

Internationalisation

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Understanding Student Values and Identity

Benchmarking Institutional Initiatives With the Beliefs, Events,
and Values Inventory (BEVI)



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Many higher education institutions are engaging in large-scale assessment of student learning outcomes to build evidence of internationalization and institutional effectiveness. The Beliefs, Events, and Values Inventory (BEVI) can provide institutions with insight via baselining and longitudinal analyses. In this study, the BEVI was administered at a highly internationalized university in Latin America. Noteworthy findings include significant gender and English language proficiency differences, homogeneity of perspective on some BEVI scales, and little evidence of change over time. Analysis of quantitative data revealed connections between student beliefs and the local context as well as important implications for university practices and policies.

1. Introduction

Since the turn of the century, higher education has experienced a paradigm shift towards a culture of accountability that manifests in increased participation in accreditation processes and attempts to document institutional effectiveness (Huisman & Currie, 2004). This trend is global, with recent examples in the literature from Southeast Asia (Zhou, 2016), the Middle East (Rawabdeh, 2017), Europe (Sin et al., 2016), and Latin America (Blanco Ramírez, 2015) as well as the US (Fulton et al., 2021). The focus on accountability in higher education has allowed in some cases for the integration of discourses on ethics, values, civic engagement, education for sustainable development (ESD), and other discipline-general educational goals connected to internationalization. Higher education institutions (HEIs) pursuing explicit student learning-focused missions are thus under pressure to measure rather than assume the quality or value of their curricula and programming (Yemini, 2012). Many such HEIs have begun to measure institutional effectiveness systematically and to engage in cycles of continuous improvement and adaptation. Evidence of on-going monitoring and self-evaluation processes constitute the initial steps in the accreditation process for most accrediting entities (e.g., Higher Learning Commission, 2018). This culture of accountability has also given rise to formative assessment practices (Yorke, 2003) that could inform pedagogical choices and better meet student needs. However, most formative assessments of student learning outcomes are performed at the course level by individual faculty; institutional baseline assessments are less common. While an increasing number of HEIs are seeking information about who incoming students are and what experiences, background knowledge, and belief systems they bring with them that may impact or interact with their learning processes, few tools exist for leveraging this type of robust, values-based institution-wide quantitative data to inform policy decisions and strategic planning, both toward greater institutional effectiveness and internationalization processes (Wandschneider et al., 2015).

This project addresses the gap in the higher education literature by modeling the analysis of institutional assessment data that moves beyond the limited documentation of cognitive learning outcomes to the holistic and humanistic measurement of student psychosocial development. The institution presented as a case study in this paper is a highly internationalized agricultural university in Latin America engaged in creating an internal, baseline assessment in order to create strategic planning documents required to initiate the accreditation process as well as to better serve their students. The institution was interested in gaining insight into who their students are on a much deeper level than the standard demographic metrics, (e.g., gender, ethnicity, and country of origin) to arrive at a sense of students' values and worldviews, given the institution's explicit mission to foster industry and community leaders capable of addressing complex global problems such as climate change. The institution works towards this mission by providing an immersive practical education that supports holistic personal development and instills values aligned with a globally/locally minded-servant leadership style. Specifically, the university administration sought evidence of the following learning outcomes:

- Pan-American identity formation: a macro-level identification stemming from Pan-Americanism, or transnational cooperation within the Western Hemisphere (Riches & Palmowski, 2019), that supplements national identity with a regional or continental sense of belongingness;
- Critical thinking skills: higher order cognitive functions including verification of information, analysis, selection, and judgment that are requisite for creative problem-solving (Miri et al., 2007);
- Intercultural competence (IC): “the overall capacity of an individual to enact behaviors and activities that foster cooperative relationships with culturally (or ethnically) dissimilar others” (Kim, 2009, p. 54); and
- Environmentalism: aligned with the UN Sustainable Development Goals (www.un.org), a strong commitment to care for the natural world, local resources, and global impacts.

Collecting this evidence was especially important at the time of this study, as the institution was engaged in university-wide formative assessment to establish benchmarking data for later longitudinal studies of student change over time. The institution in particular sought insight into female students’ perspectives of themselves and the world because, while recent initiatives had succeeded in increasing female attendance, women were still a minority on campus. This assessment contributed to the development of the institution’s 2017–2021 strategic planning document.

The context of the institution and the mission they wish to assess demand a robust and holistic measure capable of addressing multiple constructs and of identifying intragroup variation. The Beliefs, Events, and Values Inventory (BEVI), can be used in the context of internationalized higher education both to document student development over time and as a formative assessment to build institutional profiles of the student body’s identities and capacities (Shealy, 2016). This instrument provides rich data and powerful explanatory potential to institutions interested in documenting how “who students are” affects whether, what, and how they learn (Wandschneider et al., 2015). Using the BEVI, the current project seeks to explore these relationships, guided by the following broad, exploratory research questions:

RQ1: What are the patterns of beliefs and values among students at the participating university, especially with regard to independent variables such as year of study, gender, and English language proficiency?

RQ2: What implications do these BEVI findings suggest for institutional practices, policies, and decisions, given this university’s specific culture, context, and mission?

The literature review section provides an overview of desired competencies and outcomes such as IC, global identity, and environmental stewardship—outcomes the institution views as an essential foundation for successful professionals and leaders in a Pan-American setting. Complex learning outcomes are challenging to assess; a case for the suitability of the BEVI in providing insight to these competencies and learning outcomes will be presented followed by a detailed explanation of

the methodology. BEVI results are presented, followed by explanations of data and a discussion of implications both for this particular HEI and for internationalizing higher education more generally.

2. Review of Literature

Constructs relevant to the institution's desired learning outcomes

Many HEIs have begun explicitly emphasizing in their mission statements, strategic plans, and student learning outcomes the development of students' affect and skill sets (Svensson & Wihlborg, 2010) and identity formation (Matei, 2019) in addition to knowledge. A specific example particularly relevant to the internationalization of HEIs is a relatively new focus on IC (Krajewski, 2011)—a construct often conceptualized as encapsulating knowledge, skills, and attitudes supporting effective and appropriate interactions across cultural differences (Acheson & Schneider-Bean, 2019). This focus is partly an effect of increased mobility and communication across both physical and metaphorical borders, but also a result of a change in discourse about what it means to be well-educated, which has recently begun to incorporate preparation for global citizenship. Scholars agree, however, that it is not enough to assume that an institution's attempts to globalize faculties and student bodies, curricula, and programming actually foster the development of IC and other student learning outcomes simply because they are intended to do so (Deardorff, 2004; 2006). It is therefore necessary to assess program outcomes and document the changes in students' knowledge, skills, and attitudes that occur as a result of their university experiences inside and outside of the classroom (Jackson, 2015).

Despite the complexity of the field and the "lack of any unity in the definition of the term" (Rathje, 2007, p. 255), the development of IC is a necessary undertaking and, "may be of considerable benefit to higher education institutions by helping students develop measurable competencies that are critical to success in an increasingly interconnected world" (Wandschneider et al., 2015). Global knowledge and foreign language proficiency are no doubt related to IC. In fact, foreign language assessment as a field has yielded a comprehensive body of research and other attempts have been made to assess participants' global knowledge and awareness (American Council on the Teaching of Foreign Languages, 2012). However, there is an important distinction to be made between the assessment of skills and knowledge that students develop as part of their university experience, and the ways in which that experience impacts their belief structures. Holmes and O'Neill (2005) suggest that the intercultural contact that occurs as a result of globalization does not necessarily contribute to IC. In fact, such contact can even reinforce certain cultural and racial stereotypes. While the trend is for educational institutions to monitor student learning outcomes with

direct measures of learning when it comes to theoretical and applied knowledge, for example “knowledge of global affairs” and “language acquisition” (Wandschneider et al., 2015), it is less common for universities to document shifts in their students’ attitudes as a result of globalized or experiential curriculum.

Developing leaders’ capacities for IC and a global identity have been noted as a priority within the field of leadership education (Wang et al., 2020). Andenoro and colleagues (2012) argue that, “through a deeper understanding of self and the predispositions and biases we possess, individuals can begin to deconstruct expectations and more fully engage in the opportunity to share culture and develop sustainable relationships in international contexts” (p. 106). Preparing community- and environmentally minded leaders who are equipped to adapt to globalized local contexts is at the core of this participating institution’s mandate.

In addition to IC, the institution seeks to help solidify students’ professional identity so that it includes a regional or Pan-American, if not global, identity. Like IC, a plurality of conceptions of global identity exist; however, Turken and Rudmin (2013) define it “as consciousness of an international society or global community transcending national boundaries, without necessarily negating the importance of state, nation or domestic society” (p. 71). This definition aligns with Larrin’s (2003) notion that globalization does not erase national identities because contact with new ‘others’ provides additional points of comparison through which identities are constructed.

