# Towards an engaged campus

## Measuring and comparing definitive stakeholders' perceptions of university social engagement in South Korea

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Received 3 December 2015
Revised 20 June 2016
Accepted 23 June 2016

### Abstract

**Purpose** – This paper aims to measure and rigorously compare the perceptions of South Korean university social engagement between faculty and students, two definitive stakeholders identified by stakeholder theory – but considerably heterogeneous, to understand how South Korean campus embraces social engagement in practice. To that end, this study delves into the conceptual framework of university social engagement and selects a highly internationalized, research-oriented, four-year comprehensive South Korean university campus that has long sought to become engaged in communities as the research site.

**Design/methodology/approach** – Methodologically, exploratory and confirmatory factor analyses were used to identify the factor model that successfully fit the data of the study. Factorial invariance tests and latent mean analysis were then conducted to measure and strictly compare the between-group mean differences.

**Findings** – According to the findings, neither faculty nor students had positive perceptions of their institution's social engagement in terms of leadership, participatory decision-making, curriculum and instruction, institutional supports and systemic mechanism. That is, two definitive stakeholders on campus similarly perceived that social engagement has not yet been institutionalized as a core value and therefore embraced in practice. Based on these findings, this study discussed several implications for university decision makers. Specifically, the institutionalization of and the need for authentic leadership in university social engagement were emphasized as a means to encourage and facilitate the delivery of practical, beneficial services to the public.

**Research limitations/implications** – As with all studies, there are certain limitations that must be noted. The sample for this study represents the experiences and expectations of faculty and students at only one institution. Therefore, the experiences of individuals at this single university are not necessarily representative of all South Korean universities. In addition, given that the public service missions of South Korean universities emanated from Western thoughts (Duke, 2008; Ward, 2003), social engagement in the present study has been discussed and conceptualized according to the dominant Western scholarship.

**Practical implications** – As both faculty and students similarly perceived, participatory decision-making and systemic mechanism do not work properly, and therefore, social engagement as an institutional value cannot strongly take root on campus. Based on the scale used, this study identified communication and organizational supports as the likely issues that obstruct the institutionalization of social engagement. In relation to communication, Boyte and Hollander (1999) emphasize that it is important that stakeholders are well aware of the engaged effort of the institution. Then, the voices of stakeholders need to be acknowledged as valuable feedback so that university decision makers and stakeholders can discuss mutually important issues and concerns (Minnesota Higher Education Services Office, 2003). Furthermore, the relevant literature consistently contends that engaged effort can only be productive with continuous and systemic



International Journal of Sustainability in Higher Education
Vol. 18 No. 2, 2017
pp. 185-202
Emerald Publishing Limited
1467-6370
DOI 10.1108/IJSHE-12-2015-0194

organizational supports (Boyte and Hollander, 1999; Holland, 1997; Minnesota Higher Education Services Office, 2003; Weerts and Sandmann, 2008). That is, the engaged work of teaching, research and service should be thoroughly assessed and reported to stakeholders on a regular basis. The implication in this study is that university decision makers should make greater effort to design and implement policies and regulations that enable organizational supports to continue.

**Social implications** – For social engagement to be valued in practice, the relevant literature (Kellogg Commission, 1999; Garlick and Langworthy, 2008; Minnesota Higher Education Services Office, 2003; Peterson, 2009) advises that top institutional leaders need to encourage interdisciplinary scholarship that includes research, teaching and learning; develop incentives to encourage faculty involvement in engaged work; support engagement so that it is incorporated into the curriculum and instruction; and secure funding for engagement. The fundamental insight that these suggestions provide to university decision makers is crystal-clear: social engagement must be authentically prioritized in the decision-making process.

**Originality/value** – The quantitative and descriptive findings of the study seek to provide one further step toward the objective of establishing the groundwork for future research on university social engagement in Asian context. Further, replication studies with various Asian cases and research designs may results in tangible improvements to the theorization of Asian university social engagement.

**Keywords** Public service, Factorial invariance test, Latent mean analysis, Social engagement, South Korean case, Sustainability of higher education

**Paper type** Research paper

## Background

Lamenting the loss of the spirit of public service in the twenty-first century higher education, Macfarlane (2007, p. 26) asserted that:

> […] the collegiality of faculty life has been replaced by a less communal and more isolated existence, institutional communities are strained by the growth in the size of universities, and academic relations with students have become increasingly impersonal in the wake of massification.

As research competitiveness becomes a notably deciding factor that affects the very existence of universities in the twenty-first century, public service and social engagement, which are essential values for sustainability of higher education, have a relatively difficult time maintaining their value in the normal course of institutional activities (Alperovitz *et al.*, 2008; Boyte and Hollander, 1999; Kezar, 2005).

