but no students), and *political voice* (three students and one teacher). Three participants each highlighted *glocal civic activism* (three teachers, but no students), *global citizenship identification* (three students, but no teachers), and *self-awareness* (two students and one teacher).

Five concepts in the validation models of the extant measures did not show up frequently in the qualitative data. No focus group participant mentioned *normative environment* or *global competence*. One teacher described *intergroup helping* as being important for global citizenship, but she tempered its inclusion because she noted the effect of “poverty porn,” in which someone leaves a privileged environment to help a perceived cultural other in a fashion that simply included a summer trip “to help out somewhere and just [take] a selfie.” The same teacher questioned how one measure’s authenticity of someone’s desire to help.

Because there are students for whom they believe they’re global citizens. They're in love with that, and they go for service abroad, you know, they try to promote international education. But are [they] doing because [they] really believe in it? Or because they want to put something in their resume for college? And it’s hard to pitch that.

One student suggested that a sense of *environmental sustainability* should be included among the traits of a global citizen, and one student and one teacher each invoked *social justice*. Focus group participants also suggested 14 other traits of global citizens, though none met the threshold for salience (i.e., references by three or more participants). The following traits were mentioned twice: critical thinking, humility, independent thinking, perseverance, and tolerance for ambiguity, each nominated by a student and a teacher, plus tech-savvy and optimism (two
students each) and curiosity (two teachers each). One student each mentioned leadership, musical ability, physical prowess in sport, and politeness. One teacher each suggested confidence and information-seeking.

**Quantitative Results.** In this section, I report the five steps of confirmatory and exploratory factor analyses I conducted with the IB student data. None of the three confirmatory factor analyses for the extant measures’ validation models fit the IB data sufficiently. For the 30-item, three first-order factor model of the Global Citizenship Scale (Morais & Ogden, 2010), the IB data produced strong internal consistency ($\alpha = .87$). However, the $\chi^2$ statistic neared significance, $\chi^2 (402) = 451.20, p = .045$, and values for Hoelter’s critical $n$ (118), CFI (.57), and SRMSR (.15) all failed to meet the established cutoffs. The RMSEA value for this model (.03) was below the specified range (.05-.08). On its own, RMSEA did not indicate poor fit, though taken together, these five indices point to a poor-fitting model. The 22-item Global Citizen Scale (Reysen & Katzarska-Miller, 2013) showed even stronger internal consistency ($\alpha = .92$), but did not fit the IB data: $\chi^2 (173) = 296.54, p < .001$, CFI (.87), and Hoelter’s critical $n$ (82). The RMSEA value for this model (.08) met the border for sufficient fit, but does not necessarily indicate a well-fitting model given the other indices. Last, the 10-item Global Identity Scale (Türken & Rudmin, 2013) showed somewhat weaker internal consistency ($\alpha = .73$), but fit the best of the three validation models with the IB data, meeting the predetermined values for two of the five indices: $\chi^2 (34) = 47.83, p > .05$ and RMSEA (.06). Still, the Hoelter’s critical $n$ (120), CFI (.71), and SRMSR (.09) did not meet their respective thresholds.

Given these findings, I conducted three separate exploratory factor analyses to see the extent to which each of the validated models could be reduced in terms of factors and/or items for improved fit. All exploratory factor analyses exceeded the .70 threshold on the Kaiser-
Meyer-Olkin measure of sampling adequacy. Based on pattern matrix cutoffs > .5 with cross-loadings no higher than .35, I eliminated 9-of-30 items from the Global Citizenship Scale (Morais & Ogden, 2010) for a six-factor solution, 9-of-22 items from the Global Citizen Scale (Reysen & Katzarska-Miller, 2013) for a four-factor solution, and 2-of-10 items from the Global Identity Scale (Türken & Rudmin, 2013) for a two-factor solution. The revised models all showed small declines in internal consistency, but all remained above acceptable levels: for the 21-item Global Citizenship Scale, \( \alpha = .83 \); 13-item Global Citizen Scale, \( \alpha = .88 \); and 8-item Global Identity Scale, \( \alpha = .71 \).