According to its institutional website, the university prides itself on being highly internationalized, touting that the student body is an ‘international family’ representing 29 Latin American countries that enriches the learning and social environment through its cultural diversity. Spanish, a non-native language for some students, is the language of instruction, but English coursework is also compulsory. Nearly all students arrive from countries in Central and South America. Students’ formative processes are therefore both physically and culturally situated within a Latin American context, and, consequently, may be a significant context to consider vis-à-vis the research questions. Critical thinking, or metacognitive process that aid in problem-solving and transfer of knowledge across “disciplines, subjects, or domains” (Jenkins, 2012), and emotional resilience, the “adaptive response to adversity” that supports “bounce back” capacity (Rajan-Rankin, 2014) are subsumed in the institution’s conceptualization of leadership.

Environmentalism is also of great value to this institution. Like IC, global citizenship, and leadership, education for sustainable development (ESD) requires the alignment of one’s value system with behaviors (Arbuthnott, 2009). Stern and colleagues (1995) suggest that personal values influence one’s environmental worldview, or beliefs about the earth and the human-environmental relations. Wynveen and colleagues (2012) propose that “understanding and developing solutions to many environmental issues will require people to transcend culturally imposed boundaries and to take on the role of global citizens,” hypothesizing that international engagement opportunities nurture global citizenship related to ecologically conscious behaviors by strengthening linkages between environmental values, beliefs, and norms (p. 335).

In the current study, the academic curriculum, work program, residential student life, and many other aspects of the university's student experience are specifically designed to produce graduates who share a set of deeply ingrained values and way of being-in-the-world. The learning experience at the institution is highly experiential, hands-on, and exceedingly immersive given that all students live and work on a self-contained and isolated rural campus, and a code of conduct guides all aspects of student life. The institution's merit/demerit system communicates esteemed values and characteristics (e.g., civil interactions, cleanliness, service to the community, environmental stewardship). Given this foundational role that values and beliefs play in several of the institution's core learning outcomes, selecting an instrument capable of providing insight into students' worldviews was paramount. The same would be true for any institution invested in measuring student outcomes beyond content knowledge and disciplinary skillsets.

Assessing beliefs and values

Over the last several decades, researchers have developed a number of psychometric tools to identify worldviews and competencies. The BEVI has been in development since the early 1990s, subjected to exploratory and confirmatory factor analyses and other validation processes in order to address some of the more complex issues that arise in the field of “assessment research and practice vis-à-vis international, multicultural, and transformative teaching, training, and learning” (Wandschneider et al., 2015). The BEVI was constructed within the conceptual framework known as Equilintegration (EI) Theory. EI Theory aims to “explain the processes by which beliefs, values, and ‘worldviews’ are acquired and maintained, why their alteration is typically resisted, and how and under what circumstances their modification occurs” (Shealy, 2004, p. 1075). EI Theory is centered in several major hypotheses and principles, including that:

- values and beliefs are mediating processes that occur on individual and societal levels, but may not necessarily be explicit, rational, or grounded in logic;
- these beliefs and values are developed over time and are derived from the individual's personal history, culture, and experiences; and
- because of the complex development processes and deeply rooted identity implications of beliefs and values, they are not easily modified or changed (www.thebevi.com).

Much current research involving the BEVI is collected in a recent book, *Making Sense of Beliefs and Values: Theory, Research, Practice* (Shealy, 2016). Included here are chapters outlining EI Theory as well as reports of contemporary studies using the BEVI in various contexts and for a range of purposes. One chapter of particular importance to the findings in this project is that contributed by Pendleton and colleagues (2016), “Understanding the Gendered Self: Implications from EI Theory, the EI Self, and the BEVI.” This study not only provided construct validation for the BEVI by comparing BEVI results to extant literature on males and females, but also reported on the relationship of BEVI Gender Traditionalism scale scores to formative variables and learning outcomes. Notably for the current study, among other significant results, male participants (N=2331) in a multi-institution study were found, overall, to:

- be less likely to acknowledge and/or experience awareness of basic feelings, needs, and vulnerabilities;
- be less likely to grant legitimacy to the value of understanding and working through painful emotions;
- report less interest in learning about or being accepting of different cultures and their practices; and
- endorse less expressed concern about the environment and natural world (pp. 283–285).

The BEVI is often used either as a formative assessment in a needs analysis approach, or in a pre/posttest methodology to document learning outcomes and transformative learning (Acheson, 2020). For instance, the BEVI was recently utilized for both purposes in a study of an undergraduate course (Iseminger et al., 2020): first, to support multicultural pedagogy by encouraging reflection and dialogue about group aggregate BEVI results, and second, to uncover which aspects of identity were salient to student development in the course. The BEVI is also often used for large-scale studies at the institutional or multi-institutional level (e.g., Wandschneider et al., 2015).

3. Methods

This study took place at a private HEI in Latin America. In addition to a general education core, the university curriculum offers rigorous and pragmatic training in several specific areas of agricultural studies rather than a wide range of disciplines. Relevant to the interpretation of the data are the following demographics: The student body numbers roughly 1200 undergraduate students, about 70% of whom are male and 70% are international students. The university is residential, highly organized (quasi-military in social structure), and very prestigious in its field. The majority of students matriculate on scholarship, often sponsored by industry or their governments.

Setting

In the midst of applying for initial institutional accreditation from a US higher education accrediting body, the university administration was highly motivated to establish an empirical argument for institutional effectiveness, including the accomplishment of the institutional mission and the widespread achievement of various student learning outcomes. The institution's leadership sought to use the BEVI to provide insight into how the curriculum and co-curricular life impacted the student body, thus guiding future strategic planning. Eventual longitudinal data collection was planned for evidence of student growth and

development. The institution was considering revising the traditional requirement of three years of English study for all students, making language proficiency a variable of interest to the administration. Likewise, the university was interested in what the BEVI would reveal about gender differences due to initiatives to increase recruitment and retention of female students, who were historically barred from matriculation and still remain underrepresented in the student body and faculty.

Participants All students at this HEI have some English proficiency because of the required language coursework. However, only students in high intermediate, low advanced, and high advanced courses participated in the baseline (T1) data collection study. Using correlate charts between Lexile (reading difficulty) and TOEFL (English language proficiency) scores, students placed based on TOEFL scores into these three levels were judged to have a reading comprehension level high enough to fully understand the text of the instrument, which was assessed at 1100L (10th grade reading level) on the Lexile scale. At T1, 568 students took the BEVI; incomplete or inconsistent results were subsequently excluded, leaving a total of N=518 for analysis. The average participant was 21 years old. Table 1 provides a summary of other relevant participant data.

T1 Participant Data (N = 518)					
Gender		Class		English Proficiency Level	
Male	317	1st year	156	High intermediate	118
Female	191	2nd year	183	Low advanced	151
Gender not provided	10	3rd year	174	High advanced	128
T2 Participant Data (N = 31)					
Gender		Class		English Proficiency Level	
Male	18	4th year	31	Unknown at T2	31
Female	13	(2nd year at T1)			

Table 1

In T2, all graduating seniors (N=71) who were on campus at the time took the BEVI for a second data set. When participants with only T1 scores (those completing internships at the time of T2 data collection) and participants with only T2 scores (those excluded from T1 data collection because of insufficient English language proficiency at that time) were removed from the longitudinal comparison, only 31 matched pairs remained. This T2 sample included 13 female and 18 male students. No TOEFL scores for students were available at the time of T2.

Instrument While there are a number of validated instruments, such as the Intercultural Development Inventory (Hammer et al., 2003), to assess IC or other constructs relevant to the institution's learning outcomes, the

BEVI was chosen because a theoretically robust assessment tool with a multi-thematic and whole-self approach was warranted. Without such a holistic measure, several different instruments would have to have been utilized in order to identify patterns in values and beliefs about gender, the natural world, global contexts, critical thinking, emotional resilience, etc. (see the BEVI constructs delineated in Table 2). The BEVI is a web-based, mixed-methods instrument. The qualitative data consists of written responses to three open-ended questions that ask participants to reflect back on what they have learned and how they have changed as a result of an educational experience.