The current state of South Korean higher education is no exception. In this regard, Kang (2008) critiqued South Korean universities, almost all of which have tried to become world-class research institutions in recent years, despite their very different institutional missions and organizational capabilities. The history of higher education in South Korea is relevant to Kang's argument. A period of 70 years following its national liberation in 1945 has provided South Korean universities with the opportunity to expand and massify (Kim, 2008; Shin, 2005). In general, South Koreans' high demand for education has been regarded as the explanation for the expansion of South Korean universities (Cho, 2006; Kim, 2005; Lee, 1992; Son, 1994, 1995). In the late 1970s, South Korea underwent rapid industrialization and was therefore in need of a skilled workforce. Thus, higher education was recognized as a path to upward social and career mobility, which, in turn, played a role in stimulating the expansion of universities and increasing demographic and psychosocial demands for higher education (Kim, 2014). However, the supply-centered approach should also be regarded as an acceptable explanation for the expansion in the late 1970s and 1980s (Son, 1994, 1995). During this period, South Korean society was being industrialized through strong state initiatives. Because civil society was still immature, the government as the provider of education had unchallenged power to decide whether the educational demands of individuals were reflected in national policy (Son, 1995). In a similar vein, Garneir *et al.* (1989, p. 286) stated that:

> A strong state can affect the calculations of individuals about the worth of education in the following ways: through the establishment of multiple educational systems, by the restriction of access, and by the control of expansion in both systems mandated by the overarching concern with educational quality […] Recent evidence suggests that […] educational providers do not necessarily provide what is demanded. Educational history also suggests that educational providers sometimes anticipate demand. In other words, the study of educational expansion must examine supply.

Specifically, according to the policy agenda of manpower supply for economic development during the 1980s, the South Korean government enlarged existing colleges and universities, absorbed two-year colleges into four-year universities and encouraged the establishment of new universities (Kim, 2005). In addition, the university student population liberalization policy of the 1990s enabled universities that met certain government criteria to freely adjust or increase their student populations.

These policies and changes to the higher education system over the years unexpectedly caused South Korean universities to become virtually identical in many respects. Consequently, South Korean universities lost the opportunity to identify themselves through functional differentiation (Kim, 2005, 2011). Moreover, since the 2000s, the government has strategically emphasized research productivity to improve the global competitiveness of South Korean universities (Palmer and Cho, 2012). As a result, there has been a growing sentiment that nationally competitive universities are simply equal to research-oriented institutions (Shin, 2009). This misperception has driven South Korean universities to become obsessed with their research prowess (Lee, 2012), and this obsession, in turn, has been the stumbling block in efforts to provide students with opportunities to learn something meaningful in unstructured, real-world situations and to conduct scholarship relevant to and grounded in the public need (JoongAng Ilbo, 2009).

South Korean universities still represent one of the few types of institutions that affect the sustainability of their society. However, South Korean society also wants to be convinced that the university presence nets a positive contribution by creating human capital and conducting research and innovation that meet the needs of the public (Cho, 2008; Garlick and Langworthy, 2008). Thus, university engagement with the public need should be an issue of mutual concern to both universities and society (Peterson, 2009).

## Purpose

Social engagement, which refers to a partnership between a university and civil society (Zlotkowski, 2007), traces its historical roots to the public service missions of the mid-nineteenth-century land-grant universities in America (Duke, 2008; Ward, 2003). In the land-grant university tradition, an institution of higher learning is viewed as a training ground for democratic life and civic practice (Alperovitz *et al.*, 2008). In this context, public service missions strive toward the enhancement of the reality and practicality of higher learning (Scott, 2006). Presently, public service is defined as an institutional mission of both public and private universities (Boyer, 1990; Newman *et al.*, 2004) and is regarded as important in both Western and non-Western contexts (Min and Chau, 2012).

However, there is a lack of empirical knowledge concerning university social engagement in South Korea and, more broadly, in Asia, where the principles of social responsibility are less developed for sustainability of higher education (Aamir *et al.*, 2014). Because there has been little reporting to an international audience of how Asian universities appreciate their institutional values, the question remains whether faculty and students necessarily embrace social engagement in practice. Moreover, very little research has been conducted to empirically examine how institutional values are perceived on campus (Ferrari and Velcoff, 2006).

Against this background, the goal of this study was to determine how social engagement is perceived on a South Korean campus. Universities engage in relationships with many groups internally and externally and either influence or are influenced by them (Pfeffer and Salancik, 1978). To use the terminology of Freeman (1984), these internal and external groups are stakeholders. Indeed, it was important in this study to identify and maintain a good focus of stakeholders who possess valid, reliable information and experiences concerning how social engagement is valued and reflected in their institution. In that regard, Mitchell *et al.* (1997, p. 869) suggested three factors – power, legitimacy and urgency – for classifying stakeholder salience in terms of the priorities of organizational attention. Salience refers to the degree to which an organization assigns priority to competing stakeholder claims. Salient stakeholders hold power of negotiation with relational legitimacy with the organization, and therefore their claims call for immediate organizational attention. In this model, binary salience, in which one either does or does not have the three attributes, is used to identify three types of stakeholders: the definitive stakeholder holds all three attributes with decision makers and consequently gains immediate and high attention, whereas latent stakeholders and expectant stakeholders possess, respectively, only one and two attributes, resulting in low and moderate organizational attention.

In higher education settings, institutional values should be shared with salient stakeholders so that their expectations and demands stay relevant to institutional goals and objectives (Mainardes *et al.*, 2013). In previous studies (Chapleo and Simms, 2010; Mainardes *et al.*, 2012; Moraru, 2012), researchers identified faculty and students as the definitive stakeholders of the greatest salience and priority to universities because, based on certain findings, these two groups value and respect an institutional identity the most and have an unequaled impact on university decision-making in comparison with other competing stakeholders. In contrast, stakeholders such as students' families, local governments and local communities that host universities were classified as having the lowest degree of salience.

