Global Perspective Inventory (GPI): Its Purpose, Construction, Potential Uses, and Psychometric Characteristics

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Introduction

Every one of us is on a journey, a journey of life. In this journey, we grow, change, and develop along several dimensions—intellectual, social, civic, physical, moral, spiritual, and religious. And we develop holistically and not departmentally, i.e., we simultaneously develop our mind, sense of self, and relationships with others. In this journey of life, we, and especially during the traditional college years of ages 18-24, are actively involved in asking several questions about ourselves, including these three.

- How do I know?
- Who am I?
- How do I relate to others?

In our pluralistic society answering these questions of life now requires a global perspective. We no longer can think in terms of living in a world in which we can or should avoid learning, meeting, and living with others with very different and potentially conflicting cultural backgrounds, habits, perspectives, customs, religious beliefs, and aspirations. In short, we live in a global world, in which multiple perspectives about knowing, sense of identity, and relationships with others are distinct and serve as powerful influences in our society.

Dimensions of Holistic Development

Our view of holistic human development encompasses two theoretical perspectives: intercultural maturity and intercultural communication. The first is based on the seminal work of Robert Kegan (In Over our Heads, 1994) who has argued that as people grow they are engaged in meaning making, i.e., trying to make sense of their journey in life. In doing so they not only rely on their thinking, but also their feelings and relating with others in forming and reforming their journey in life. He has identified and labeled three major domains of human development: cognitive, intrapersonal, and interpersonal. Patricia King and Marcia Baxter Magolda (2005) refined these domains in describing students in their social-cultural development during their college years. In the context of a global society, they called this developmental view “intercultural maturity.”

Second, intercultural communication scholars also have recognized the cognitive, affirmative, and behavioral domains (i.e., the thinking, feeling, and relating domains) as important to individual success with communicating in intercultural contexts. To be an optimally functioning communicator in a pluralistic society, individuals need to be competent and sensitive within these domains.
In summary, all human beings experience, grow, change, and develop during their life along intellectual, social, interpersonal, emotional, physical, and spiritual dimensions. Persons do not develop their cognitive skills and learn to think with more complexity separate from further developing their emotional maturity, their sense of self and identity, and their ability to relate to others. Instead they develop simultaneously along several dimensions and are continuously seeking answers to the three questions posed above. The three domains are depicted as interconnecting circles in the figure below to stress their interrelationship and integration. Understanding holistic human development includes thinking, feeling and relating because they represent interrelated facets of human development for study and communication.

How do I know?” reflects the Cognitive domain. Cognitive development is centered on one’s knowledge and understanding of what is true and important to know. It includes viewing knowledge and knowing with greater complexity and taking into account multiple cultural perspectives. Reliance on external authorities to have absolute truth gives way to relativism when making commitments within the context of uncertainty.

“Who am I?” reflects and highlights the Intrapersonal domain. Intrapersonal development focuses on one becoming more aware of and integrating one’s personal values and self-identity into one’s personhood. The end of this journey on this dimension is a sense of self-direction and purpose in one’s life, becoming more self aware of one’s strengths, values, and personal characteristics and sense of self, and viewing one’s development in terms of one’s self-identity. An ability to incorporate different and often conflicting ideas about who one is from an increasingly multicultural world is now an important aspect of developing a confident self-identity.

“How do I relate to others?” reflects the Interpersonal domain. Interpersonal development is centered on one’s willingness to interact with persons with different social norms and cultural backgrounds, acceptance of others, and being comfortable
when relating to others. It includes being able to view others differently; seeing one’s own uniqueness; and relating to others moving from dependency to independence to interdependence, which is a paradoxical merger.

Several authors from different disciplines and perspectives have used the integration of these three domains to highlight a holistic perspective on human development. Various terms are used to portray the integration of the thinking, feeling, and relating, as shown in the chart that maps these terms.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Thinking</th>
<th>Feeling</th>
<th>Relating</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercultural Maturity</td>
<td>Cognitive</td>
<td>Intrapersonal</td>
<td>Interpersonal</td>
<td>King &amp; Baxter-Magolda (2005)</td>
</tr>
<tr>
<td>Intercultural communication competence</td>
<td>Cognitive/Awareness</td>
<td>Affective/Sensitivity</td>
<td>Behavior/Adroitness</td>
<td>Chen &amp; Storosta (1994)</td>
</tr>
<tr>
<td>Faith development</td>
<td>Forms of Knowing</td>
<td>Forms of Dependence</td>
<td>Forms of Community</td>
<td>Parks (2000)</td>
</tr>
<tr>
<td>Personal Development</td>
<td>Mind</td>
<td>Spirit</td>
<td>Body</td>
<td></td>
</tr>
<tr>
<td>Personal Development</td>
<td>Head</td>
<td>Heart</td>
<td>Hands</td>
<td></td>
</tr>
<tr>
<td>Holistic Human Development</td>
<td>How do I know?</td>
<td>Who am I?</td>
<td>How do I relate to others?</td>
<td></td>
</tr>
<tr>
<td>Personal Development</td>
<td>Knowing</td>
<td>Being</td>
<td>Doing</td>
<td></td>
</tr>
</tbody>
</table>

**Construction and Description of the GPI Scales**

The GPI was designed and constructed so that persons of any age or specific cultural group (e.g., nationality or racial group) can take the set of items. The selected items do not focus on growth and development only appropriate or limited to college students as a result of a specific collegiate experience (e.g., education/study abroad). Rather the items in the GPI are meant to portray markers in a journey in which persons of all ages are constantly asking questions about how they think, feel, and relate to others.