Since the primary purposes of this study is baselining and the majority of the data comes from the pre-test/T1 data collection, and due to the time required to analyze such a large qualitative data set with rigor, only the quantitative data were examined. These quantitative data were derived from demographic questions plus 185 Likert-scale items with four response options: *Strongly Agree*, *Agree*, *Disagree*, *Strongly Disagree*. One advantage of the BEVI over many other measures is the way that it evades the pitfalls of social desirability (i.e., pressure to answer with a perceived preferred response) and response-shift confounds (i.e., changes in understanding of underlying constructs between pre- and post-testing) due to its low face validity. This means that respondents are often unsure of what constructs are being measured by any given item and therefore are not influenced by these biases. The BEVI assesses individuals' beliefs and values along 17 scales organized within seven domains. Hundred-point normed scales are based on responses to items that loaded onto that particular scale in the factor analysis, and individual scores on each scale are reported in anonymized, aggregate form. The instrument itself is value-neutral, i.e., it is not 'better' to be higher or lower on any scale. However, value-laden institutions, instructors, and researchers often prefer certain profiles or movement in one direction on various BEVI scales (see Table 2). Individual scales that yielded significant results will be further defined in the discussion of findings. For more detailed descriptions of scales and sample items, see the BEVI website (www.thebevi.com).

Domain	Scale
I. Formative Variables	1. Negative Life Events
II. Fulfillment of Core Needs	2. Needs Closure
	3. Needs Fulfillment
	4. Identity Diffusion
III. Tolerance of Disequilibrium*	5. Basic Openness
	6. Self Certitude
IV. Critical Thinking*	7. Basic Determinism
	8. Socioemotional Convergence
V. Self Access	9. Physical Resonance
	10. Emotional Attunement
	11. Self Awareness
	12. Meaning Quest
VI. Other Access*	13. Religious Traditionalism
	14. Gender Traditionalism
	15. Sociocultural Openness
VII. Global Access*	16. Ecological Resonance
	17. Global Resonance

*Indicates domain with scales of special interest to institution.

Table 2 *BEVI Domains and Scales*

The short version (185 items) of the BEVI demonstrated excellent construct validity. Items were drawn initially from hundreds of actual belief statements from people from all over the world (e.g., “Men and women are simply different”). After decades of statistical analysis and refinement, the BEVI’s reliability/stability statistics for the majority of scales are at or above 0.8 in exploratory factor analysis and Cronbach’s alpha at 0.7 in confirmatory factor analysis (Shealy, 2016).

Limitations of the instrument include the language; at the time, the BEVI was only available in English and Japanese, limiting data collection to students in this context fluent enough in English to yield valid data. While this N was a large percentage (roughly two thirds) of the first-, second-, and third-year cohorts, we cannot safely generalize to the entire student body because of the language factor. Further data collection in this setting should use the new Spanish version of the instrument since that is the language of instruction at the university.

Data collection and analysis

For the baseline data collection (T1), participants voluntarily completed the BEVI online via their personal laptop computers during their English classes. During survey administration, the first author and the students’

English instructors were available for help with language issues. Response times varied from 25 minutes to 50 minutes. Two years later, all graduating seniors completed the BEVI proctored by staff in the Office of Institutional Effectiveness (T2).

An institutional profile was generated based on de-identified data. In addition, subgroup comparisons were made for several independent variables: gender (as self-reported by participants), and language proficiency (as documented by the institution). Group and subgroup aggregate means and decile spreads were analyzed via descriptive statistics and analysis of variance (ANOVA) for each of the 17 scales measured by the BEVI. An institutional profile of de-identified aggregate results was provided to participants, their English instructors, and the university administration. Subsequently, matched pairs were created from T1 and T2 data sets using student IDs. Paired sampled t-tests were conducted for the whole group. Subgroup analysis based on gender was conducted even though the small Ns prevent generalizability, and subgroup analysis for English language proficiency was not possible without updated TOEFL scores at T2.

4. Findings

Our organization for this section moves from a birds-eye analysis of whole sample aggregate means for the baseline or pretest dataset, to correlational analyses for independent variables such as gender and language proficiency in the pretest data, and finally to longitudinal analysis of T1 to T2 changes.

One of the most salient sections of an auto-generated BEVI report on group data is the aggregate profile, a summary of means aggregated from all participants in the group for all 17 BEVI scales. Aggregated data collected in such a way as to be considered generalizable to the entire student body serve as an institutional profile. The Forum BEVI project (Wandschneider et al., 2015) found that institutions appear to possess unique aggregate profiles and that these ‘institutional signatures’ tend to remain stable over time. Figure 1 displays the BEVI institutional profile in this study, based on the T1 data set.

Institutional profile

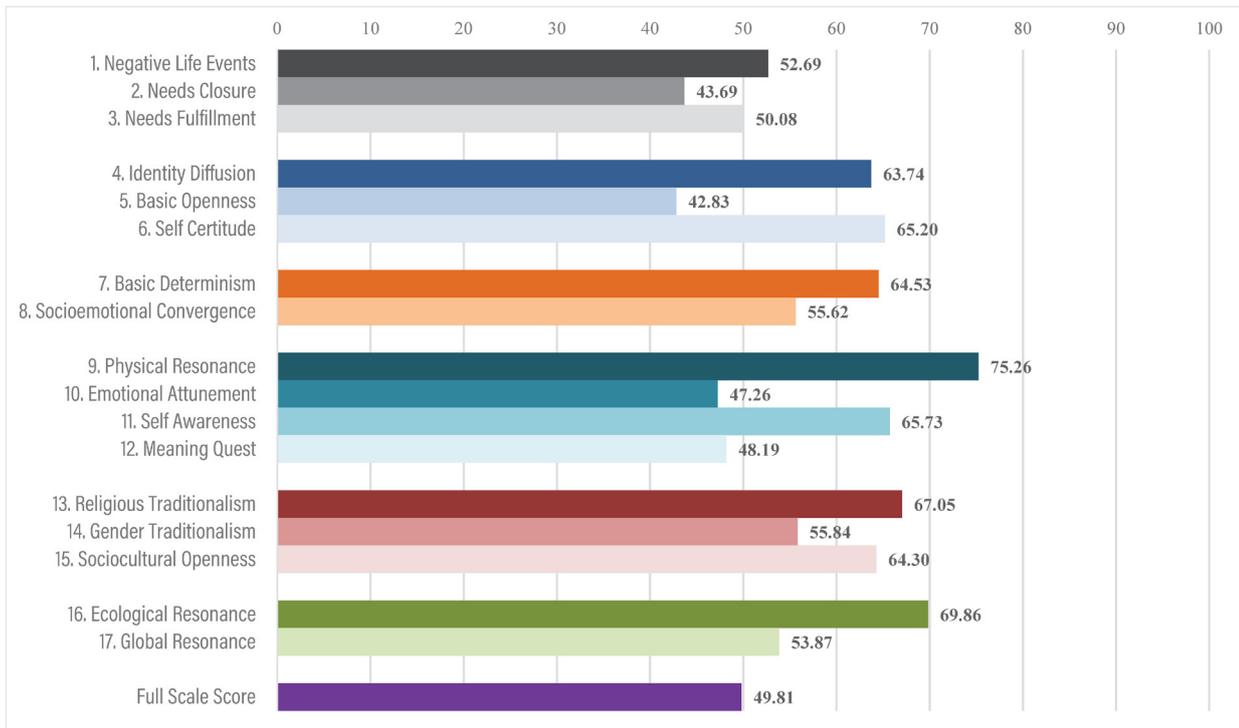
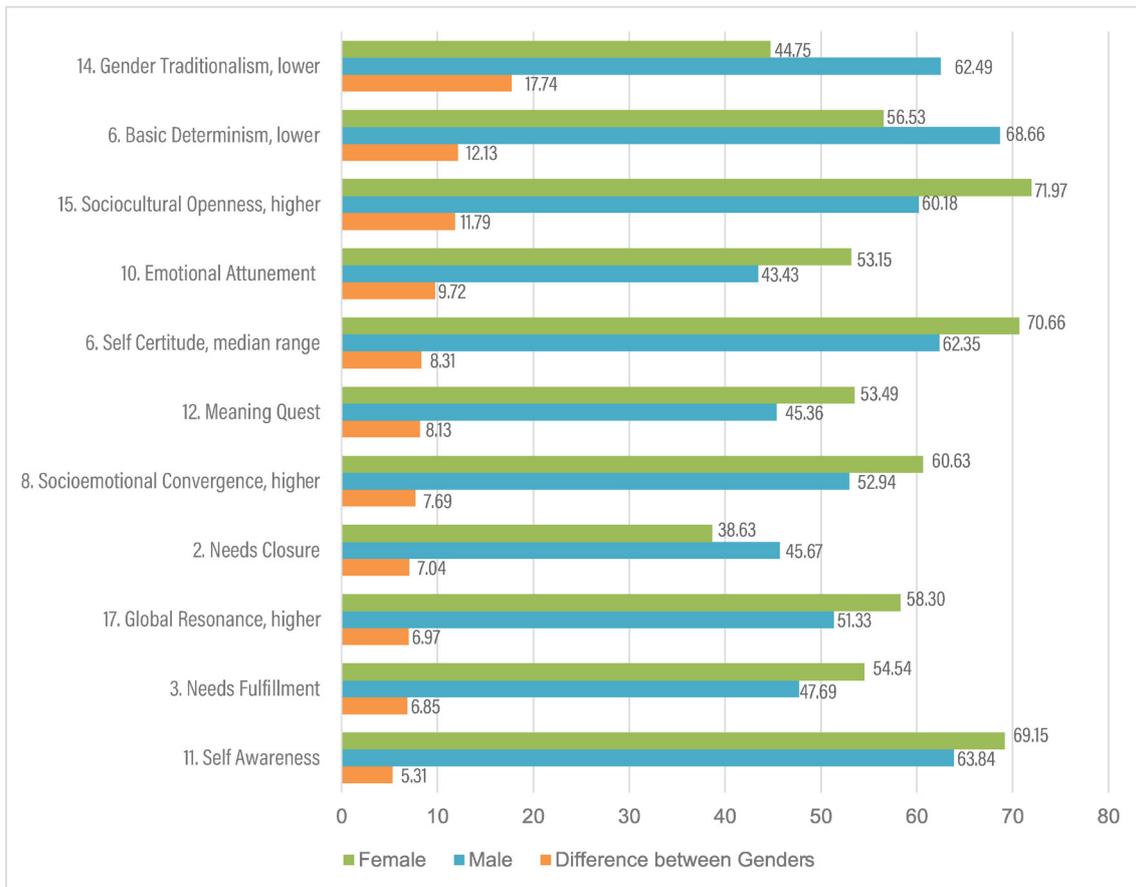