Based on the literature reviewed above, in this study, faculty and students were identified as the most salient and as the definitive stakeholders who are able to provide valid, reliable information. Focusing on these two groups, the goal of this study was to rigorously compare the between-group similarity and/or difference in terms of their perceptions of university social engagement and to then find meaningful implications for top institutional leaders. The group comparison in this study was designed to provide a descriptive and exploratory investigation of the definitive stakeholders' perceptions to help establish the groundwork for future research in university social engagement in an Asian context. Accordingly, the following research question guided this investigation: To what extent are perceptions of university social engagement similar and/or different between faculty and students?

To achieve this goal, a highly international, research-oriented, four-year comprehensive South Korean university located in Seoul was selected as the research site, and the conceptual framework of university social engagement was explored. This university has long defined social engagement as a core institutional value, as expressed in its mission statement. Because the mission statement provides the structure for developing the objectives that the institution attempts to accomplish (Bingham *et al.*, 2001), institutional values become a pillar of assessing institutional performance (Ferrari and Velcoff, 2006).

## University social engagement

### *Theoretical contexts*

Public service missions broadly underscore the usefulness of knowledge and academic research to citizens, and institutions of higher learning are called upon to be socially engaged

in building viable communities (Scott, 2006). Engagement enables university campuses to be more closely associated with the realities of contemporary life via two-way and symmetric responsiveness to the public need (Duke, 2008; Kezar, 2005; Macfarlane, 2007; Maurrasse, 2001; Ramaley, 2005; Ward, 2003; Zlotkowski, 2007). In that regard, Boyer (1996, pp. 19-20) introduced the concept of scholarship of engagement, which entails "connecting the rich resources of the university to most pressing social, civic, and ethical problems" and, at a deeper level, "creating a special climate in which the academic and civic cultures communicate more continuously and more creatively with each other in order to enrich the quality of life for all". Similarly, Checkoway (2002) referred to the scholarship of engagement as scholarship for the common good or as public scholarship that draws on the expertise of a given discipline, makes connections with audiences beyond the campus and connects the faculty's endeavors and student learning with the public. Public scholarship elevates engagement to the level of scholarship by encouraging the incorporation of research and teaching into public work and allowing both to be of practical benefit to the public (Alperovitz *et al.*, 2008; Boyer, 1996; Fogelman, 2001; Thomas, 2000; Ward, 2003).

*Conceptual frameworks for implementation*

Grounded in the above-mentioned ideas of Boyer and Checkoway, the term, engaged institution, in this paper refers to a university that is closely interwoven in the fabric of its society. Specifically, in engaged institutions, top institutional leaders commit to social involvement, the faculty design and implement their research and teaching in close connection to the public need, the students are actively involved in social issues and service and the public-university partnership is based on reciprocal and mutual trust and respect (Holland, 2001, 2005; Maurrasse, 2001; Ramaley, 2005; Shannon and Wang, 2010; Ward, 2003). These salient features serve as the foundation for the conceptual frameworks that define the core dimensions of university social engagement in the present study.

Table I shows the frameworks that have been frequently noted in the relevant literature. The institutional values defined in the mission statements of higher education settings may be conveyed through administrative operations, academic programs and policies and student services, and they play a pivotal role in balancing the relationship between institutional goals and the public need and integrating the objectives held by diverse stakeholders (Ferrari and Cowman, 2004). Likewise, the dimensions suggested by the frameworks represent critical areas in which social engagement must be accepted as an academic, administrative, policy, institutional, pedagogical and practical priority.

The frameworks thematically reviewed in Table I define social engagement as a complicated construct that shares at least five factors representing the critical dimensions in which engagement is to be institutionally valued. First, leadership is significant because "engagement will not develop by itself, and it will not be led by the faint of heart" (Kellogg Commission on the Future of State and Land-Grant Universities, 1999, p. 11). Leadership, defined as the mindset, words and actions of top institutional leaders, affects the processes by which a campus evolves into an institution in which its identity and culture of social engagement are embedded (Schein, 2004). Second, engaged institutions commonly value participatory decision-making. The voices of stakeholders are reflected in the decision-making process through policy and institutional arrangements, power relations, governance, organizational structures, management and administration (Minnesota Higher Education Services Office, 2003). Third, engaged institutions promote the integration of engagement into the curriculum and student learning experiences. An engaged curriculum and pedagogy serve to motivate faculty, students and the public to become actively involved in teaching, learning and scholarship based on mutually beneficial and respectful collaborations (Driscoll, 2008). High-quality forms of engagement ensure that active

| Researcher(s) | Dimensions | |
|---|---|---|
| Holland (1997) | Mission | Faculty/Student/Community involvement |
| | Promotion, Tenure, Hiring | Campus publication |
| | Organization structure | |
| Gelmon *et al.* (1997) | University–Community partnerships | Faculty commitment |
| | Impact of service learning | Institutional capacity |
| | | Impact on community partners |
| Boyte and Hollander (1999) | Mission | Faculty involvement |
| | Curriculum, Cocurricular/Off-Campus activities | Governance, Policy/Institutional arrangement |
| | Public culture, Institutional purposes | Leadership |
| | Rewards | Infrastructure |
| Carnegie Foundation (2007) | Institutional identity and culture | Curricular engagement |
| | Institutional commitment | Outreach and partnerships |
| Minnesota Higher Education Services Office (2003) | Culture | Accessibility |
| | Leadership | Enabling mechanisms |
| | Power, Policy | Breadth and depth of programs |
| Campus compact (retrieved electronically on April 28, 2014, from www.compact.org/indicators-of-engagement-project-categories-page) | Mission and purpose | Internal/External resource allocation |
| | Academic/Administrative leadership | Student/Community voice |
| | Disciplines, Departments and Interdisciplinary work | Integrated/Complementary engagement activities |
| | Pedagogy, Epistemology | Forums for fostering public dialog |
| | Faculty development | Social issues |
| | Faculty roles and rewards | |
| | Enabling mechanisms | |
| Garlick and Langworthy (2008) | Informed dialog and partnerships with community | Accessibility, Responsiveness |
| | | Innovative research |
| | Governance, Management, Administration | Learning and teaching |
| Weerts and Sandmann (2008) | Institutional history, Mission, Context | Organization and structure |
| | | Governance and power relations |
| | Leadership | Outcomes and impacts |
| | Faculty role and incentives | |
| Kellogg Commission on the Future of State and Land-Grant Universities (1999) | Responsiveness | Integration |
| | Respect for partners | Coordination |
| | Academic neutrality | Resource partnerships |
| | Accessibility | |