The GPI Perspective taking scales are six scales with each dimension -- cognitive, intrapersonal, and interpersonal -- having two scales. For each dimension, one scale reflects the theory of cultural development and the other reflects intercultural communication theory. For example, the cognitive domain includes knowing and knowledge scales. The scale, Knowing, stresses the complexity of thinking which is “content free” (intercultural developmental focus). The scale, Knowledge, portrays a level of acquisition of knowledge about multicultural issues (intercultural communication.
focus). The intrapersonal domain includes Identity, a central goal in the development of the college students in their formative years, and Affect (intercultural communication focus) scales. The interpersonal domain includes Social interaction, in terms of communication theory, and the other reflects the notion of Social responsibility, a common goal among educators in higher education today. A description of each of the six scales is:

**Cognitive domain.** Cognitive development is centered on one’s knowledge and understanding of what is true and important to know. It includes viewing knowledge and knowing with greater complexity and taking into account multiple cultural perspectives. Reliance on external authorities to have absolute truth gives way to commitment in relativism when making commitments within the context of uncertainty. The two scales are:

- **Knowing.** Degree of complexity of one’s view the importance of cultural context in judging what is important to know and value.
- **Knowledge.** Degree of understanding and awareness of various cultures and their impact on our global society and level of proficiency in more than one language.

**Intrapersonal domain.** Intrapersonal development focuses on one becoming more aware of and integrating one’s personal values and self-identity into one’s personhood. It reflects one’s sense of self-direction and purpose in one’s life, becoming more self aware of one’s strengths, values, and personal characteristics and sense of self, and viewing one’s development in terms of one’s self-identity. It incorporates different and often conflicting ideas about who one is living in an increasingly multicultural world. The two scales are:

- **Identity.** Level of awareness of one’s unique identity and degree of acceptance of one’s ethnic, racial, and gender dimensions of one’s identity.
- **Affect.** Level of respect for and acceptance of cultural perspectives different from one’s own and degree of emotional confidence when living in complex situations, which reflects an “emotional intelligence” that is important in one’s processing encounters with other cultures.

**Interpersonal domain.** Interpersonal development is centered on one’s willingness to interact with persons with different social norms and cultural backgrounds, acceptance of others, and being comfortable when relating to others. It includes being able to view others differently; and relating to others in terms of moving from dependency to independence to interdependence, which is considered as the most mature perspective in effectively living in a global society.

- **Social Responsibility.** Level of interdependence and social concern for others.
- **Social Interactions.** Degree of engagement with others who are different from oneself and degree of cultural sensitivity in living in pluralistic settings.
Versions of GPI

We have developed nine versions of the GPI as of August 2013. During the summer of 2007, in our pilot testing, we administered a survey of 69 items to 128 persons, including students entering college, students studying abroad, graduating seniors and faculty from a church related college, and graduate students in a class on student development. Based on the statistical analyses and feedback from those taking the set of items, we reduced the number of items to 46, which has remained constant for all three subsequent versions used during the fall 2007 and 2008. We administered the first version (Version 1) to 860 students and faculty/staff during August through October, 2007. We changed nine items of this version based on statistical analyses and feedback about the wording and meaning of items. We administered the next version (Version 2) to 356 students and faculty/staff during the months of November and December 2007. We then altered three items for Version 3, which was on line January 1, 2008. Thus 34 items (46 original items minus 12 changes in wording) items have appeared in all three versions of GPI, with over 2500 completing version 3. Version 4 contains 46 items with the same number of items per each of the scales as in Version 3, but seven items have been altered to make the items more clear and focused. All respondents completed Version 4, from August 1, 2008 through July 31, 2009. Version 5 is a major enhancement of Version 4. For the 2009 – 2010 academic year, we deleted six items from the 46 to create new scales for four of the six scales (Knowing and Social interaction scales remained the same.)

In the summer of 2009, we also added three sets of items to reflect the sociocultural characteristics of a campus – Community, Curriculum, and Co-curriculum. These clusters of items are based on the research reported in the book, Putting students first: How colleges develop students purposively (Braskamp, L. A. Trautvetter, L. C. and K. Ward, 2006.

In the summer of 2010 we revised the scale, Knowing, changing five of the nine items in this scale. We did so to increase its internal consistency and reliability. We also added an item asking students to indicate their major field of study and added an item about freshmen year experiences in the Curriculum cluster of items. In the summer of 2011, we revised these items of the Curriculum and Co-curriculum scales. Version 7 included the same 40 items of global perspective taking, but we have revised the items included in some of the scales based on further factor analyses of the scales. During the 2012 – 2013 AY, we also added several new items in the General Form, Curriculum area, including items about student faculty relationships. In the Study Abroad Form, we added new items about student experiences while studying abroad (which were piloted tested in 2013, labeled Version 8). During the summer of 2013, we conducted a number of factor analyses of the six Global Perspective taking scales, which is now Version 9, used initially in the 2013 – 14 AY and are currently the items used in all three forms of the GPI. The items included in each of the six Global Perspective Taking scales of version 9 are listed in Table 9 of this Manual.
We offer three forms of the GPI for specific uses, which are also listed on the website. They are:

**General Student Form.** Students who are undergraduates (or graduate students) would take this form. Students who are taking a pretest as part of their study abroad program would also take this form (e.g., students taking the GPI in December/January just before or during the first week of their semester abroad). This form includes items about their coursework and co-curricular activities during college.

**New Student Form.** This form is only for students who are taking the GPI as part of their Orientation program during the summer or the first month on campus. This form includes items about their coursework and co-curricular activities during high school.

**Study Abroad Post Test Form.** Students who are completing a study abroad program or just completed one would take this form. Items about their experiences abroad are included. In the summer of 2012 we added ten items to further measure student experiences while studying abroad.

In constructing the GPI we have always stressed the connections between holistic student learning and development (the “desired ends”) and the campus environment (the “appropriate means”). Now we are able to present data based on student responses on both ends and means, so users can more easily study possible connections between the means and ends. That is, we hope the results in the Group Reports will facilitate discussions about what interventions – pathways, activities, programs, courses, events – may be influencing the progress of students in developing a more global perspective in how they think, view themselves, and relate to others unlike them. Our framework includes a 3 X 3 matrix with three dimensions of student learning and development (Cognitive, Intrapersonal, Interpersonal) and three campus characteristics (Community, curriculum, and co-curriculum). A chart of this framework is found on page 20 of this Manual.