After reducing each of the validated models through exploratory factor analysis, I conducted individual confirmatory factor analyses for the revised models. Still, none of the models indicated sufficient fit. With the IB data, the 21-item Global Citizenship Scale produced the following fit statistics: \( \chi^2 (186) = 229.22, p < .01, \text{CFI (.56), Hoelter’s critical } n (108), \text{ and SRMSR (.13). RMSEA for this model (.05) fell within the specified range, but the CFI and SRMSR values indicated only slightly improved fit from the previous model. The presence of a significant } \chi^2 \text{ test in the face of a 21-item, 6-factor model after a nonsignificant test with a 30-item, 3-factor model suggested inadequate sample size. The 13-item Global Citizen Scale showed improved fit in terms of RMSEA (.07), but the significant } \chi^2 (84) = 129.44, p < .01, \text{CFI (.62), Hoelter’s critical } n (82), \text{ and SRMSR (.12) all suggested misfit. The 8-item Global Identity Scale, showed improvement and the most promise of all the models with } \chi^2 (19) = 27.87, p > .05 \text{ and RMSEA (.06). But the revised Global Identity Scale model did not meet the thresholds for CFI (.79), Hoelter’s critical } n (128), \text{ and SRMSR (.09).}

Next, I conducted an exploratory factor analysis to see how the retained 42 items from across the three measures hung together within a single analysis. Given the multiple iterations of
this process, I sought greater reliability in this procedure, retaining only items that loaded onto a single factor $\geq .60$ with no cross-loadings $\geq .30$. The follow-up exploratory factor analysis produced a 9-factor solution with 29 items, half the factors and 33 items fewer than the totals of the three validation models. Of the nine factors, seven conformed to the same factors theorized in the validation models. The final model produced an internal consistency of $\alpha = .86$. In Table 3, I reported the internal consistency for each factor of the final model individually. Last, a confirmatory factor analysis for this model was not possible due to sample size constraints.

**Mixed-Methods Interpretation.** Combining data comparatively after examining the qualitative and data separately revealed nine instances of convergence, two instances of complementarity, and seven instances of contradiction.

Convergence took two forms: (a) focus group participants’ comments associated with 6-of-9 factors that hung together after the final exploratory analysis and (b) focus group participants’ comments did not show salience for three factors that were in the validation models with university students but not retained after the factor analysis process with IB student data. Focus group participants and factor analyses confirmed the following six factors to be potentially relevant components of global citizenship among high school students: involvement in civic organizations, glocal civic activism, intercultural communication, tendencies toward non-nationalism, political voice, and valuing diversity. In three instances, focus group participants did not find salience in factors for which items were excluded during the quantitative process: intergroup helping, global competence, and global civic engagement.

Two factors for the validation models showed complementarity between the data sets. Focus group participants spoke about social responsibility and responsibility to act in overlapping ways. Half of the original social responsibility items (from Morais & Ogden, 2010)
were retained in the model, but the two responsibility to act items (from Reysen & Katzarska-Miller, 2013) were not. Similarly, social justice and environmental sustainability showed overlap in the quantitative data leading to merge of Reysen and Katzarska-Miller items into a new factor: social and environmental justice. One student in the focus group made the related statement that global citizens should focus on “the big issues that all the international societies are concerned about, like starvation … the environment,” seeming to conflate the universal right to accessing food with the environmental processes needed to grow it.

Contradiction occurred when five factors from the validation models were salient among focus group participants but the items pertaining to them did not hold under factor analysis. Those factors included global knowledge, intergroup empathy, cultural openness, global citizenship identification, and self-awareness. Additionally, normative environment was not mentioned in either focus group, but all of its items remained intact after the rounds of factor analyses. Last, focus group participants identified risk-taking as an important trait among global citizens, but none of the validity models had accounted for that construct in their measures.

**Discussion**

This study attempted to examine global citizenship measurement possibilities for use with high school students. Employing focus groups and three extant measures that had been previously validated for use with university students, I examined how to best fit measures of a critical, but poorly understood noncognitive skill to an understudied population in this area. Applying Greene et al.’s (1989) framework, I found more evidence of confirmation and complementarity than contradiction, but the results of this study were far from conclusive. There is still much work to be done before anyone can claim to have a high school-ready measure of global citizenship. Still, this study moved the contested space of global citizenship measurement
one step closer toward shared understanding. In these final sections, I discuss this study’s limitations, reflect upon the findings, and provide possible next steps for practitioners and researchers before concluding.