**Table I.**
Frameworks of university social engagement

citizenship and public work are integrated throughout students' curricular and co-curricular experiences (Garlick and Langworthy, 2008; Minnesota Higher Education Services Office, 2003). Fourth, institutional supports focus on issues such as hiring, promotion, tenure, rewards, policies, roles, resource allocation and accessibility to institutionally invigorate faculty contributions to public work (Boyer, 1990; Boyte and Hollander, 1999; Hikins and Cherwitz, 2010; Holland, 1997; Kellogg Commission on the Future of State and Land-Grant Universities, 1999). The fifth factor consists of systemic mechanism spanning a full range of forms and procedures that enable public work to continue to be organized, assessed and documented under campus initiatives (Minnesota Higher Education Services Office, 2003). The systemic mechanism includes adequate professional human resources, faculty and staff training and development and a series of institutional evaluations and data collection, accumulation, analysis and documentation.

## Methods

### *Scale*

This study used a scale that Cho (2011) developed to measure South Korean university social engagement. At the initial stage of scale development, item selection, adaptation and categorization were based on the information obtained from the relevant literature described in the above-mentioned frameworks. Then, 626 randomly sampled university stakeholders (faculty, students, staff, college-prep schoolteachers and higher education policy analysts) participated in the survey, and 25 items were selected as valid for measuring South Korean university social engagement via an exploratory factor analysis (EFA) and a two-parameter logistic and graded response model tested using Multilog version 7. The selected items were included on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), and the item characteristic curves confirmed the appropriateness of the five-point response scale. Finally, the scale development concluded that the items were clustered as five conceptually related factors, which are designated in the present study as leadership, participatory decision-making, curriculum and instruction, institutional supports and systemic mechanism[1]. Table II shows the structure of the scale with the 25 items validated by both theoretical considerations and psychometric tests.

Leadership consists of the ways that top institutional leaders develop and support social engagement at all levels on campus. Participatory decision-making measures the degree to which the institution supports participatory decision-making on campus. Curriculum and instruction measure the degree to which academic programs and activities support multiple high-quality forms of social engagement. Institutional supports are defined as institutionalized efforts (e.g. policies, regulations, norms) to encourage and facilitate engaged work on campus. Systemic mechanism refers to campus structures, procedures and systems that are supportive of social engagement. Table II lists the items that belong to each factor.

### *Research site*

The university selected as the research site for this study is a large, highly international, research-oriented, four-year comprehensive institution of higher learning located in Seoul. The university has been one of the most competitive institutions in South Korea, ranking consistently between sixth and ninth over the previous decade. The university's social engagement could be summarized as follows.

The university has long been guided by its founding spirit to pursue the creation of a civilized society. Therefore, it has defined university social engagement for sustainability of the society as its primary institutional priority. In performing its institutional mission, the university has actively sought to be engaged in communities for collective betterment and to play the role of a good, responsible citizen who contributes to building a better society (Kyung Hee University, 2012a). During the previous six decades, based on its humanistic spirit, the university has undertaken several historically monumental social and civic initiatives to attain and protect human rights, freedom, equality and peace at the local, national and global level (Kyung Hee University, 2012b). In recent years, the university has innovatively reorganized its liberal arts college to cultivate mature, well-rounded citizens who are actively engaged in critical social and public problems by providing community-based experiential learning.

### *Participants*

The survey was administered to 469 full-time faculty and 2,195 fourth-year undergraduates via the online e-mail survey system provided by the university. A total of 162 faculty and 368 students voluntarily completed the survey. The response rates for the faculty and students were 34.5 and 16.8 per cent, respectively.