**Description of respondents completing the GPI**

Over 120,000 students, staff, and faculty have completed one of the GPI versions. (The three Version 9 forms are available on our website.) The data in this Manual are based on a sample of 19,528 undergraduate students who have completed the GPI General Form from November 2012 until June 2014.

Table 1 presents the count of institutions and undergraduate students by institution type who completed the GPI during this time. The four institutional types, as defined by the Carnegie Classification of Institutions of Higher Education, are:

- Private Colleges and Universities offering Bachelors and Masters degrees
- Private Universities offering Doctorate degrees
- Public Colleges and Universities offering Bachelors and Masters degrees
- Public Universities offering Doctorate degrees
The 19,528 undergraduate students are a subset of the approximately 120,000 persons have completed the GPI since 2008. The responses of this selective sample of undergraduates who completed the GPI from November 2012 until June 2014 will be used in all of the data and statistical analyses in this Manual, unless otherwise noted. Norms in the Norms Report are based on this group of undergraduate students.

Two of every three respondents who completed the GPI were female (Table 2). This proportion of females reflects the rate at which females participate in education abroad, and the rate at which females attend private liberal arts colleges. Respondents are relatively equally distributed among the four class levels (Table 3). As shown in Table 4, one in twenty students classified themselves as having more than one ethnic background, and roughly three of four respondents classified themselves as European ethnicity. Just over 6 percent of GPI respondents considered themselves international persons (Table 5).

### Table 1
Number of institutions and students by class status

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Number of Institutions</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
<th>All Undergraduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private BA and MA</td>
<td>47</td>
<td>3,550</td>
<td>2,460</td>
<td>3,379</td>
<td>2,592</td>
<td>11,981</td>
</tr>
<tr>
<td>Private Doctorate</td>
<td>15</td>
<td>1,043</td>
<td>901</td>
<td>737</td>
<td>1,180</td>
<td>3,861</td>
</tr>
<tr>
<td>Public BA and MA</td>
<td>7</td>
<td>61</td>
<td>374</td>
<td>328</td>
<td>198</td>
<td>961</td>
</tr>
<tr>
<td>Public Doctorate</td>
<td>13</td>
<td>642</td>
<td>764</td>
<td>891</td>
<td>428</td>
<td>2,725</td>
</tr>
<tr>
<td>All 4-Year Institutions</td>
<td>82</td>
<td>5,296</td>
<td>4,499</td>
<td>5,335</td>
<td>4,398</td>
<td>19,528</td>
</tr>
</tbody>
</table>

### Table 2
Number of respondents by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>6,849</td>
<td>35.1%</td>
</tr>
<tr>
<td>Female</td>
<td>12,606</td>
<td>64.6%</td>
</tr>
<tr>
<td>Other</td>
<td>73</td>
<td>0.4%</td>
</tr>
<tr>
<td>Total</td>
<td>19,528</td>
<td></td>
</tr>
</tbody>
</table>
Table 3  
**Status in college of respondents**

<table>
<thead>
<tr>
<th>School Status</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>5,296</td>
<td>27.1%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>4,398</td>
<td>22.5%</td>
</tr>
<tr>
<td>Junior</td>
<td>4,499</td>
<td>23.0%</td>
</tr>
<tr>
<td>Senior</td>
<td>5,335</td>
<td>27.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19,528</td>
<td></td>
</tr>
</tbody>
</table>

Table 4  
**Ethnicity of the respondents**

<table>
<thead>
<tr>
<th>Ethnic Identity</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Ethnicities</td>
<td>1,073</td>
<td>5.5%</td>
</tr>
<tr>
<td>African</td>
<td>1,284</td>
<td>6.6%</td>
</tr>
<tr>
<td>Asian</td>
<td>1,346</td>
<td>6.9%</td>
</tr>
<tr>
<td>European</td>
<td>13,841</td>
<td>70.9%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>1,047</td>
<td>5.4%</td>
</tr>
<tr>
<td>Native American</td>
<td>199</td>
<td>1.0%</td>
</tr>
<tr>
<td>I prefer not to respond</td>
<td>738</td>
<td>3.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19,528</td>
<td></td>
</tr>
</tbody>
</table>

Table 5  
**American students**

<table>
<thead>
<tr>
<th>American Student</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>17,935</td>
<td>93.8%</td>
</tr>
<tr>
<td>No</td>
<td>1,178</td>
<td>6.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19,113</td>
<td></td>
</tr>
</tbody>
</table>

Table 6 presents the means and standard deviations of the six scales based on the undergrads who completed the GPI from November 2012 until June 2104.

Table 6  
**Mean and standard deviation of each GPI scale**

<table>
<thead>
<tr>
<th>GPI Scale</th>
<th>Average Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Knowing</td>
<td>3.63</td>
<td>0.54</td>
</tr>
<tr>
<td>Cognitive Knowledge</td>
<td>3.60</td>
<td>0.60</td>
</tr>
<tr>
<td>Intrapersonal Identity</td>
<td>4.04</td>
<td>0.50</td>
</tr>
<tr>
<td>Intrapersonal Affect</td>
<td>4.14</td>
<td>0.50</td>
</tr>
<tr>
<td>Interpersonal Social Responsibility</td>
<td>3.72</td>
<td>0.59</td>
</tr>
<tr>
<td>Interpersonal Social Interaction</td>
<td>3.36</td>
<td>0.73</td>
</tr>
</tbody>
</table>
Psychometric characteristics

In constructing the GPI we have considered three major issues in survey measurement. Each pertains to the trustworthiness of the GPI, i.e., they all reflect the confidence a user can have in using the GPI for their intended purposes.

1. Trustworthiness of self-reports.
2. Reliability
3. Validity

Trustworthiness of Self-Reports

The credibility of any self-report is ultimately dependent on the honesty of the persons in stating on the survey her most authentic and deepest felt feelings, views, attitudes, etc. In general self-report data by college students has been studied and we can conclude from them that self-reports are trustworthy. They are most apt to be so if the respondent understands the items, is not threatened by topic, and does not feel the need to state a socially desirable answer if she know what looking good is to be. In constructing the pool of items and testing them we eliminated items that persons indicated were easy to respond to in a “highly socially desirable” manner. Persons taking the GPI do not have reason to present themselves in a certain way since the GPI is not a selection instrument. However, the honesty with which a person self-reports determines the trustworthiness of GPI results.