**Limitations**

Sample size presented an unexpected limitation, clearly restricting which analyses I could run and likely influencing estimates of goodness-of-fit. Therefore, all findings from this study should be interpreted with extreme caution. The IB World Student Conference, an event that figured to draw a sufficient sample for all planned analyses, saw its expected attendance drop due to factors beyond the researcher’s or IB’s control. The challenge of collecting data from unique samples for this purpose remains. Inside of IB high schools, Perna et al. (2013) found multicultural samples to be hard to come by, necessitating this imperfect summertime data collection. Outside of IB schools, students lack enough familiarity with global citizenship education to provide qualitative data on the topic remain. Perhaps they might lack enough familiarity to provide reliable quantitative data either. The dangers that associate with self-reports of any kind (e.g., social desirability bias; Kopcha & Sullivan, 2007; faking (Duckworth & Yeager, 2015; Huws, Reddy, & Talcott, 2009) apply as much to global citizenship measurement as any other construct with attitudinal dimensions. Measurement of global citizenship might exacerbate such effects if items that reflect a concept rarely found in the typical coursework of public schools suddenly shows up alongside a Likert scale.

Additionally, the sample might have presented further biases I could not detect. For example, to protect student anonymity, I accessed only aggregate data about students’ nationality, nation of school, and socioeconomic status. The data are likely unbalanced to favor higher-income students and students from wealthier nations or those with shorter commutes to
Spain to attend the conference. But I could not link many variables to students’ survey responses because of the ease of identification in a relatively small, multinational sample. For example, there were two students from one particular country in the Americas. With the specific nation and the participants’ sex, both students would be identifiable to any one with knowledge of the conference.

**Reflections on Findings**

Students and teachers converged in several areas of what high school students should know, be able to do, and be disposed for en route to becoming global citizens. In particular, focus group participants showed unanimous agreement in the importance of understanding tendencies toward non-nationalism and near-unanimity around intercultural communication, both of which loaded well in the final exploratory model. Meanwhile, 75% of each focus group considered global knowledge to be an important feature, but the items did not hold up to analysis. By contrast, half of each group positioned valuing diversity as an essential ingredient in the seemingly complex recipe for making global citizens, and the factor analytic process concurred. Still, focus group participants asserted the importance of intergroup empathy and cultural openness, both of which were expressed by all teachers and some students. But the quantitative analysis of the items meant to capture those factors did not show them to be stable domains.

Some factors comingled in both qualitative and quantitative data such as social responsibility and responsibility to act, as well as social justice and environmental sustainability. Surprisingly, global citizenship identification was only moderately salient in the focus group data and did not provide highly loading items. Perhaps overlap with tendencies toward non-nationalism confounded understanding of this component, which sounds closely related to the overall construct. Though only moderately salient in the qualitative data, the factor analyses
revealed stable measurement factors such as *involvement in civic organizations*, *political voice*, and *glocal civic activism*.

It was not surprising to see that *normative environment* showed more quantitative promise than qualitative salience. Like *global competence*, which had poor showings in both data sets, the term might resonate more with researchers than practitioners or students. It is worth noting that one teacher wrestled with *intergroup helping* as being potentially important for global citizenship, but could not declare it as entirely consistent with the construct. Quantitatively, however, items on intergroup helping did not perform well. Relatedly, *intergroup empathy* received significant attention in the focus group and held as a subscale, showing factor loadings > .70 in the first exploratory analysis that reduced the Global Citizen Scale (Reysen & Katzarska-Miller, 2013) from 22 to 15 items. However, one of the two items loaded on at least one other factor in subsequent analyses, so I did not retain the factor in the final model.