**Table II.**
The composition and parameter estimates of the five-factor model

| Parameter | Faculty | Students |
|---|---|---|
| *Leadership* | | |
| Top institutional leaders give a consistent and sustained voice to the broad public purposes of the university as an engaged agent for public good | 1.335 (0.885) | 1.170 (0.720) |
| Top institutional leaders take leadership in creating an institution that evolves to reflect the diverse culture of our communities | 1.126 (0.878) | 1.301 (0.822) |
| Top institutional leaders create and improve infrastructures that sustain creativity, flexibility and public contributions | 1.291 (0.927) | 1.299 (0.806) |
| Top institutional leaders support and create multiple opportunities to develop the public leadership skills and capacities of diverse members of the institution | 0.944 (0.861) | 1.061 (0.672) |
| Top institutional leaders encourage members of the institution to become actively engaged in society (voting, volunteering, civic networks, etc.) | 1.080 (0.810) | 1.156 (0.733) |
| Top institutional leaders clearly define social engagement as a primary goal of the institution | 1.000 (0.738) | 1.000 (0.670) |
| *Participatory decision-making* | | |
| Decision-making includes campus stakeholder voices | 1.258 (0.918) | 1.055 (0.758) |
| Decision-making includes community voices | 1.000 (0.773) | 1.000 (0.737) |
| *Curriculum and instruction* | | |
| Service learning and other community-based forms of education exist throughout the departments and disciplines of the institution | 0.664 (0.549) | 0.700 (0.494) |
| Multicultural education is effectively coordinated and emphasized for all students | 1.020 (0.733) | 0.788 (0.557) |
| The curricula and courses intend to challenge students' imaginations, draw on students' experiences and interests and cultivate students' talents and public identity | 1.258 (0.892) | 0.950 (0.698) |
| Students help build and sustain public cultures through conversations, arguments and discussions with others different from themselves in experience, culture, background, ideologies and views | 0.919 (0.743) | 0.991 (0.692) |
| Students have multiple opportunities to help create knowledge and do scholarship relevant to and grounded in public problems | 1.000 (0.744) | 1.000 (0.786) |
| *Institutional supports* | | |
| Purchasing and procurement consider public and community impact | 0.906 (0.749) | 0.673 (0.545) |
| Facilities management considers environmental and social outcomes and opportunities | 1.008 (0.816) | 0.830 (0.597) |
| Faculty roles and rewards (promotion, tenure, assessment, teaching and learning, etc). promote social engagement | 1.143 (0.862) | 0.904 (0.691) |
| Admissions and finance consider the public and democratic purposes of higher education and the diverse cultural and civil society | 1.025 (0.840) | 1.163 (0.732) |
| Faculty appointment considers engaged responsibility | 1.000 (0.690) | 1.000 (0.673) |
| Systemic mechanism | | |
| Adequate professional staff and/or coordination effectively support engagement | 1.000 (0.851) | 1.000 (0.646) |
| Engaged efforts and outcomes of the institution are systematically reported to and shared with communities | 1.118 (0.940) | 1.131 (0.681) |
| Engaged work of the institution is systematically assessed | 0.919 (0.825) | 1.267 (0.787) |
| Engagement data of the institution continue to be aggregated and used for assessment | 0.933 (0.784) | 0.994 (0.674) |

**Note:** The parameter estimates are unstandardized (standardized values shown within parentheses), and all values are statistically significant at $\alpha = 0.001$

*Analytic approach*

Because the two most salient but heterogeneous stakeholders on campus were selected as the sample, their perceptions of social engagement should be rigorously measured and fairly compared as offsetting their essential difference. For this reason, latent mean analysis (LMA) was conducted rather than multivariate analysis of variance. LMA, in contrast to traditional statistical techniques that potentially use error-laden composites, theoretically uses error-free constructs that include latent constructs when testing hypotheses (Hancock, 1997) and, therefore, is relatively free of measurement errors (Hancock, 1997; Hong *et al.*, 2003). However, configural, metric and scale invariances should be assumed so that heterogeneous groups may be validly compared according to latent variable means (Steenkamp and Baumgartner, 1998). This assumption implies that research results across heterogeneous groups cannot be compared until the measurements are comparable (Blunch, 2008). To test the assumption that the latent variables fall under the same scale, invariance tests between the faculty and student groups were performed using the maximum likelihood estimation method.

Prior to the LMA, an EFA and a confirmatory factor analysis (CFA) were conducted to confirm the factor structure that most successfully fit the data in this study. The EFA was performed to explore the underlying structure of the university social engagement scale that this study used as using maximum likelihood estimation with oblique rotation, and a factor loading $> \pm 0.40$ was set as the cutoff criterion. CFA was also conducted based on maximum likelihood estimation. The model fit tests in the CFA mainly depended on three fit indices: the non-normed fit index (TLI), the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). According to the previous literature (Hong *et al.*, 2003; Hu and Bentler, 1999; Landis *et al.*, 2000; Schumacker and Lomax, 2010), a value greater than 0.90 is desired for the TLI and CFI to be accepted. With regard to the RMSEA, a value of 0.06 is accepted as a reasonable cutoff point. More specifically, Browne and Cudeck (1993) suggested that a RMSEA of less than 0.05 represents a good fit, values between 0.05 and 0.08 represent a reasonable fit and values exceeding 0.10 represent a bad fit. Although the chi-square test is extremely sensitive to the sample size, its significance was also examined to determine the model fit. PASW 18.0 and AMOS 18.0 were used in the EFA and CFA.

## Tests for validity and invariance

*Validity test by exploratory factor analysis and confirmatory factor analysis*

The EFA was conducted to explore any possible models that better fit the data in the present study, and several factor structures that fit the data were identified (Table III). In general, it is desirable to choose the model with the least number of factors if the difference in the model fit is less than 0.01. Although both were adequate in terms of the RMSEA, the four- and five-factor models failed to prove a significant fit difference of greater than 0.01. Therefore, the EFA confirmed that the four-factor model better fit the data.