Reliability

Reliability refers to the extent to which respondents respond the same or similarly to the same items over time and are generally consistent or coherent in the pattern of responses in a single administration of the survey. The first issue relates to the test-retest reliability of the GPI, whereas the second relates to the internal consistency of the items of each of the six scales in the GPI.

Test–retest reliability

Since we have a number of colleges which administered the GPI at the beginning of the semester and at the end of the semester, all associated with a study abroad program, we calculated correlations between the two administrations. They reflect the stability or consistency of the respondents’ responses, and in this case the extent of the consistency of change in the students in their scores on the GPI before they participated in a semester education aboard program and after they completed it. The differences, if any, reflect the consistency of the differences among the students from their “pretest” and “posttest” administrations. As shown in Table 7, the range of test retest reliabilities varies by scale and by length of study abroad, i.e., one semester versus three weeks. (All of these reliabilities are based on students completing Version 3.)
Table 7
Test-retest reliabilities of GPI scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Semester (N=245)</th>
<th>Three weeks (N=39)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive—Knowing</td>
<td>.67</td>
<td>.75</td>
</tr>
<tr>
<td>Cognitive—Knowledge</td>
<td>.59</td>
<td>.49</td>
</tr>
<tr>
<td>Intrapersonal—Identity</td>
<td>.66</td>
<td>.71</td>
</tr>
<tr>
<td>Intrapersonal—Affect</td>
<td>.59</td>
<td>.76</td>
</tr>
<tr>
<td>Interpersonal-- Social Responsibility</td>
<td>.73</td>
<td>.81</td>
</tr>
<tr>
<td>Interpersonal-- Social Interaction</td>
<td>.58</td>
<td>.72</td>
</tr>
</tbody>
</table>

Internal consistency of the scales.

We conducted statistical analyses using the coefficient alphas to indicate the internal consistency of each of the six scales. The results of the internal consistency results, based on 9773 undergraduates from over 40 different institutions who completed the GPI (Version 9) from August 1, 2011 - June 1, 2013, are presented in Table 8. The items in each scale can be found in the Norms, 2014- 2015 (gpi.central.edu) and Table 9 below.

Table 8
Coefficient alpha reliabilities of the GPI scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Coefficient Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive—Knowing</td>
<td>.657</td>
</tr>
<tr>
<td>Cognitive—Knowledge</td>
<td>.773</td>
</tr>
<tr>
<td>Intrapersonal—Identity</td>
<td>.740</td>
</tr>
<tr>
<td>Intrapersonal—Affect</td>
<td>.734</td>
</tr>
<tr>
<td>Interpersonal-- Social Responsibility</td>
<td>.732</td>
</tr>
<tr>
<td>Interpersonal-- Social Interaction</td>
<td>.700</td>
</tr>
</tbody>
</table>

Validity

Validly refers to the appropriate uses and interpretations of the respondent’s answers to the GPI. We have addressed the issue of validity based on the recommendations of the guidelines in the Standards for Educational and Psychological Testing developed by the American Educational Research Association, American Psychological Association, National Council for Measurement in Education (1999). The guidelines state: “Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by the proposed uses of the tests… It is the interpretations of test scores required by proposed uses that are evaluated, not the test itself” (p. 9).

Thus we have and are asking these types of questions in our ongoing endeavor to demonstrate the validity of the evidence collected by the GPI. For what uses can the GPI evidence and data be legitimately and appropriately used? What are the consequences of using the results for what types of discussions and decisions? (See Pike (2013) for a discussion of the centrality of use in interpreting the validity of self-report measures.)
In designing the GPI, we have always stressed the importance of using aggregated GPI scores of groups of students that can be used to improve the education of the students. We did not construct the GPI for individual student diagnosis nor to demonstrate that an individual student has met certain standards of quality and competence. Underlying this fundamental argument is that evidence collected by the GPI may be appropriate for some purposes and not for others. Users of the GPI data must be able to defend the appropriate use and interpretation of the results. In short, users are recommended to first ask this question when they are considering using the GPI (or any instrument that provides evidence, data, or information): So what’s the use? The GPI is an appropriate measure to be used in self-studies, program evaluation, assessment of program and institutional effectiveness and not recommended for individual student diagnosis and certification.

Validly is an empirical question, but no single statistical index based on one study can be applied to determine the validity of the results. We addressed a number of issues of validity, including face validity, concurrent validity, and construct validity.

**Face Validity.** Face validity refers to the extent to which the survey (e.g., GPI) is considered fair and reasonable to those taking the survey. We developed an initial item pool of several hundred items and during the summer of 2007 we asked both college students and experts in study abroad and student development to review the items for clarity and credibility. Based on this review we selected sixty-nine items to administer in a pilot test. We sought additional feedback as we proceeded to reduce the number of items to the current set of items, originally used in Version 5. In each of our subsequent revisions of the items we have used feedback from respondents and users of the GPI and the psychometric characteristics of the items and scales. We have focused on the conceptual usefulness of the items and scales, and their perceived utility for making changes in campus environments and programs to enhance and foster holistic student development, stressing a global perspective.

**Concurrent Validity.** Concurrent validity refers to degree of relationship and correlation with other instruments that are designed to measure similar characteristics and constructs. One study has been conducted on the concurrent validity of the GPI with another survey, the IDI, and the researcher (Anderson, 2011) concluded that these two surveys did not measure similar characteristics.