Figure 1 Whole Sample Aggregate Profile of Group Means for the 17 BEVI Scales

Aggregate scale scores are understood relative to their placement on the normed scales. In terms of comparison to scale norms, institutional aggregate means of scores for many relevant scales are above the midpoint of the normed scales, with Gender Traditionalism ($M=56$) and Global Resonance ($M=54$) in the fifth decile (that is, between 50th and 60th percentiles) and Basic Determinism ($M=65$), Sociocultural Openness ($M=64$), and Ecological Resonance ($M=70$) in the sixth decile.

Gender differences

Of the total $N=518$ for this study, 317 participants self-identified as male and 191 as female, with 10 participants not responding to the gender item. Figure 2 displays a comparison of female and male group means of scales with statistical ($p<0.05$) and interpretive difference ($MD>5$). In the ANOVA Tukey post-hoc test, there was significant ($p<0.05$) variation between females and males on several scales. The mean scores on Self Certitude are relatively high for both genders, indicating that students have a strong sense of will, are positive thinkers, and are confident that they can overcome challenges, but also may be resistant to the acknowledgement of weakness or vulnerability in self and others. Interestingly, females ($M=70$) reported higher Self Certitude scores than males ($M=61$, $F=6.676$, $df=2$, $p=0.001$). The ANOVA Tukey post-hoc test also revealed significant differences in means between females and males on Needs Closure ($MD=-7.04$, $p=0.04$), Needs Fulfillment ($MD=6.39$, $p=0.02$), Basic Determinism ($MD=-11.99$, $p=0.00$), Gender Traditionalism ($MD=17.88$, $p=0.00$), Sociocultural Openness ($MD=11.79$, $p=0.00$).



All scales with statistically significant ($p < .05$) and interpretively different ($MD > 5$) means by binary gender.

Figure 2 Significant Group Mean Differences Between Females and Males on Selected BEVI Scales

The other demographic variable of interest to the institution was language proficiency, for which findings are displayed in Table 3 and Figure 3. Between-group comparisons for high advanced (the most fluent non-native speakers of English among participants, per TOEFL scores), low advanced, and high intermediate (the least fluent of the sample) levels yielded compellingly clear results: English language fluency is a correlationally (not causally) predictive factor for the scales most related to critical thinking and intercultural competency outcomes—that is, the correlation is strong enough that we can predict results for demographic groups without necessarily knowing which factors have shaped those group differences. For the high advanced English proficiency group, Basic Determinism and Gender Traditionalism are lowest and Sociocultural Openness and Global Resonance are highest, and the opposite is true for the high intermediate (lowest proficiency) group, with means for the low advanced group in the middle for each scale. In post-hoc analysis, all three groups were significantly different, with large mean gaps at the $p < .01$ level for the intercultural scales Sociocultural Openness (with lower proficiency groups' mean differences from high advanced $MD = 10.86$ and $MD = 22.94$, respectively) and Global Resonance ($MD = 7.93$ and $MD = 15.97$). Meanwhile for scales related to binary thinking, including Basic Determinism ($MD = -12.02$ and $MD = -16.40$) and Gender Traditionalism ($MD = -7.95$ and $MD = -11.44$), post-hoc analysis revealed that the high advanced group was distinctly different from the other two

English language proficiency differences

($p < 0.01$) but low advanced and high intermediate groups were not meaningfully dissimilar from each other.

Scale		Sum of Squares	df	Mean Square	F	Sig.
7. Basic Determinism	Between Groups	25300.43	2	12650.21	15.79	0.00
	Within Groups	395801.23	494	801.22		
	Total	421101.65	496			
14. Gender Traditionalism	Between Groups	11907.61	2	5953.81	8.63	0.00
	Within Groups	340653.40	494	689.58		
	Total	352561.01	496			
15. Sociocultural Openness	Between Groups	41943.40	2	20971.70	31.18	0.00
	Within Groups	332305.97	494	672.68		
	Total	374249.36	496			
17. Global Resonance	Between Groups	20526.08	2	10263.04	17.70	0.00
	Within Groups	286488.03	494	579.94		
	Total	307014.11	496			

Table 3 ANOVA for Relevant BEVI Scales by (Non-Native) English Language Proficiency

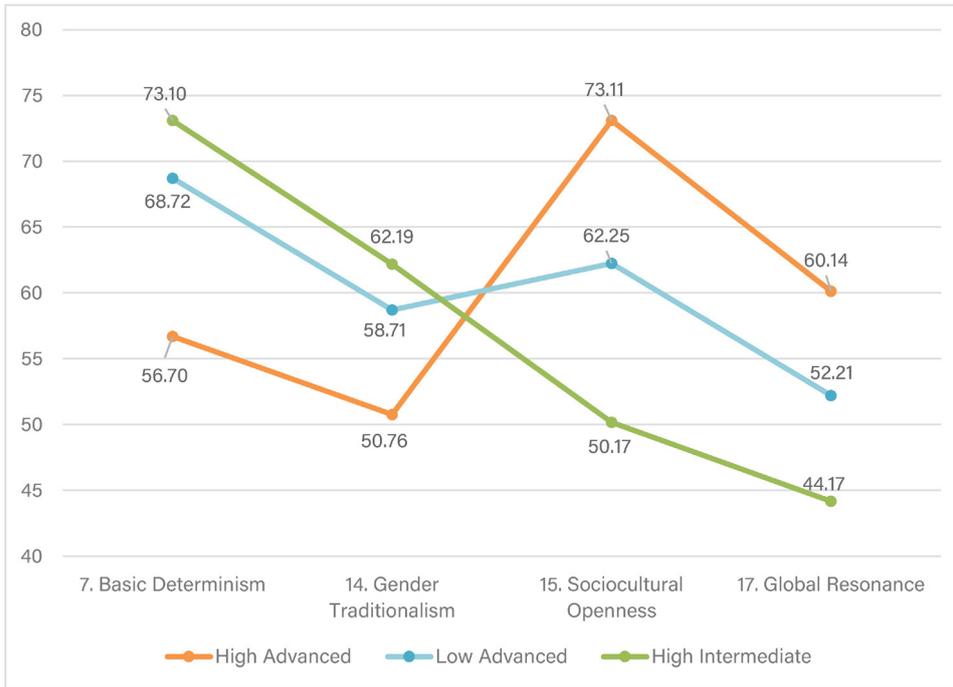
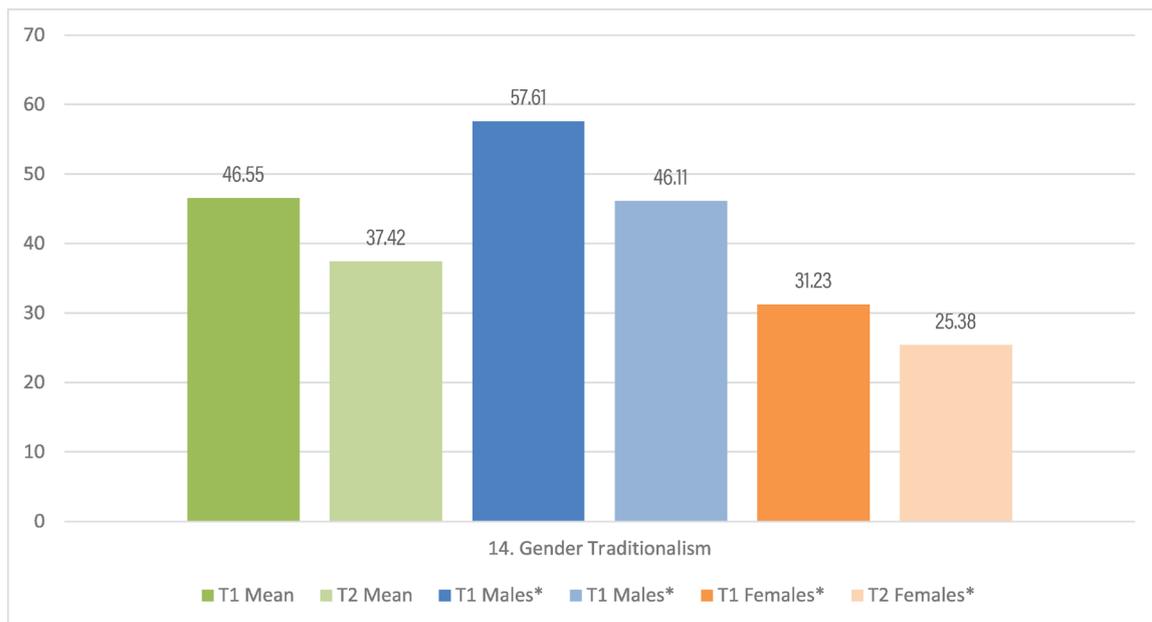