**Implications for Practitioners and Researchers**

In *Understanding by Design*, Wiggins and McTighe (2005) tell educators to assess what they value and value what they assess. This use of the rhetorical trait chiasmus might sound somewhat innocuous, even playful, but the absence of a useful measure of global citizenship remains a major reason why educators cannot bring this construct into their classrooms. Andrzejewski and Alessio (1999) cited five other reasons why many teachers don’t go global: (a) America’s history of geographic isolation, (b) its century of international dominance, (c) that global themes often feel depressingly insurmountable, (d) the tendency of educators in U.S. public schools to ignore controversial issues, and (e) educators’ lack of training in this arena. The first two factors have waned significantly in the new millennium, and the other three factors appear to be malleable.
Partnerships between practitioners and researchers seem highly necessary to tap global citizenship, a seemingly elusive construct. For example, informed by the IB Learner Profile—10 traits that IB students and educators aspire to: becoming inquirers, knowledgeable, thinkers, communicators, principled, open-minded, caring, risk-takers, balanced, and reflective—nearly half of the focus group participants (students and teachers) stressed risk-taking as a piece of the global citizenship puzzle. The scholars who developed and validated the three measures in this study showed no evidence of having considered risk-taking. Also, the focus group participants highlighted more than a dozen other possibilities. Practitioner-involved research with students in schools seems to be the only way to bridge the gap between what both practitioners and researchers think they know about global citizenship and confirming those beliefs with a reliable, valid scale for use with preuniversity populations.

Ultimately, the field needs more testing of Deardorff’s (2004, 2014) assertions: that measurement error can be reduced by collecting a portfolio of evidence through mixed-method approaches that gather data from multiple reporters, including self-report surveys, interviews, and observational approaches. In reviewing a spate of measures to explore their feasibility for use in K-12 schools, Thier (2015) found that a mixed-methods approach would likely be essential to capture both the results and processes of global citizenship education.

Conclusion

As violent incidents appear daily in international news feeds, educating young people to consider the global implications of their actions and the actions of others has become paramount. Thier, Thomas, Tanaka, and Minami (2016) noted the improbability of expecting students to be global citizens if we did not educate them for that outcome. By examining how to measure global citizenship reliably among high school students, future studies can provide educators with
the tools to transmit actionable data for global citizenship education. Potential for measurement biases has thwarted education researchers who are interested in noncognitive skills (Anderson, et al., under review; Braskamp, Braskamp, & Engberg, 2014, Morais & Ogden, 2010). Still needed is a cogent measurement solution for a research-to-practice base that has been diffuse since 17th century Czech scholar John Comenius called for a variant of global citizenship education to eliminate “…ignorance by teaching ‘everything to everyone,’ and ‘from every point of view’” (qtd. in Hill, 2012, p. 246).
References


*Teacher thinking on developing informed and engaged students for a globally connected world.* Retrieved from


Thier, M. (under review). It’s where you’re poor, not if you’re poor: Opportunity to learn international mindedness.


Table 1
Subscale Reliability and Sample Items for Three Extant Measures of Global Citizenship