**Construct Validity.** Construct validity refers to the degree to which the survey results empirically support and reinforce the desired constructs and concepts under consideration. We conducted a number of studies of the construct validity of the GPI. They have sought to empirically answer questions such as: What is the factor structure of the set of items of Version 9, the latest version? Is group affiliation (e.g., class status, foreign vs. American citizenship of students) associated with differences on the GPI? Do student change over time? Do seniors express a more global perspective than freshmen on all three of the domains? Does a study abroad experience enhance one’s development? What is the relationships among the six scales?
Table 9 presents the factor loadings and reliabilities based on a Principal Component (PC) analysis with a Varimax rotation, based on 9,773 responses to the General Form of the GPI in the 2012-2013 academic year. Using the standard cutoff of 1 for Eigenvalues, our results yielded a six factor solution consistent with the conceptual underpinnings of the GPI, explaining approximately 50% of the cumulative variance in the six factor solution. The analysis was run on 30 of the GPI items and as shown in Table 9, the factor loadings and reliabilities were all within acceptable ranges. As a final step, we forced two additional items onto the Cognitive Knowing scale based on our conceptual understanding of this scale, although these items were not used in the analysis based on prior exploratory work that demonstrated low factor loadings in the overall analysis. We also conducted a factor analyses, specifically Principal Axis Factoring (PAF with Varimax) and Promax (with maximum likelihood) to examine the results of a more conservative orthogonal rotation and to account for the moderate correlations of factors, respectively. Both sets of analyses yielded a similar factor solution as the PC method (6 factor solution based on Eigenvalues greater than 1 and accounting for 50% of the cumulative variance) with only minor modifications from the PC solution (i.e., slightly lower loadings and/or one or two items loading on more than one factor). Further, we ran a similar set of analyses on the 2011-2012 GPI dataset (approximately 10,000) cases and the results were identical to the results shown below. The convergence of all three sets of analysis provided a strong statistical rationale for the current scales used in the GPI and their conceptual underpinnings.

<table>
<thead>
<tr>
<th>Item</th>
<th>Loading (Alpha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Knowing</td>
<td></td>
</tr>
<tr>
<td>I rarely question what I have been taught about the world around me*</td>
<td>.728</td>
</tr>
<tr>
<td>I rely primarily on authorities to determine what is true in the world*</td>
<td>.673</td>
</tr>
<tr>
<td>Some people have a culture and others do not*</td>
<td>.567</td>
</tr>
<tr>
<td>In different settings what is right and wrong is simple to determine*</td>
<td>.551</td>
</tr>
<tr>
<td>When I notice cultural differences, my culture tends to have the better approach*</td>
<td>.532</td>
</tr>
<tr>
<td>I consider different cultural perspectives when evaluating global problems</td>
<td>N/A</td>
</tr>
<tr>
<td>I take into account different perspectives before drawing conclusions about the world around me</td>
<td>N/A</td>
</tr>
<tr>
<td>Cognitive Knowledge</td>
<td></td>
</tr>
<tr>
<td>I understand the reasons and causes of conflict among nations of different cultures</td>
<td>.734</td>
</tr>
<tr>
<td>I understand how various cultures of this world interact socially</td>
<td>.715</td>
</tr>
<tr>
<td>I am informed of current issues that impact international relations</td>
<td>.708</td>
</tr>
<tr>
<td>I can discuss cultural differences from an informed perspective</td>
<td>.662</td>
</tr>
<tr>
<td>I know how to analyze the basic characteristics of a culture</td>
<td>.583</td>
</tr>
</tbody>
</table>

1

Table 9

Factor loadings and Reliabilities for GPI Subscales (N=9773)
Intrapersonal Identity (.740)
I am willing to defend my own views when they differ from others .685
I can explain my personal values to people who are different from me .659
I put my beliefs into action by standing up for my principles 654
I know who I am as a person .631
I have a definite purpose in my life .588
I am developing a meaningful philosophy of life .368

Intrapersonal Affect (.734)
I am accepting of people with different religious and spiritual traditions .705
I am open to people who strive to live lives very different from my own life style .699
I enjoy when my friends from other cultures teach me about our cultural differences .601
I am sensitive to those who are discriminated against .568
I do not feel threatened emotionally when presented with multiple perspectives .557

Interpersonal Social Responsibility (.732)
I think of my life in terms of giving back to society .751
I consciously behave in terms of making a difference .640
Volunteering is not an important priority in my life* .600
I put the needs of others above my own personal wants .599
I work for the rights of others .593

Interpersonal Social Interaction (.700)
I frequently interact with students from a race/ethnic group different from my own .836
I frequently interact with students from a different country from my own .816
Most of my friends are from my own ethnic background* .604
I intentionally involve people from many cultural backgrounds in my life .441

*Item was reverse-coded for purposes of scale construction

1All items measured on a five-point Likert scale that ranged from 5 (strongly agree) to 1 (strongly disagree) unless otherwise noted. Items in inventory were factored using a principal component analysis with a Varimax rotation based on 9,773 responses to the 2012-2013 General Form of the GPI. A total of 30 items in the inventory were included in the factor analysis.

2Items were forced into factor based on conceptual underpinnings of scale and not included in the factor analysis

Intercorrelations among the six global perspective taking scales

The intercorrelations of the six scales are presented in Table 10. As shown in Table 10, the two scales within each dimension are not highly related to each other: .145, .324, .241. They reveal some integration but also a considerable amount of uniqueness. The scales are also not highly related to scales not in their specific dimension. In general, these scales are sufficiently independent measures of the three dimensions of holistic human development.
### Research Conducted on GPI

We have and are conducting studies along two fronts. First, we are investigating how different groups classified by gender, class status, faculty/staff status, express their global perspectives on the GPI. We seek to answer these questions: Are the obtained differences consistent with expectations about what know of these groups and are the results reinforcing and supporting our conceptualization to human development (which can be viewed as a progression from simplicity to complexity in all three dimensions)?

Second, we are investigating relationships between student participation in educational programs, such as education abroad, and changes in student learning and development as measured by the GPI. That is, are changes in the way students view their knowing, their sense of self and relationships with others after studying aboard for a semester noted by their responses on the GPI?

#### Comparisons among groups

- Gender -- Males vs females
- Status in college—freshmen, sophomore, junior, senior, graduate
- Institutional type – private and public, and highest degree offered

#### Gender differences.

Table 11 presents the means of the six scales for male and female undergraduates. As shown in Table 11, differences between the average response of males and females vary among the scales. Females are most different from the males on the Social Responsibility scale.