Figure 3 Between Group Comparisons by English Language Proficiency for Various BEVI Scales

For the 31 matched pairs available for T1/T2 comparison, only two scales revealed statistically significant differences. Scores on the Basic Openness scale decreased from a T1 mean of $M=40.77$ to a T2 mean of $M=28.48$ ($p<0.04$). Gender Traditionalism also decreased from $M=46.55$ to $M=37.42$ ($p=0.05$). Both males and female scores dropped on the Basic Openness scale, while the overall decrease in Gender Traditionalism appears to be driven more by falling scores among male students (see Figure 4).

Changes over time



* When disaggregated by gender, T1/T2 differences are not statistically significant.

Figure 4 T1/T2 Differences for Gender Traditionalism by Sample Mean and Binary Gender

5. Discussion

Baseline institutional profile To interpret the baseline aggregate data in light of the institutional mission, we need to consider the preferred end of each scale in this particular context. Table 3 provides details key to interpreting the aggregate means, including constructs measured and the preferred end of each scale according to this HEI's mission.

BEVI Scale	Construct Measured	Institution's Preferred End of Scale
Basic Openness	Tolerance of disequilibrium	<i>High</i> – the higher the score, the more open and honest one may be about the experience of thoughts, feelings, and needs, especially those that are negative
Basic Determinism	Critical thinking	<i>Low</i> – lower scores on this scale indicate more complex causal attributions and the capacity to engage in “grey area” rather than “black or white” thinking
Gender Traditionalism	Beliefs about gender	<i>Low</i> – the low end of this scale reflects more fluid, non-binary perceptions of gender and more flexible expectations of gender roles and norms
Sociocultural Openness	Willingness to engage with diverse people and perspectives	<i>High</i> – higher scores on this scale are indicative of a greater value for interacting with culturally different others, considering other viewpoints, and learning about new ways of experiencing the world
Ecological Resonance	Investment in environmental/ sustainability issues	<i>High</i> – the high end of this scale represents greater care and concern for the natural world and ecological sustainability.
Global Resonance	Investment in global issues and relationships	<i>High</i> – the high end of this scale represents greater connectivity beyond local communities, including awareness of global events and engagement in global social and professional networks

Table 4 Interpretive Details for BEVI Scales Salient to Institution's Mission

In this case, the institutional profile is at times aligned with the administrations' expectations—for example, with relatively high scores on Sociocultural Openness and Ecological Resonance. At other times, the findings fall short of aspirational mean scores—such as with relatively high scores on Basic Determinism and Gender Traditionalism. This type of institutional profile can provide vital baselining information for faculty and administration at any HEI as they document learning outcomes achievement and strategically plan policy and curricular changes. Specifically, pretest or T1 data for first year students can later be matched in longitudinal analysis with T2 data from those same students when they graduate. Furthermore, the baseline suggests curricular revisions and student life initiatives that could help support the achievement of student outcomes.

First, the aggregate score of $M=64$ for Identity Diffusion is very high relative to the average among undergraduates studying in the US, which is more typically well below the median in the normed scale. Such a high average score on this scale suggests that many of the participants in the current study are searching for a sense of identity or are experiencing a

painful identity crisis at this stage of their lives. It would be a meaningful finding for any HEI, and especially HEIs concentrating on internationalization processes since contact with culturally different others often causes spikes in the Identity Diffusion scale reflective of uncertainty about the self in relation to others. It is an important result from the perspective of this particular university administration because the institution is focused on developing leaders. It may be encouraging that the BEVI indicates an ongoing shift in students' sociocultural identifications, as the development of the set of values promoted by the institution is a process that often demands a reformulation of their sense of self. In Transformative Learning Theory, significant changes in worldview are often initiated by a disorienting dilemma that throws into question old structures of the self, habits of the mind, taken-for-granted assumptions, and ways of being in the world (Mezirow, 2012). Therefore, high Identity Diffusion scores could signify a liminal state open to a reorganization of values, capacities, and perspectives. On the other hand, high Identity Diffusion scores could be cause for concern because they reflect high levels of anxiety and confusion. These negative emotions in the context of student life can function as affective barriers to learning and contribute to high failure and attrition rates (Saklofske et al., 2012).

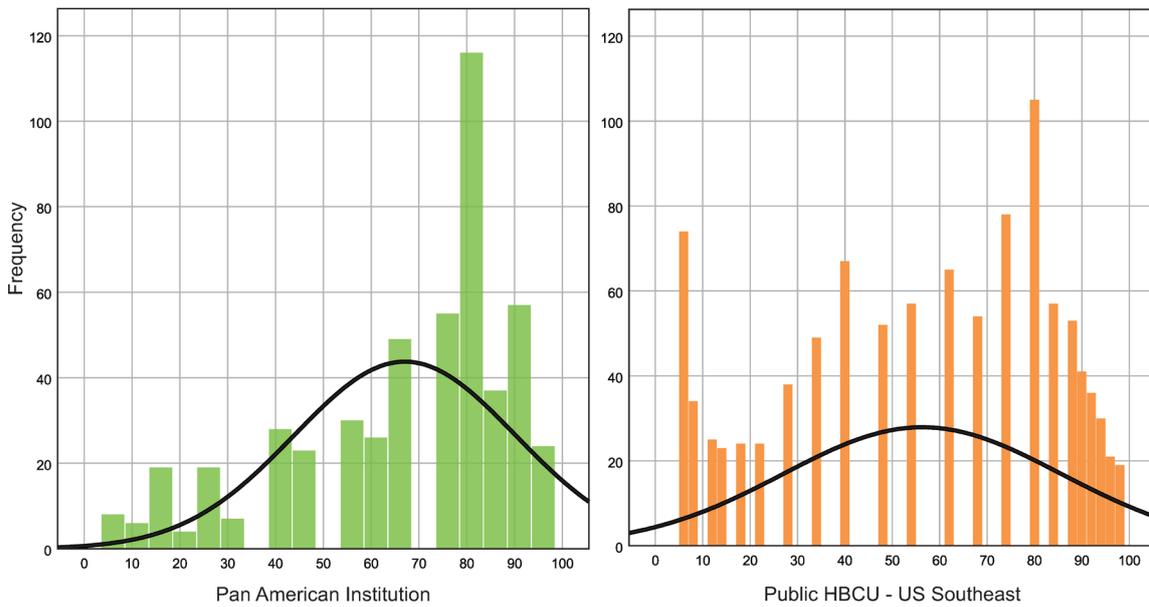
Basic Openness, which measures participants' honesty about their basic thoughts, feelings and needs, had an aggregate mean ($M=43$) close to the median of the normed scale. Since honest recognition of one's thoughts and feelings is an important aspect of the process of identity formation, a higher aggregate score on this scale is often considered more desirable. For this Pan-American university's students, the lack of attunement to internal processes is troubling when coupled with high Identity Diffusion because, theoretically, openness to thoughts and feelings is an attribute that might help to mitigate the negative effects of an identity crisis. In other words, participants on the whole seem to be in need of greater clarity about themselves in relation to others, yet many are not introspective about that process of identity resolution and some may even be in denial about the extent of their anxiety.