The CFA was then performed to compare the fit indices between the four-factor model identified by the EFA and the five-factor model conceptually constructed based on the theoretical discourse Table IV to determine which model yields a better fit.

| Model | $\chi^2$ | df | P | RMSEA | % of variance explained |
|---|---|---|---|---|---|
| Three-factor | 617.392 | 228 | 0.000 | 0.061 | 45.436 |
| Four-factor | 440.604 | 206 | 0.000 | 0.050 | 48.419 |
| Five-factor | 323.503 | 185 | 0.000 | 0.041 | 51.496 |

**Table III.**
EFA results

| | Faculty | Fourth-year undergraduates | Total |
|---|---|---|---|
| *Gender* | (n = 162) | (n = 368) | (n = 530) |
| Male (%) | 91 (56.2) | 187 (50.8) | 278 (52.5) |
| Female (%) | 71 (43.8) | 181 (49.2) | 252 (47.5) |
| *Age* | | | |
| 29 or younger (%) | 26 (16.0) | 315 (85.6) | 341 (64.3) |
| 30-39 (%) | 52 (32.1) | 38 (10.3) | 90 (17.0) |
| 40-49 (%) | 45 (27.8) | 11 (3.0) | 56 (10.6) |
| 50-59 (%) | 33 (20.4) | 4 (1.1) | 37 (7.0) |
| 60 or older (%) | 6 (3.7) | 0 (0.0) | 6 (1.1) |

**Table IV.**
Demographics of the sample

Table V presents the chi-square and descriptive values for the four- and five-factor models. According to the TLI, CFI and RMSEA values for the groups, the five-factor model fits the data better than the four-factor model. Therefore, the five-factor model is appropriate for application to the two heterogeneous stakeholder groups. Based on the results, configural invariance was achieved, meaning that the pattern of fixed and non-fixed parameters is identical across the two heterogeneous stakeholder groups.

The parameter estimates of the five-factor model are provided in Table II. The model originally included 25 items but was trimmed to 22; the factor loadings of three items (one from leadership and two from participatory decision-making) were below the cutoff criterion and were thus eliminated from the LMA.

*Descriptive statistics*

Table VI presents the correlation matrix among the subscale scores by group. Because maximum likelihood estimation was used, the normality assumption must be met to prevent distorted results. Hong *et al.* (2003) suggested that the normality assumption for all variables is well met when the skewness is less than 2 and the kurtosis is less than 4. Both the skewness and kurtosis coefficients for the faculty and student groups are less than these cutoff criteria.

*Invariance tests*

The multigroup invariance was tested to examine the structural invariance between the two groups. Invariance tests were hierarchically performed in the order of the nested models. The fit indices of Model 1, which is the baseline model presented in Table VII, supported the identical configuration of salient and non-salient factor loadings across the two groups. In addition, the baseline structure fit the data in that the chi-square values obtained by the groups summed to the chi-square value of Model 1.

| Model | $\chi^2$ | df | TLI | CFI | RMSEA |
|---|---|---|---|---|---|
| *Faculty* | | | | | |
| Four-factor model | 294.728 | 183 | 0.907 | 0.919 | 0.085 |
| Five-factor model | 301.616 | 199 | 0.919 | 0.930 | 0.078 |
| *Students* | | | | | |
| Four-factor model | 410.397 | 183 | 0.917 | 0.927 | 0.058 |
| Five-factor model | 381.518 | 199 | 0.936 | 0.945 | 0.050 |

**Table V.**
Fit indices for four- and five-factor model by subject group

| | 1[a] | 2[b] | 3[c] | 4[d] | 5[e] |
|---|---|---|---|---|---|
| *Faculty* | (n = 86) | | | | |
| 1 | – | | | | |
| 2 | 0.52** | – | | | |
| 3 | 0.68** | 0.41** | – | | |
| 4 | 0.58** | 0.67** | 0.48** | – | |
| 5 | 0.71** | 0.61** | 0.64** | 0.69** | – |
| M(SD) | 2.83 (0.88) | 2.42 (0.83) | 2.76 (0.67) | 2.66 (0.80) | 2.33 (0.78) |
| Skewness | −0.30 | 0.52 | −0.19 | 0.33 | 0.25 |
| Kurtosis | −0.42 | 0.80 | 0.03 | 0.64 | 0.06 |
| *Students* | (n = 368) | | | | |
| 1 | – | | | | |
| 2 | 0.40** | – | | | |
| 3 | 0.51** | 0.38** | – | | |
| 4 | 0.61** | 0.54** | 0.51** | – | |
| 5 | 0.60** | 0.44** | 0.54** | 0.62** | – |
| M(SD) | 2.70 (0.73) | 2.15 (0.76) | 2.62 (0.72) | 2.62 (0.62) | 2.44 (0.64) |
| Skewness | 0.16 | 0.48 | 0.04 | 0.11 | 0.28 |
| Kurtosis | 0.14 | 0.14 | −0.16 | 0.25 | 0.47 |

**Notes:** (1) [a]Leadership, [b]participatory decision-making, [c]curriculum and instruction, [d]institutional supports, [e]systemic mechanism; (2) $^{**}p < 0.01$ and Likert-type scale from 1 (strongly disagree) to 5 (strongly agree); overall mean (SD): factor 1 [2.73 (0.76)], 2 [2.20 (0.78)], 3 [2.65 (0.71)], 4 [2.63 (0.66)], and 5 [2.42 (0.67)]

**Table VI.**
The correlation coefficient, standard deviation and mean by subject group

| Model (nested) | $\chi^2$ | df | TLI | CFI | RMSEA |
|---|---|---|---|---|---|
| Model 1: configural invariance | 684.692 | 398 | 0.930 | 0.940 | 0.040 |
| Model 2: metric invariance | 721.619 | 415 | 0.929 | 0.936 | 0.040 |
| Model 3: scale invariance | 831.201 | 437 | 0.913 | 0.918 | 0.045 |
| Model 4: partial scale invariance | 763.535 | 432 | 0.926 | 0.931 | 0.041 |
| Model 5: factor variance invariance | 780.892 | 437 | 0.924 | 0.928 | 0.042 |

**Table VII.**
Selected fit indices for invariance tests

For the obtained ratings to be meaningfully compared, it is necessary to confirm that the two heterogeneous groups respond in the same manner. Therefore, the metric invariance was tested by constraining the factor loadings to be equal. Under metric invariance, the scale intervals can be seen as being equal across the two groups (Steenkamp and Baumgartner, 1998). Therefore, the score difference on the items can be accepted as a meaningful resource for comparing the between-group differences.