### Table 10

<table>
<thead>
<tr>
<th></th>
<th>Cognitive Knowledge</th>
<th>Intapersonal Identity</th>
<th>Intapersonal Affect</th>
<th>Interpersonal Social Responsibility</th>
<th>Interpersonal Social Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Knowledge</td>
<td>0.145</td>
<td>0.057</td>
<td>0.443</td>
<td>0.215</td>
<td>0.206</td>
</tr>
<tr>
<td>Cognitive Knowledge</td>
<td></td>
<td>0.415</td>
<td>0.348</td>
<td>0.303</td>
<td>0.345</td>
</tr>
<tr>
<td>Intapersonal Identity</td>
<td></td>
<td></td>
<td>0.324</td>
<td>0.416</td>
<td>0.160</td>
</tr>
<tr>
<td>Intapersonal Affect</td>
<td></td>
<td></td>
<td></td>
<td>0.441</td>
<td>0.359</td>
</tr>
<tr>
<td>Interpersonal Social Responsibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.241</td>
</tr>
</tbody>
</table>

*All correlations are significant at the 0.01 level.*
Table 11
Means of GPI scales for Males and Females

<table>
<thead>
<tr>
<th>GPI Scale</th>
<th>Average Score</th>
<th>Difference</th>
<th>Female</th>
<th>Male</th>
<th>F - M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Knowing</td>
<td>3.68</td>
<td>3.54</td>
<td>0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Knowledge</td>
<td>3.56</td>
<td>3.67</td>
<td>-0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrapersonal Identity</td>
<td>4.04</td>
<td>4.05</td>
<td>-0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrapersonal Affect</td>
<td>4.19</td>
<td>4.06</td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Social Responsibility</td>
<td>3.80</td>
<td>3.56</td>
<td>0.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Social Interaction</td>
<td>3.35</td>
<td>3.38</td>
<td>-0.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Status in college**

The average score (mean) of each of the GPI scales by class rank are presented in Table 12 below. The results are based on the undergraduate students from approximately 100 colleges and universities who have completed the GPI during the last two academic school years.

The means of each of six GPI scales by class status is found in Table 12.

Table 12
Means of GPI Scales by Class Status

<table>
<thead>
<tr>
<th>Scale Results</th>
<th>First-Years</th>
<th>Sophomores</th>
<th>Juniors</th>
<th>Seniors</th>
<th>Norm Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Knowing</td>
<td>3.51</td>
<td>3.65</td>
<td>3.68</td>
<td>3.70</td>
<td>3.63</td>
</tr>
<tr>
<td>Cognitive Knowledge</td>
<td>3.62</td>
<td>3.56</td>
<td>3.57</td>
<td>3.63</td>
<td>3.60</td>
</tr>
<tr>
<td>Intrapersonal Identity</td>
<td>4.05</td>
<td>4.01</td>
<td>4.03</td>
<td>4.07</td>
<td>4.04</td>
</tr>
<tr>
<td>Intrapersonal Affect</td>
<td>4.10</td>
<td>4.15</td>
<td>4.16</td>
<td>4.17</td>
<td>4.14</td>
</tr>
<tr>
<td>Interpersonal Social Responsibility</td>
<td>3.69</td>
<td>3.71</td>
<td>3.73</td>
<td>3.74</td>
<td>3.72</td>
</tr>
<tr>
<td>Interpersonal Social Interaction</td>
<td>3.42</td>
<td>3.35</td>
<td>3.30</td>
<td>3.36</td>
<td>3.36</td>
</tr>
</tbody>
</table>

As shown in Table 12, means of the scales across the various groups show a trend toward a greater degree of global perspective as students’ progress in college. Students during the undergraduate days generally show an increase in their level of global perspective, although not large and an exception for the Social Interaction scale. Moreover, seniors generally do not show any greater global perspective than do the juniors or sophomores. However these data do not represent a longitudinal portrayal of the same students nor the students at each of the four levels at the same colleges and universities.
Changes by Institution Type

The means of each of the six GPI scales for students enrolled at one of four types of different institutions by class status are presented in Table 13. The four institutional types, as defined by the Carnegie Classification of Institutions of Higher Education, are:

- Private Colleges and Universities offering Bachelors and Masters degrees
- Private Universities offering Doctorate degrees
- Public Colleges and Universities offering Bachelors and Masters degrees
- Public Universities offering Doctorate degrees

<table>
<thead>
<tr>
<th>Scale Results</th>
<th>Private BA and MA</th>
<th>Private Doctorate</th>
<th>Public BA and MA</th>
<th>Public Doctorate</th>
<th>Norm Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Knowing</td>
<td>3.61</td>
<td>3.71</td>
<td>3.63</td>
<td>3.60</td>
<td>3.63</td>
</tr>
<tr>
<td>Cognitive Knowledge</td>
<td>3.57</td>
<td>3.65</td>
<td>3.53</td>
<td>3.69</td>
<td>3.60</td>
</tr>
<tr>
<td>Intrapersonal Identity</td>
<td>4.03</td>
<td>4.04</td>
<td>4.01</td>
<td>4.14</td>
<td>4.04</td>
</tr>
<tr>
<td>Intrapersonal Affect</td>
<td>4.12</td>
<td>4.22</td>
<td>4.15</td>
<td>4.15</td>
<td>4.14</td>
</tr>
<tr>
<td>Intrapersonal Social Responsibility</td>
<td>3.68</td>
<td>3.75</td>
<td>3.82</td>
<td>3.77</td>
<td>3.72</td>
</tr>
<tr>
<td>Intrapersonal Social Interaction</td>
<td>3.36</td>
<td>3.45</td>
<td>3.11</td>
<td>3.33</td>
<td>3.36</td>
</tr>
</tbody>
</table>

In general students in private institutions, especially private doctoral universities, have higher GPI scores in some of the scales than do students in public colleges. The two scales showing the most difference among students from private and public institutions are Cognitive Knowing and Social Interaction.