One unambiguously positive result from the perspective of an internationalizing HEI is the relatively high aggregate means for Sociocultural Openness. An aggregate score of $M=64$ on this scale suggests that participants are relatively open to a wide range of actions, policies, and practice in the areas of culture, economics, education, environment, and gender. In essence, the mean score well past the midpoint of 50 in the 100-point normed scale indicates that many students at this institution are willing and able to consider the world from multiple cultural perspectives. Still, for an HEI so focused on solving global problems within the agricultural discipline (e.g., food and water security) and on fomenting Pan-American identity, the mean of 64 is a long way from the top end of the scale. There is much room for growth on this construct according to the directionality that aligns with the institution's mission (greater IC), with the mean situated at roughly the two-thirds location on the scale. The Intergroup Contact Hypothesis (Allport, 1954), which supposes positive outcomes from contact between culturally different others, would lead us to assume that this highly internationalized campus should generate very high levels of openness to cultural differences—an expectation not borne out in these data. Prior research on cultural values may help explain the findings. Cross-cultural researchers in

the tradition of Geert Hofstede (1980) assert that despite high cultural diversity across the region, a distinctly Latin American set of shared values and beliefs exist. Through rigorous meta-analysis, Hofstede and colleagues (2010) characterized trends in Latin American belief systems, including such constructs as power distance, collectivism, avoidance of uncertainty, and masculinity. In addition to a general shared value system, a specific shared conception and practice of leadership was also found for Latin America in the Global Leadership and Organizational Behavior Effectiveness (GLOBE) study (House et al., 2004). GLOBE found that shared Latin American values coalesced into a visualization of leadership that emphasizes charisma and team-orientation over self-protective behaviors and autonomy, for example. For a highly internationalized institution, such attitudes are necessary for successful integration of a diverse student body; they are not, however, an inevitable outcome of intercultural contact, as much recent research has demonstrated (Holmes & O'Neill, 2005; Vande Berg, Paige, & Lou, 2012).

Typically, Sociocultural Openness is positively correlated with Global Resonance, i.e., a measure of the willingness of participants to seek out not only information about other areas of the world but also opportunities to interact with people from other cultural groups. Here, we do see similar means, but Global Resonance ($M=54$) is a bit lower than Sociocultural Openness ($M=64$). This is a common pattern in published BEVI research (see Wandschneider et al., 2015), which could indicate that students are mentally flexible enough to handle the challenges of intercultural communication but do not necessarily put forth the effort to actively pursue those interactions.

One contextual factor that may be impacting the Global Resonance scale is the social life of students at this institution. Students self-organize into *colonias* based on the country of origin for many aspects of their social interactions including participation in intramural sports, performances, and study groups. The *colonias* are an excellent support system for students studying abroad, but they may be playing a part in insulating students from peers of other cultural groups. It is also possible that the *colonias* and macrocontext may be reinforcing a broader social identity that is more Pan-American than global. In fact, 87.6% of the students self-identified as Hispanic in the demographic items. The lack of diversity in several scales on the decile report support the explanation that most students share a common macroculture. For example, most responses fell in a cluster in the top several deciles for Religious Traditionalism. It is rare to see such high values for this scale among US undergraduates attending non-religious institutions.



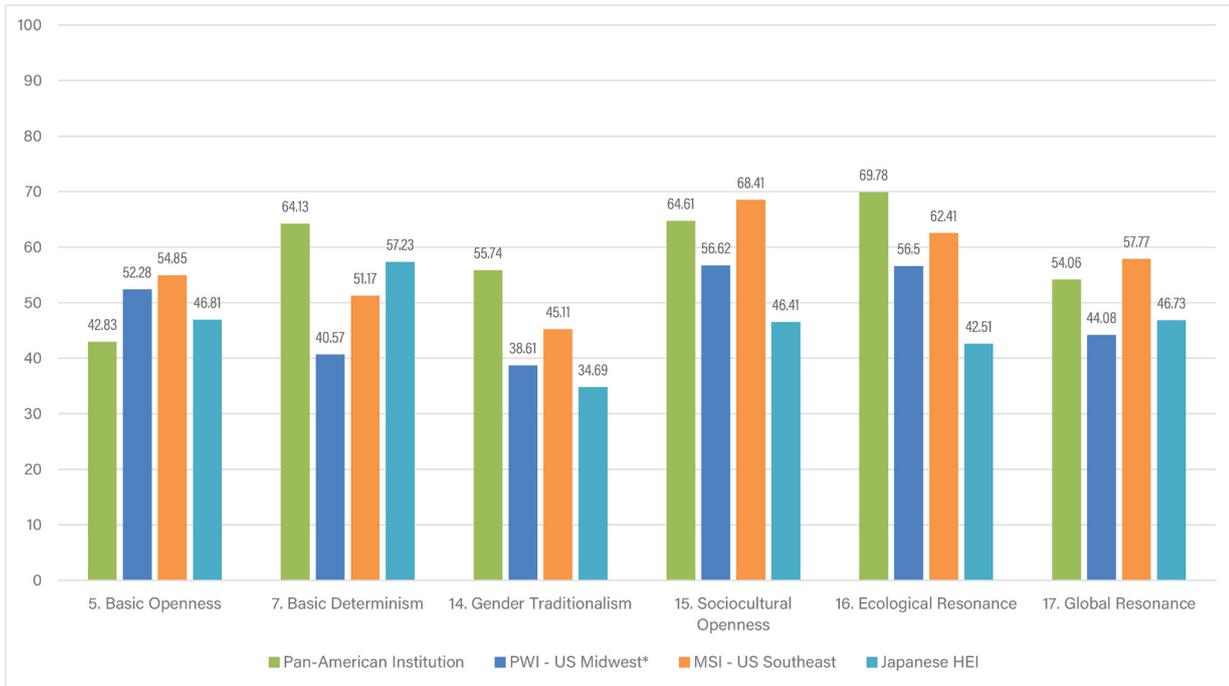
13. Religious Traditionalism

Figure 5 *Distribution of BEVI Religious Traditionalism Scores for Pan-American University and a US Urban Public Minority-Serving Institution*

Figure 5 displays the distribution histogram for this scale, which shows how many participants fall along each 10th percentile (10 points of the 100-point scale), contrasted with a public institution in the United States. Note how much wider and flatter the distribution of the student body is in terms of religiosity in this very culturally diverse or minority serving institution (MSI) US institution. In contrast, in this study the majority of responding students seem to be highly religious, perceiving themselves and the events around them as being shaped by spiritual forces. The high Religious Traditionalism scores in this case make sense for two reasons: the self-identification of 83.6% of the participants as Christian and the historical legacy of Catholicism on Latin American macroculture. This religiosity among the student body could also be mediating other BEVI scores, such as Gender Traditionalism.

Given the ‘institutional signature’ phenomenon mentioned in the findings section (Wandschneider et al., 2015), it is helpful to compare any given HEI’s baselines with aggregate profiles of other HEIs. In competitive environments, many universities are highly motivated to compare their student data with that of peer institutions in a search for evidence of quality that can be incorporated into branding narratives and recruitment materials (Delaney, 2001). Scholars are interested in multi-institutional comparisons as well, not only to better contextualize findings but also to suggest paths towards improving institutional effectiveness (see the Wilson et al. (2015) study on belonging and academic engagement as one example). On the 100-point normed scales, a 5-point difference between groups or over time is generally considered to have real-world meaning (Shealy, 2016). Figure 6 contrasts aggregate mean scores on the six scales in Table 4 for the Pan-American institution and three other HEIs: a large, public predominantly white institution (PWI)

STEM university in the rural Midwestern US; a large, urban MSI located in the Southeastern US, and a large, urban university in Japan.



* Note: Results reflect only the College of Agriculture at the PWI in the Midwest.