As shown in Tables VII and VIII, the chi-square value resulting from the constraints increased from 684.492 to 721.619, gaining 17 degrees of freedom. The metric invariance was a nested model within Model 1. The chi-square difference can be useful for testing the statistical significance of the fit improvement between the nested models. The chi-square difference was 36.927 with 17 degrees of freedom, which indicates statistical significance at the level of 0.01. Based only on this result, it could be said that the metric invariance was not supported. However, it is not desirable to use the chi-square difference as the only criterion for determining the fit of nested models because it is often of little value depending on the sample size (Hong *et al.*, 2003; Schumacker and Lomax, 2010). To make a more accurate decision regarding the fit of the nested models, the chi-square difference test is better used and compared with the main fit indices, such as the TLI, CFI and RMSEA (Hong *et al.*, 2003).

Because these three fit indices did not substantially deteriorate, the metric invariance can be regarded as being fairly supported.

A scale invariance test was then conducted to determine whether the "group differences in the observed items are due to differences in the means of the underlying construct(s)" (Steenkamp and Baumgartner, 1998, p. 80). This test was performed by holding the intercepts equal across the two groups. The chi-square difference between Models 2 and 3 did not support the scale invariance. Moreover, the TLI, CFI and RMSEA also deteriorated. Therefore, a partial measurement invariance test was conducted to continue the multigroup analyses (Byrne, 2010). This test revealed that the significant increase in the chi-square value and fit indices resulted from a lack of scale invariance in the following five indicators: 29 (leadership); 11 (participatory decision-making); and 15, 16 and 17 (institutional supports). By relaxing these indicators, the partial scale invariance model (Model 4) yielded a substantial improvement in fit compared to the full-scale invariance model (Model 3). Hence, Model 4 was evaluated against Model 2. Although the chi-square difference between these models still did not support the partial scale invariance, the TLI, CFI and RMSEA improved substantially compared to the full-scale invariance. Provided that at least one item in each latent construct is invariant, multigroup analyses can continue on the basis of the partial scale invariance (Byrne, 2010; Hong *et al.*, 2003; Steenkamp and Baumgartner, 1998).

Because the configural, metric and partial scale invariances were acceptable, the latent mean differences were calculated. For the LMA, the means of the latent variables for a reference group should be fixed at zero when estimating them for other groups. Under this setting, the estimated latent mean values for other groups represented the mean differences from those of the reference group. With its latent mean parameters fixed at zero, the faculty was designated as the reference group. However, the latent group mean differences must be translated into Cohen's $d$ value to understand their effect size based on common metrics (Hong *et al.*, 2003). This index can be calculated by dividing the means of the two groups by the pooled standard deviation across the groups (Vogt, 2005). The effect size is generally interpreted under the rule of $d < 0.2$ (small), $d < 0.5$ (moderate) and $d < 0.8$ (significant) (Cohen, 1988). However, the homogeneity assumption should be met for the pooled standard deviation for the $d$ value computation to be used. The assumption can be tested by fixing the variance values to be equal across the two groups. As shown in Table VIII, the chi-square difference obtained by comparing Models 4 and 5 was 17.357 with 5 degrees of freedom. The assumption was rejected at the significance level of 0.01. However, the TLI, CFI and RMSEA values showed only insignificant changes, which indicates that the variance values can be seen as being fairly equal across the two groups. Therefore, the $d$ value can be computed.

## Latent mean analysis results

Table IX shows the LMA results. None of the factors showed a statistically significant latent group mean difference. In other words, the faculty and students, the two definitive stakeholders, did not differ in their perceptions of their university's social engagement in terms of leadership, participatory decision-making, curriculum and instruction, institutional supports and systemic mechanism. Furthermore, the mean values of each factor scored less

**Table VIII.** The results of chi-square difference tests

| Model | $\Delta \chi^2$ | Δdf | ΔTLI | ΔCFI | ΔRMSEA |
|---|---|---|---|---|---|
| Test of metric invariance: Model 1 vs Model 2 | 36.927 | 17 | 0.001 | 0.004 | 0.000 |
| Test of scale invariance: Model 2 vs Model 3 | 109.582 | 22 | 0.016 | 0.018 | 0.005 |
| Test of partial scale invariance: Model 2 vs Model 4 | 41.916 | 17 | 0.003 | 0.005 | 0.001 |
| Test of factor variance invariance: Model 4 vs Model 5 | 17.357 | 5 | 0.002 | 0.003 | 0.001 |

than 3 on the five-point response scale for both groups (Table VI). These results indicate that both groups did not perceive the present level of their university's social engagement as being high and that there was congruence between their perceptions.