Changes in global perspectives before and after an education abroad experience

We have a number of analyses based on undergraduate students studying abroad for a semester who completed the GPI as a pretest (took it before they studied abroad or the first week abroad) and after they were abroad for a semester (took it during the last week abroad or after they returned). First, during the spring of 2008, 245 students enrolled in ten different semester long Education Abroad programs from five different institutions (colleges, universities, third party providers) representing a wide range of institutional goals and missions. The institutions included one public Masters level degree university, three private liberal arts colleges, one public undergraduate college and one third party provider of study abroad. Second, in 2009, 470 students enrolled in a number of different programs for a semester. Third, during the Academic Year 2011-2012, we compared changes in students who were enrolled in a campus lead program or enrolled in a third party program.
As shown in Table 14, differences between the pretest and posttest means on five of the six scales of the GPI are statistically significant, based on the total number from all ten programs/centers. Students have higher post test means of all scales except Knowing than they did on the pretest administration of the GPI. (Braskamp, Braskamp, and Merrill, 2009). In the second row of Table 14 the average changes of 470 students from a wide range of study abroad programs completing the GPI during the 2009 - 2010 academic year are presented (Chickering and Braskamp, 2009). In the third and fourth rows the average changes of the two groups are presented. Given the large sample size, the power of the statistical test is high to detect rather small differences. In general students change in their global perspective by studying abroad for a semester, but not equally on all six scales. [See Braskamp, Braskamp, and Merrill, 2009, Chickering and Braskamp (2009), and Engberg and Jourian, in press] for a complete analysis of the results.

**Table 14**

<table>
<thead>
<tr>
<th>Group/Scale</th>
<th>Cognitive Knowing</th>
<th>Cognitive Knowledge</th>
<th>Intrapersonal Identity</th>
<th>Intrapersonal Affect</th>
<th>Interpersonal Interaction</th>
<th>Interpersonal Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-2009</td>
<td>.03</td>
<td>.33</td>
<td>.12</td>
<td>.19</td>
<td>.13</td>
<td>.10</td>
</tr>
<tr>
<td>2009-2010</td>
<td>.10</td>
<td>.31</td>
<td>.16</td>
<td>.13</td>
<td>.15</td>
<td>.05</td>
</tr>
<tr>
<td>2011-2012 Campus</td>
<td>.06</td>
<td>.20</td>
<td>.15</td>
<td>.10</td>
<td>.14</td>
<td>.06</td>
</tr>
<tr>
<td>2011-2012 Third Party</td>
<td>.08</td>
<td>.29</td>
<td>.17</td>
<td>.14</td>
<td>.13</td>
<td>.11</td>
</tr>
</tbody>
</table>

**Potential Uses**

Although the GPI can be used with persons of all ages, one important population is college students. For this population, evidence of students’ global perspective of their development can be useful for these types of programs and audiences.

- Program or institutional interventions
- Study abroad
- International student orientation
- Service learning
- Freshman-to-Senior gains
- Faculty perspectives
- Accreditation and Quality Improvement Process of Forum on Education Abroad

In all of these potential uses, the working principle we wish to emphasize is this: At its best, assessment focuses discussion. The responses to the GPI are most useful when those responsible for creating the environment to foster development with a global perspective meet to discuss the evidence and consider how adjustments in the environment would most likely enhance a globally oriented holistic human development.
Displaying Your GPI Results

The results from the GPI can be used within a context of telling a story about your campus, program, course, set of experiences, study away, etc. In fact assessment can be defined as “telling a story with evidence and results.” You administered the GPI with the intent of learning more about your students—global learning and development (their learning outcomes which we often refer to as “global perspective taking”) and their experiences while in college, study abroad program, etc. Moreover you administered the GPI so that hopefully you can use the result to IMPROVE your efforts—the range and selection of student experiences, academic programs, and planned “interventions” in the lives of students in and out of the formal classroom setting.

In our booklet, “Displaying your results: Telling your story,” which can be found on our website under “Documents,” we make suggestions in the following areas to help you tell your story more effectively:

- Using a framework to outline and organize your story you wish to share and discuss with others
- Displaying your results in a number of ways to tell your story about your students and their experiences
- Making comparisons with a national group of students
- Making comparisons between responses of students who took the GPI at two different times, e.g., at the beginning and the end of their semester long study abroad experience or a freshmen year experience
- Telling the story in words about students engaged in a year-long program focusing on global citizenship

Using GPI results for discussion: A Framework

We recommend that you use the “Framework” (presented below) for examining and studying holistic global student learning and development and some possible and potential influences on the growth of global learning and development. Once you identify which of the student learning and development dimensions are important to stress for your students (i.e., “desired ends), you can focus on “appropriate means” that will foster, influence, and facilitate the development of the “desired ends” of the students’ journey.

Four dimensions of a campus have been identified as major categories of “appropriate means” (Braskamp, Trautvetter, and Ward, 2006). Each of these dimensions can be interpreted as one aspect of a campus environment (or a study abroad program).

- Curriculum
- Co-curriculum
- Community
**Curriculum** focuses on the courses and pedagogy employed by the instructor. It includes course content (what is taught), pedagogy that reflects local style of teaching and interactions with students (how content is taught).

**Co-curriculum** focuses on the activities out of the classroom that foster student development. It includes planned interventions, programs and activities such as organized trips, social and cultural events, residence hall living arrangements, emersion experiences, and leadership programs.

**Community.** Perceptions of the character and identity of the campus, supportive community of its members, extent of being encouraged to develop one’s strengths and talents.

The first two pages of the Access code group reports (for the New Student, General and Study Abroad forms) present the items classified into the three campus environmental dimensions. (See Sample Report on our website, gpi.cental.edu, and click on Information/Documents).