Figure 6 Multi-Institutional Comparison of BEVI Aggregate Means

Each HEI depicted here might analyze this comparison differently, depending on its own institutional values and mission. As a model for internationalizing HEIs engaging in this kind of multi-institutional comparison, we focus on the perspective of the Pan-American institution. Grounded in the desire to create environmentally conscious and globally connected leaders with a Pan-American identity, the administration should be pleased with its scores on Ecological Resonance, Sociocultural Openness, and Global Resonance. Previously, we discussed these scores as high in terms of the normed scale, but here we see that they are also high in comparison to other HEIs. On the other hand, scales of concern include Gender Traditionalism and Basic Determinism. Both of these scales appear much higher at this HEI than at the comparison institutions. Yet, the desired directionality is lower scores on these scales when an institution is invested in, respectively, more flexible gender norms and more grey area thinking. Also concerning is the Basic Openness score, which is both low on the normed scale and low in the comparative analysis, when in fact greater mindfulness of internal processes is supportive of the emotional resilience and critical thinking skills key to leadership (Dulewicz et al., 2005).

Baseline subgroup variation

The differences between males and females on many BEVI scales is not surprising. Other research using the BEVI confirms the trend of higher scores for females on Needs Fulfillment, Socioemotional Convergence, Emotional Attunement, Self-Awareness, Meaning Quest, Sociocultural Openness, Ecological Resonance, Global Resonance, and lower scores on Basic Determinism and Gender Traditionalism (Pendleton et al., 2015). A finding that stands out against prior research as unusual is the higher

score for female students at this HEI in Self Certitude. One contextual factor that may help to explain this finding is that in this setting females are operating in a male-dominated field of work and study, namely agriculture. Given their status as minority members of the cohort, it could be that Self Certitude is a trait characteristic of ‘survivors.’ A strong sense of agency and will to overcome challenges can feasibly contribute to retention. While these attributes also correspond to the institution’s ideal self-efficacious leader and can aid in resolving identity crises, high scores on Self Certitude may also indicate an inclination to oversimplify complex situations (for example, by believing that every obstacle can be overcome by willpower and hard work, ignoring the impact of contextual factors). Given this ambiguity, movement up or down on Self Certitude was not explicitly identified by the university administration or faculty as a target for student growth in alignment with their mission.

Although they are not surprising, some of the other gender differences are meaningful in this HEI context. We can interpret these mean differences between gender groups on scales such as Needs Closure (females lower) and Needs Fulfillment (females higher) to be illustrative of female students’ greater emotional resilience. These results suggest a tendency for females as a group to exhibit fewer unresolved emotional issues than males (Needs Closure) and greater satisfaction with their current relationships and sense of self-efficacy (Needs Fulfillment). In addition, females display greater tendencies towards complex, non-binary thinking on the Basic Determinism scale, more flexibility in their beliefs about gender roles and norms in the Gender Traditionalism scale, and greater openness to interactions with culturally different people and perspectives in Sociocultural Openness.

Within this institutional context it is important to note that female students display values closer to desired learning outcomes. This finding throws into question an assumption implicit in institutional discourse and policy—that is, that female students need support more than do males. Remember that the institution has been trying to recruit and retain more female students, and makes conscious efforts to provide female students with mentoring and help them adjust to a male-dominated space. The data suggest, however, that from the perspective of shaping students into the institution’s ideal graduate, the emotional health and learning readiness of male students is a real but unrecognized concern, a point that Pendleton and colleagues (2016) also emphasized. This is not to say female students should not be supported, but to suggest that more and perhaps different attention be directed towards male students. Since housing is segregated by gender on campus, it may be that co-curricular life is an opportunity to address some of these concerns.

These data also suggest a surprisingly simple strategy for moving the student body as a whole towards institutional learning outcomes: admit and graduate more female students. This strategy aligns with intentions the institution already has in place, but the administration has not yet realized possible ramifications of this social-justice motivated goal upon learning outcomes. This study provides new insight, namely that, as the institution achieves this goal for greater gender parity, the profile of graduating students could be impacted in two ways. First, mathematically, females would constitute a greater percentage of the group;

second, socially, values more prevalent among females could gain more normative power within the institution rather than being situated as a minority perspective.

As with gender differences, a connection between language learning and BEVI scales was expected and aligned with previous research (Nis-hitani, 2020). It is common to find that students with higher proficiency in languages other than those they speak natively score higher on BEVI scales such as Sociocultural Openness and Global Resonance. Practically speaking, however, these findings proved insightful for the university administration. As an example of how internationalizing HEIs can utilize this type of evidence in their strategic planning, consider a policy under evaluation for revision at the time: the requirement for three years of English study for all students, regardless of proficiency. The strong correlation of English-language proficiency with other learning outcomes aligned with the institutional mission, such as critical thinking, flexible gender norms, and IC, suggests that language study should remain a core requirement and justifies the large investment that the General Education department has made in staff and other resources for English language study. However, these data also generate further questions that cannot be fully addressed with the baseline data set, such as:

- Are these learning outcomes directly impacted by language study, or is English-language proficiency merely a mediating factor for critical thinking and IC?
- Does the language requirement need to specify the study of English?

Addressing the first question requires longitudinal data, since cross-sectional data cannot definitively demonstrate the kind of causal relationships we seek here. If, for example, a correlation between language learning and development of these other skills appeared across times in matched pair analysis, we could be more sure that language learning was enabling or supporting greater critical thinking and intercultural capacities. Even with baseline data alone, though, a potential explanation is that earlier formative factors such as socioeconomic class, quality of primary and secondary education, opportunities to travel, multilingualism of parents, and more might be contributing to the patterns revealed. In other words, multiple variables beyond those commonly understood to influence language learning (e.g., amount of exposure, rote memorization, time practicing) may also influence and predict non-native language interest and capacity. As demonstrated through related research of English acquisition in Japan, also using the BEVI, such variables may include emotional and attributional tendencies, life history and demographics, and/or career and professional predilections (Nis-hitani, 2020).

The second question should also be addressed longitudinally, but would further require curricular changes or at least a pilot program with additional languages before a comparison could be made. Since currently only English and Spanish are offered, and Spanish is the native language of nearly all students, there is no way to determine if or to what extent the language under study matters when it comes to critical thinking and intercultural competency learning outcomes. Other data collected from students and faculty provide some suggestions for potential alternative

language policies and coursework with which the university could experiment to better meet students' needs in terms of language study. In a survey of all students in years one through three (N=963), 86.71% (835) responded that they were interested in studying another language in addition to or instead of English (Acheson, 2015). French (354 students) was the most popular choice, followed by Mandarin Chinese (255) and Portuguese (151). Furthermore, in an open-ended questionnaire soliciting suggestions for improving the English language program, faculty respondents pointed out that students who come in with high TOEFL scores do not seem to improve much over the course of the three mandated years of study, in contrast to more novice students who make great strides in fluency as measured by the TOEFL. Some recommended that instead of taking English language classes, advanced students should be taking content courses in English to improve their language proficiency, a methodology known in the applied linguistics discipline as Content-Based Instruction (Crandall & Kaufman, 2002). If the administration were to revise its English study requirements based on these and other data and then were to collect data from 1st and 3rd year students in a pre-post intervention design, the resulting data set would provide rich fodder for both longitudinal and comparative analyses.

These results should be generalized with great caution, not only because the N for T2 is quite small, but also because the participants at T2 are a representative sample of the population. Nonetheless, the findings are insightful for a number of reasons. First, the lack of change on most BEVI scales aligns with both previous research demonstrating the strong reliability of the instrument (Shealy, 2016) and with multiple theories (i.e., EI Theory, Transformative Learning Theory) discussed in the literature review that posit the resistance of belief and value structures to change, even in the face of deliberate intervention. Second, the decrease in Gender Traditionalism scores constitutes what this HEI—and, indeed, many HEIs committed to access and social justice—would see as a positive result: The students' beliefs about gender roles and norms became less rigid over the course of the two years between T1 and T2, from their second year at the university to their fourth. Interestingly, the change occurred more markedly among male students. Female students entered the university closer to this desired learning outcome and did not shift as far in that direction over time, while male students needed more development in this area and in fact did grow farther toward gender flexibility over time than females. We may be tempted to assume, but of course cannot prove without a control group and a larger, more representative T2 sample, that the change was due to the university experience.

Meanwhile, the other significant change, a decrease in Basic Openness, would be construed by this HEI (and likewise by many peer institutions) as a negative result. Change upward on the scale would have been more desirable and more supportive of the institution's mission. Greater openness to internal processes, thoughts, and emotions is more conducive to psychological health (Keng et al., 2011), which in turn is tied to effective leadership (Andenoro et al., 2013, p. 13). We do not have enough information to determine the reasons for this decrease in Basic Openness. One conjecture is that the shift reflects a certain kind of pragmatic professionalism more concerned with problem-solving and quotidian concerns than affect and philosophical matters. This potential

Changes over time

explanation is supported by the relatively low Meaning Quest scores of this HEI's student body, which are common for both STEM and male-dominant groups (Iseminger et al., 2020).