Specifically, both groups similarly perceived that there is little respect for participatory decision-making. This result suggests that particular and selected minority groups are given opportunities to take part in the decision-making process. The groups similarly perceived that their engaged work and outcomes are not systematically managed, coordinated and assessed in line with the public need as expected. Moreover, both groups shared the view that those who hold important positions in university governance have not tried hard enough to devise a structured policy framework to value and reward their engaged work and outcomes. They also perceived that the curriculum and instruction are not well integrated into community-based experiential learning. Finally, the leadership of the top institutional decision makers has been perceived as not being effective in fostering and sustaining a culture in which social engagement is respected and accepted as part of the institution's identity.

## Discussion and conclusions

Although the LMA in this study contributed to error-free and rigorous comparison of the faculty's and students' perceptions of their institution's social engagement, any discussion beyond the latent mean differences between the two groups is likely to be speculative and tentative. However, the findings of this empirical study at least support the conclusion that the faculty and students, the two definitive stakeholders on the campus, similarly perceived that social engagement has not yet been embraced as a core value and used in practice. The findings also suggest that social engagement exists only at the superficial level of the mission statement.

In fact, most South Korean universities have long been contributing to their communities through services such as *pro bono* work, volunteer activities and sharing of campus facilities. However, Moon (2011) raised the question of whether the work of engagement of South Korean universities has been authentically institutionalized and practically valid for the public good and sustainability of the society. The findings of this study also lead to similar questions regarding South Korean universities: Have South Korean universities ever seriously considered designing and implementing social engagement policies or programs that respond to and serve the public need? To the extent that there has been social engagement, has it been fragmentary, piecemeal, unilateral and *ad hoc*? Unless South Korean universities are able to respond to these questions, there remains a long road ahead toward the goal of authentic engaged scholarship. Taking these questions into account, the findings of the study have yielded several implications for South Korean university decision makers in terms of the institutionalization and practice of social engagement.

| Factor | Faculty (n = 86) Latent mean | Students (n = 368) Latent mean ($p$) | Cohen's $d$ |
|---|---|---|---|
| Leadership | 0.000 | −0.124 (0.164) | 0.196 |
| Participatory decision-making | 0.000 | −0.053 (0.615) | 0.084 |
| Curriculum and instruction | 0.000 | −0.145 (0.106) | 0.204 |
| Institutional supports | 0.000 | 0.199 (0.072) | 0.314 |
| Systemic mechanism | 0.000 | 0.093 (0.280) | 0.159 |

**Notes:** The latent mean values for faculty were set to zero; *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$; faculty is a reference group

**Table IX.**
The results of latent mean analysis

Effective leadership moves institutions toward social engagement (Weerts and Sandmann 2008). This statement suggests that an engaged institution does not create itself. The Kellogg Commission on the Future of State and Land-Grant Universities (1999) and the Minnesota Higher Education Services Office (2003) suggested that top institutional leaders transform their thinking about service; encourage interdisciplinary scholarship including research, teaching and learning; develop incentives to encourage faculty involvement in engaged work; and secure funding to support engagement. By doing so, engagement becomes a priority on campus and a central part of the institution's mission. This is a thought-provoking suggestion for South Korean universities. Most of all, it is important that top institutional leaders of South Korean universities sincerely demonstrate to stakeholders that they value relationships with the community. To demonstrate this commitment, it is critical that leaders be visible and develop two-way communication between themselves and other stakeholders. To improve communication, it is important that stakeholders are well aware of the engagement efforts of the institution (Boyte and Hollander 1999). The voices of stakeholders then need to be acknowledged as valuable feedback so that university decision makers and stakeholders can discuss mutually important issues and concerns (Minnesota Higher Education Services Office, 2003).

Indeed, engagement can only be productive with continuous and systemic organizational supports (Boyte and Hollander, 1999; Holland, 1997; Minnesota Higher Education Services Office, 2003; Weerts and Sandmann, 2008). The implication of this study is that top institutional leaders should make greater effort to design and implement policies and regulations that enable the organizational supports to continue. Holland (1997) suggested that institutional policies and regulations related to retention, promotion, tenure, hiring, budgeting, admission and facility management should be redefined and guided by academically based, publicly oriented teaching, research and service. To enable the institutional supports of South Korean universities to have a positive effect on their engaged work, the administrative and managerial resources and structures need to be systematically aligned to promote a two-way relationship with stakeholders (Weerts and Sandmann 2008). Such a systemic mechanism enables engaged work to be thoroughly recorded, data-driven, assessed and reported for the stakeholders on a regular basis (Minnesota Higher Education Services Office 2003).

When all these suggestions are combined, the fundamental insight that this study provides to South Korean university leaders is crystal-clear: social engagement must be authentically prioritized in the decision-making process.

## Limitations

As with all studies, there are certain limitations that must be noted. The sample for this study represents the experiences and expectations of faculty and students at only one institution. Therefore, the experiences of individuals at this single university are not necessarily representative of all South Korean universities. In addition, given that the public service missions of South Korean universities emanated from Western thought (Duke, 2008; Ward, 2003), social engagement in the present study has been discussed and conceptualized according to the dominant Western scholarship. Despite these limitations, the quantitative and descriptive findings of the study represent a step toward establishing the groundwork for future research in university social engagement in an Asian context. Further replication studies of additional Asian cases and research designs may result in tangible improvements to the theorization of Asian university social engagement.

## Note

1. For more detailed information, please refer to Cho (2011)'s paper listed in bibliography at the end of the paper.

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