<table>
<thead>
<tr>
<th>Source</th>
<th>Subscale</th>
<th>n</th>
<th>α</th>
<th>Sample item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Citizenship Scale</td>
<td>Social responsibility</td>
<td>6</td>
<td>.79</td>
<td><em>I think that many people around the world are poor because they do not work hard enough.</em></td>
</tr>
<tr>
<td></td>
<td>Self-awareness</td>
<td>3</td>
<td>.69</td>
<td>I am able to get other people to care about global problems that concern me.</td>
</tr>
<tr>
<td>Global Citizenship Scale</td>
<td>Intercultural communication</td>
<td>3</td>
<td>.76</td>
<td>I often adapt my communication style to other people’s cultural background.</td>
</tr>
<tr>
<td>Global Citizenship Scale</td>
<td>Global knowledge</td>
<td>3</td>
<td>.67</td>
<td>I feel comfortable expressing my views regarding a pressing global problem in front of a group of people.</td>
</tr>
<tr>
<td>Global Citizenship Scale</td>
<td>Involvement in civic organizations</td>
<td>8</td>
<td>.92</td>
<td>Over the next 6 months, I plan to get involved with a global humanitarian organization or project.</td>
</tr>
<tr>
<td>Global Citizenship Scale</td>
<td>Political voice</td>
<td>4</td>
<td>.86</td>
<td>Over the next 6 months, I will contact or visit someone in government to seek public action on global issues and concerns.</td>
</tr>
<tr>
<td>Global Citizenship Scale</td>
<td>Glocal civic activism</td>
<td>3</td>
<td>.74</td>
<td>I will boycott brands or products that are known to harm marginalized global people and places.</td>
</tr>
<tr>
<td>Global Citizen Scale</td>
<td>Normative environment</td>
<td>2</td>
<td>.82</td>
<td>Most people who are important to me think that being a global citizen is desirable.</td>
</tr>
<tr>
<td>Global Citizen Scale</td>
<td>Global awareness</td>
<td>4</td>
<td>.80</td>
<td>I am aware that my actions in my local environment may affect people in other countries.</td>
</tr>
<tr>
<td>Global Citizen Scale</td>
<td>Global citizenship identification</td>
<td>2</td>
<td>.89</td>
<td>I would describe myself as a global citizen.</td>
</tr>
<tr>
<td>Global Citizen Scale</td>
<td>Intergroup empathy</td>
<td>2</td>
<td>.76</td>
<td>It is easy for me to put myself in someone else’s shoes regardless of what country they are from.</td>
</tr>
<tr>
<td>Global Citizen Scale</td>
<td>Valuing diversity</td>
<td>2</td>
<td>.91</td>
<td>I would like to join groups that emphasize getting to know people from different countries.</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Source</th>
<th>Subscale</th>
<th>$n$</th>
<th>$\alpha$</th>
<th>Sample item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Citizen Scale (Reysen &amp; Katzarska-Miller, 2013)</td>
<td>Social justice</td>
<td>2</td>
<td>.74</td>
<td>Those countries that are well off should help people in countries who are less fortunate.</td>
</tr>
<tr>
<td></td>
<td>Environmental sustainability</td>
<td>2</td>
<td>.76</td>
<td>Natural resources should be used primarily to provide for basic needs rather than material wealth.</td>
</tr>
<tr>
<td></td>
<td>Intergroup helping</td>
<td>2</td>
<td>.76</td>
<td>If I had the opportunity, I would help others who are in need regardless of their nationality.</td>
</tr>
<tr>
<td></td>
<td>Responsibility to act</td>
<td>2</td>
<td>.78</td>
<td>Being actively involved in global issues is my responsibility.</td>
</tr>
<tr>
<td></td>
<td>Cultural openness</td>
<td>5</td>
<td>.76</td>
<td>I Identify with a world community.</td>
</tr>
<tr>
<td></td>
<td>Non-nationalism</td>
<td>5</td>
<td>.86</td>
<td><em>My own culture is the best in the world.</em></td>
</tr>
</tbody>
</table>

*Note. $\alpha =$ internal consistency; italics indicate reverse-coded items.*
Table 2

Data Provided by Focus Group Participants

<table>
<thead>
<tr>
<th></th>
<th>$n$</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students ($n = 8$)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mother tongue</strong></td>
<td>8</td>
<td>Adi, Armenian, Assemese, Filipino, French, Khasi, Korean, Mandarin,</td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td>7</td>
<td>Armenian, Australian, Canadian, Chinese, Filipino, Indian, Korean</td>
</tr>
<tr>
<td><strong>Nation where your school is located</strong></td>
<td>8</td>
<td>Armenia, Australia, Canada, China, Denmark, Hong Kong, India, Philippines</td>
</tr>
<tr>
<td><strong>Language(s) in which you can learn</strong></td>
<td>8</td>
<td>English, Filipino, German, Hindi, Korean, Mandarin, Spanish, Portuguese</td>
</tr>
<tr>
<td><strong>Teachers ($n = 4$)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mother tongue</strong></td>
<td>3</td>
<td>English, Spanish, Tamil</td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td>4</td>
<td>American, Hispanic*, Indian, Spanish</td>
</tr>
<tr>
<td><strong>Nation where your school is located</strong></td>
<td>3</td>
<td>Germany, India, United States</td>
</tr>
<tr>
<td><strong>Subject(s) taught</strong></td>
<td>6</td>
<td>English language &amp; literature, Environmental systems &amp; societies, French language, Humanities, Spanish language, Theory of Knowledge</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M$</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Years teaching</strong></td>
<td>11.50</td>
<td></td>
</tr>
<tr>
<td><strong>Years teaching International Baccalaureate</strong></td>
<td>7.25</td>
<td>2.59</td>
</tr>
</tbody>
</table>