The lack of significant changes from T1 to T2 on all other BEVI scales could also be viewed as a negative result from the HEI's perspective, since the institution's mission clearly indicates a desire to shape student values in a particular way (towards a Pan-American identity, for example). Therefore, a lack of movement on scales such as Basic Determinism, Socio-cultural Openness, Ecological Resonance, and Global Resonance could be construed as a failure of the university's deliberate attempts to mold graduates into global leaders primed to address 'wicked' problems in the field of agriculture. This finding is especially disappointing for Basic Determinism, which in the multi-institutional comparison above stood out as a scale on which this HEI lags behind other institutions. Failing to shift the student body as a whole towards more complex causal attributions both falls short in the HEI's goal of fostering critical thinking and may hamper its graduates' capacity to engage in the sophisticated problem-solving necessary for sustainable development. On the other hand, what BEVI results have often revealed is an unchanging aggregate mean that masks significant scale movements among subgroups (Wandschneider et al., 2015), for example one ethnic or gender group moving up and another down, with those changes washing out in the aggregate mean (Iseminger et al., 2020). Unfortunately, the T2 data set is too small to perform this level of detailed subgroup analysis in the current study. Also pertinent to this discussion is the phenomenon of institutional signature profiles that has emerged from multi-institutional comparisons of first year student BEVI data (Wandschneider et al., 2015). In essence, the signature phenomenon suggests that HEIs, through entrenched recruiting and branding processes, tend to attract the same kinds of students year after year, students who to some extent already share the institution's values. In this case, for instance, if students choose to matriculate because they already highly value the natural world and are invested in environmental sustainability, a curriculum and campus culture designed to inculcate this value in students would not necessarily shift their scores on Ecological Resonance. That being said, there are always strategic innovations that could potentially increase achievement of learning goals for HEIs not seeing sufficient movement on longitudinal assessments, including improvements to curricula, co-curricular programming, student life, and campus culture.

6. Conclusion

The analysis of BEVI data from a large institutional cross-sectional sample in this study has opened a window into students' worldview that is especially salient to the institution's strategic planning for addressing its core mission. Guided by the first broad, exploratory research question—*What are the patterns of beliefs and values among students at the participating university, especially with regard to independent variables such as year of study, gender, and English language proficiency?*—statistical analysis revealed significant variance by gender and English language proficiency on many BEVI constructs, but little change over time on the BEVI scales.

In response to the second guiding research question—*What implications do these BEVI findings suggest for institutional practices, policies, and decisions, given this university's specific culture, context, and mission?*—these identified patterns in the BEVI scale scores, as well as their comparisons with data from other institutions, may be used by university administration in a number of ways:

- **As formative assessment:** Because “who students are” matters to their learning experiences (Wandschneider et al., 2015), it is vital for faculty designing curricula to understand the trends and patterns in the belief systems of the student body. Knowing, for example, that the students at this university overall are quite religious, rather binary in their thinking, and very environmentally aware will allow instructors to plan learning experiences that meet the needs of their students and are effective in achieving desired learning outcomes. Furthermore, understanding that male students are in many cases farther from those desired learning outcomes (for example, less fluid in their perceptions of gender norms) as well as less emotionally resilient is key to differentiating instruction among students appropriately.
- **As a baseline for pre-/posttest comparisons:** As we have noted several times in the discussion above, longitudinal assessment is invaluable to institutions interested in documenting changes in their students' attitudes and capacities over the course of the program of study. Whether the purpose is to demonstrate institutional effectiveness or to support accreditation processes (in this case, both), longitudinal assessment can provide evidence of growth in desired learning outcomes over time and identify areas for curricular improvement where sufficient growth is not occurring. In this study, one finding of note is that many students have value systems that are aligned with the institutional mission to produce graduates who are interculturally competent and invested in environmental issues. While the limited T2 data in this study models the potential of longitudinal assessment for strategic planning, a far more rigorous and systematic data collection plan is necessary to maximize the value of the longitudinal approach. With multiple sets of large and representative baseline (first year) data combined with matched pair posttest data from graduating seniors, it will be possible to determine whether the university is producing, rather than merely attracting, students of a particular value set.

■ **To inform policy:** Several findings of note in this study provide essential information for strategic planning. Institutions may be interested to learn how their aggregate profiles align (or fail) vis-à-vis their missions given the normed scale of the instrument as well as accessing the profiles of other institutions that may be found in published research. With the BEVI, baselines can be established for each cohort of incoming students. Through re-administration, institutions may be better positioned to examine interactions among demographic and background variables, specific learning experiences, and outcomes related to BEVI scales. For instance, the unusually high identity diffusion scores for this student body across all cohorts suggest that students need more support in negotiating their young adult identities. Moreover, some BEVI scores identify areas for potential curricular emphasis. Since even third-year students exhibited median scores on Global Resonance, the university may currently not be sufficiently encouraging growth towards Pan-Americanism among students. The administration may want to focus on further development of this aspect of student attitudes, perhaps by creating programs or events that encourage more intercultural—rather than *intracultural* of the type exemplified in the *colonias* system of sports and other student activities—cooperation and emphasize students' connection to the global community as well as to more regional contexts. In terms of language course requirements, evidence demonstrates the value of continued mandated language study for addressing the institutional mission, while suggesting a need to reexamine common assumptions and practices regarding language teaching and learning because of the ways in which language acquisition may be influenced by other variables (e.g., emotional/attributional tendencies, life history, and demographics).

While the policies and practices delineated above are specific to the HEI in this study, the model of assessment described is highly transferable to other HEIs involved in internationalizing and strategic planning processes. Notably, this work points to an effective tool, the BEVI, which, in delivering rich data on belief systems about the self, others, and the larger world, allows institutions to understand students at a deeper level than the more typical demographic tracking approach. Because BEVI scales quantitatively measure a number of constructs that are relevant to HEI internationalization, this instrument may be appropriate for use in other similar projects, especially as part of larger initiatives to benchmark and monitor the quality of the internationalization process (Burquel, 2011). Some of the proclaimed advantages of this instrument over others were well-borne out in its implementation in this project, including its reliability, cost-effectiveness, ease of administration, pedagogical applications (e.g., individual and group reporting features), multi-institutional comparability, and rich data sets. Drawbacks also became evident, though: the instrument is long and therefore time-consuming for participants to complete (especially non-native speakers), is validated in very few languages to date, and requires training and practice to interpret effectively.

During this study, the authors also learned many valuable lessons that are generalizable beyond the specific context of this HEI. First, whichever instrument is chosen for institutional assessment, a well-thought-out and sustainable assessment plan is vital, with responsibility assigned to a team of full-time staff (not to a visiting scholar, as in this

case). Second, outcomes assessment such as that modeled here can be supportive of accreditation processes, but only if utilized in recurring cycles of assessment. To our knowledge, the HEI in this study is still in the process of accreditation with a US accrediting body. Initial accreditation is often a long and arduous process spanning five or more years and requiring cooperation across the entire faculty and administration to achieve. A cross-sectional study or even a single set of matched-pairs longitudinal data is, in itself, not enough evidence of rigorous and sustained self-assessment in most cases to convince an accrediting organization that an institution is serious about processes of continual improvement. Finally, even as thorough as the treatment of data was in this study, many additional questions could have been asked and answered. Future directions for research abound, including investigating relationships between moderating and mediating factors for BEVI scores via structural equation modeling and other statistical processes. Larger and more representative data sets would in this way provide better evidence of institutional effectiveness and allow for deeper levels of subgroup analysis beyond gender and language proficiency, to include areas of major study and a number of additional demographic characteristics.

Acknowledgements

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The data collection for this project was supported by a Fulbright Scholar Award from the US State Department.

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All electronic sources were correct on 15 January 2021.

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IMPRESSUM

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VALUES INVENTORY (BEVI)

Autor*innen: Kris Acheson & Colleen Kelly

Titellayout: axeptDesign

ISBN E-Book: 978-3-96037-352-0

DOI: 10.36197/INT.1-2021.04

DUZ Verlags- und Medienhaus GmbH | Kaiser-Friedrich-Straße 90 | 10585 Berlin

Geschäftsführer: Dr. Wolfgang Heuser

Handelsregister Berlin-Charlottenburg: HRB 168239B

Umsatzsteuer-Identifikationsnummer: DE301227734

Telefon: +49 30 21 29 87-0 | Telefax: +49 30 21 29 87-20 | E-Mail: info@duz-medienhaus.de

www.duz-medienhaus.de

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