We offer a 3 by 3 chart to organize how you can to conceptualize the total student learning and development sociocultural environment. (We combined Culture and Community into one characteristic of the environment to avoid using the word “culture” to mean both differences among habits, norms, and practices of different countries and the climate of a campus community.) The 3 X 3 framework represents a template to simultaneously select student learning and developmental goals (“desired ends”) and organize “appropriate means.”
Some questions to ask about GPI results

You and your colleagues will benefit most by asking questions about the actual and hoped for connections between students’ report of their global perspective and their campus (study abroad) environment. The questions listed below are to help you focus on the way you structure the campus environment (or study abroad experiences) that will optimally influence students so they will more readily meets your expectations. Given the holistic view of student development, we encourage you to discuss how students progress in their thinking, feeling, and relating to others. (More interpretative questions are listed in the Interpretative Guide and Norms.)

**Cognitive: How Do I know?**

How do you help students see that their culture makes assumptions about authority and what is good and truthful?

How can you help students compare their personal values, practices, and behaviors, norms and expectations with those of other countries and nations? If students are studying abroad, do you use field trips, classes, informal events, home stays, etc?

How do you try to encourage students to reflect on the issue that people from different cultures and countries may think differently about the role of government, religion, family values, schooling, and work and labor requirements?

How do you help students see the value of having them exposed to multiple perspectives on an issue or topic?

**Intrapersonal: Who am I?**

How do you help students develop more complex views of themselves, taking into consideration their own cultural backgrounds? Do you give them opportunities to share with others in class and out of class their uniqueness?

How do you encourage students to develop a sense a self that incorporates their own cultural backgrounds and family influences? Do you help them value their pride in their uniqueness?

How do you provide opportuniites in classes or arrange sessions for students to talk about their own values, sense of self and purpose of life, and relationships with others not like them?
**Interpersonal: How do I relate to others?**

How do you assist students to be more comfortable in interactions with other students, staff, faculty, and citizens from different cultural backgrounds, values, and points of view?

How do you inform and demonstrate to students studying the cultural traditions, practices, and social interactions of multiple cultures?

**Additional Resources**

A list of participating institutions since 2008 and reports of research on the GPI can be found on our website, [http://gpi.central.edu](http://gpi.central.edu). You can access the List of Institutions, Presentations, and Manual by clicking on Information & Documents.
References


Braskamp, L. A. and D. C. Braskamp (Fall 2007). Fostering holistic student learning and development of college students: A strategic way to think about it. The Department Chair, 18, 2, 1-3.


Braskamp, L. A. and D. C. Braskamp. (Fall 2007). Fostering holistic student learning and development of college students: A strategic way to think about it. The Department Chair, 18, 2, 1-3.


**Presentations and publications on development and use of GPI**

**Publications and Reports**


Reason, R. D & L.A. Braskamp (Summer 2013). Surveying student perspectives to enhance civic and global learning. AAC&U Diversity & Democracy. 16, xxxx


Presentations at Regional and National Conferences

ACPA – American College Personnel Association


Crisler, Shaun, Audrey Ervin, & Larry Braskamp (2011). Around the world and back: A movement to transform students from travelers to global citizens. Presentation at annual meeting of ACPA. Baltimore, MD

AAC&U – Association of American Colleges and Universities


Appalachian College Association (February 2011). Becoming more global at small colleges. Presentation at annual meeting of AAC&U, San Francisco.


AERA – American Educational Research Association

Engberg, Mark (April 2010). Service participation and the development of a global


AIR -- Association of Institutional Research


Kulich, James, Brey, JR., Ikenberry, Susan, Ma, Yanli & Larry A. Braskamp (2014). Using Survey Data to Support Assessment and Curriculum Planning. Presentation at annual forum of Association of Institutional Research, Orlando, FL.

Council of Independent Colleges

Braskamp, Larry A., Putman, Mark, & Alan Ray (January 2011). Using the GPI as a way
to focus on international education. CIC, Palm Springs, CA.

**Forum on Education Abroad**


Zylstra, Brian, Dennis Doyle and Joan Gillispie (2009). *How Colleges and Third party providers focus on holistic student development*. Forum, Portland, OR.


Braskamp, Larry A., Dennis Doyle, Brian Zylstra. (March 2010.) *Using the Global Perspective Inventory to Asses the Value of Education Abroad*. Presentation at the annual meeting of Forum on Education Abroad. Charlotte, NC.


**Association for the Study of Higher Education**

Merrill, Kelly Carter, David C. Braskamp, & Larry A. Braskamp (November 2008). *Assessing individuals' global perspectives using the Global Perspectives Inventory (GPI)*. Presentation at annual meeting of ASHE, Jacksonville, FL.

Engberg, Mark E. (November 2010). *The influence of study away experiences on global perspective-taking*. Presentation at annual meeting of ASHE. Indianapolis, IN.


**European Association for Institutional Research**


**Institute for College Values**

NAFSA—Association of International Educators

Comp, David (May 2008). *Assessment tools for study abroad*. Presentation at annual meeting of NAFSA. Washington, DC.

Comp, David (May 2009). *Assessment tools for study abroad*. Presentation at annual meeting of NAFSA. Los Angeles.


Myer-Lee, Elaine, Karen Chambers, Scott Blair, & Larry A. Braskamp (2013). The Global Perspective Inventory: An Assessment tool for a variety of student populations. Presentation at annual meeting of NAFSA. St. Louis, MO.

NASPA—National Association of Student Personnel Administrators


VanHeckle, JoNes, Larry A. Braskamp, and Mark Salisbury. (March 2012). *Assessment for student development*. Presentation at annual meeting of NASPA, Phoenix, AZ.
AIEA—Association of International Education Administrators


Glass, C. R. (February 2012) xxxxxx Presentation at annual meeting of Association of International Education Administrators. Washington, DC.

Higher Learning Commission of North Central Accrediting Association


Other


Fine, Janis (November 2008). Impact of education aboard on leadership of school administrators. Presentation at the annual meeting of University Council for Educational Administration, Orlando, FL.


Related publications

Merrill, Kelly Carter (May 2007). Did we make a difference?: Contributors to intercultural sensitivity development in undergraduate students. Loyola University Chicago (Ph. D. Dissertation).