*One participant indicated Hispanic as nationality.*
Table 3
**Results of Final Exploratory Factor Analysis: 9-Factor Model of Global Citizenship**

<table>
<thead>
<tr>
<th>Factor</th>
<th>n</th>
<th>α</th>
<th>Items with factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement in civic organizations¹</td>
<td>7</td>
<td>.91</td>
<td>I plan to do volunteer work to help individuals and communities abroad. (.75)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I will participate in a walk, dance, run, or bike ride in support of a global cause. (.73)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I will volunteer my time working to help individuals or communities abroad. (.84)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I plan to get involved with a global humanitarian organization or project. (.72)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I plan to help international people who are in difficulty (.73)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I plan to get involved in a program that addresses the global environmental crisis. (.64)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I will work informally with a group toward solving a global humanitarian problem. (.68)</td>
</tr>
<tr>
<td>Normative environment³</td>
<td>4</td>
<td>.82</td>
<td>Most people who are important to me think that being a global citizen is desirable. (.75)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If I called myself a global citizen, most people who are important to me would approve. (.62)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>My friends think that being a global citizen is desirable. (.88)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>My family thinks that being a global citizen is desirable. (.73)</td>
</tr>
<tr>
<td>Glocal civic activism¹</td>
<td>3</td>
<td>.87</td>
<td>If at all possible, I will always buy fair-trade or locally grown products and brands. (.75)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I will boycott brands or products that are known to harm marginalized (disempowered) global people and places. (.80)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I will deliberately buy brands and products that are known to be good stewards (caretakers) of marginalized people and places. (.93)</td>
</tr>
<tr>
<td>Tendencies toward non-nationalism³</td>
<td>3</td>
<td>.80</td>
<td>My country is one of the best in the world. (.92)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I feel intense pride when I think about my country. (.69)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>My own culture is the best in the whole world. (.67)</td>
</tr>
<tr>
<td>Valuing diversity²,³</td>
<td>2</td>
<td>.78</td>
<td>I enjoy learning about different cultures. (.74)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I am interested in learning about the many cultures that have existed in this world. (.81)</td>
</tr>
<tr>
<td>Social responsibility¹</td>
<td>3</td>
<td>.76</td>
<td>I think that most people around the world get what they are entitled to have. (.76)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I think that people around the world get the rewards and punishments they deserve. (.77)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The world is generally a fair place. (.65)</td>
</tr>
<tr>
<td>Political voice¹</td>
<td>3</td>
<td>.79</td>
<td>I will pay a membership or make a cash donation to a global charity. (.63)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I will contact a newspaper or radio to express my concerns about global environmental, social, or political problems. (.78)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I will contact or visit someone in government to seek public action on global issues and concerns. (.70)</td>
</tr>
<tr>
<td>Social and environmental justice²</td>
<td>2</td>
<td>.73</td>
<td>Basic services such as health care, clean water, food, and legal assistance should be available to everyone, regardless of what country they live in. (.77)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Natural resources should be used primarily to provide for basic needs rather than material wealth. (.66)</td>
</tr>
<tr>
<td>Intercultural communication¹</td>
<td>2</td>
<td>.82</td>
<td>I unconsciously adapt my behavior and mannerisms when I am interacting with people of other cultures. (.79)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I often adapt my communication style to other people’s cultural background. (.89)</td>
</tr>
</tbody>
</table>

*Note. n = number of items loading onto that factor ≥ .60 and no cross-loadings ≥ .30; α = internal consistency; italics indicate reverse-coded items.

¹Morais & Oden. 2010; ²Reysen & Katzarska-Miller. 2013; ³Türken & Rudmin. 2013*