

**Examining the Cultural Validity of a
College Student Engagement Survey for Latinos**

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Abstract: Using critical race theory and quantitative criticalist stance, this study examined the cultural validity of an engagement survey, SERU-Student Experiences in the Research University through exploratory factor analysis. Results support the principal 7-factor SERU model. However subfactors exhibited cultural nuances emphasizing the role of culture, sense of agency, initiative-taking, self-competency, and self-efficacy. Implications highlight sociocultural values and perspectives which define engagement based on Latino students' unique college experiences and meaning making.

The Latino population is a young and quickly growing group in the United States; it is projected that by 2020, Latinos will represent close to 25% of the 18-29 year-old population group (Santiago & Callan, 2010). While the number of Latinos attending college and earning bachelor's degrees continues to increase, this increase can be attributed to population growth, not the closing of the achievement gap. A report from Excelencia in Education identified that the achievement gap between Latinos and other groups is, in fact, increasing (Santiago & Callan, 2010). In the 2005-06, 39.3% of Hispanics attained a bachelor's degree within six years, while 49.7% of the Whites obtain theirs, presenting a 10.4% disparity for Latinos. In 2007-08, the gap between Latino and White student graduation rates increased to 13.7%. These statistics are troubling for college and university educators because they reflect that access and achievement in postsecondary education for Latinos continue to be woefully inequitable.

Research has identified three main factors that impact Latino students' college access and achievement towards degree completion: the high likelihood of inadequate academic preparation; possessing several risk factors (e.g., low parental education, low income family background); and lack of information about college (Tienda, 2009). The approach taken to mitigate these negative factors is to get students involved, as research has shown that higher levels of engagement are the greatest predictors of student success (Pascarella & Terenzini, 1991). There is substantial support to make the claim that "the more time and energy students devote to learning and the more intensely they engage in their own education, the greater their

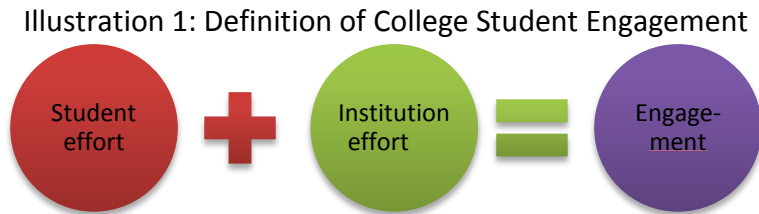
achievement, satisfaction with educational experiences, and persistence in college” (Tinto, 1987, p. 145). Higher levels of engagement among students have been positively linked to gains in critical thinking (Pike, 1999, 2000; Terenzini, Pascarella, & Blimling, 1996), in grades (Astin, 1993), and in persistence (Pike, Schroeder, & Berry, 1997). This evidence supports the conclusion that engagement is the key to student success for all students regardless of their race/ethnicity, social class, and/or parental educational background because “[w]hat students do during college counts more in terms of desired outcomes than who they are or even where they go to college” (Kuh, 2001, p. 1).

The focus of this study was to examine how the prevailing notions about engagement apply to Latino college students as exemplified in engagement surveys, such as the SERU-Student Experiences at Research Universities. Does engagement affect all students the same way, or are there cultural nuances that should be taken into account? How could these cultural nuances affect our analysis and interpretation of engagement survey data? In this following, the literature on college student engagement is reviewed, highlighting research that is most salient for the Latino college student population.

Defining Engagement For Latino College Students

A critical, and often overlooked, step in research regarding college student engagement is to define *engagement*. Wolf-Wendel, Ward, and Kinsie (2009) identified the common practice in scholarship where other terms (involvement and integration) are often used interchangeably. This can be problematic as each term has a particular (albeit overlapping) history and unique theoretical underpinnings, which can be unrecognized when “researchers and practitioners ... lose sight of the original intent of a particular concept” (p. 426). For this study, we follow George Kuh’s definition of engagement as the time and energy that students give to their college

career and how institutions allocate resources to encourage students to participate in these activities (see Illustration 1) (Wolf-Wendel et al., 2009). This definition of engagement is key for this study as it highlights the role that institutions play in students' engagement and informs aspects of this study.



Considering the diverse backgrounds, beliefs, and experiences of students as well as the diversity of institutional environments, it is worthwhile to reexamine our understanding of engagement, particularly for Latino students. Scholars have developed a substantive body of empirical work that challenges higher education scholars to reconsider engagement research which recognizes the ways that students' cultural background and varying perceptions about the campus climate, and other sociocultural factors may influence how much they engage and the subsequent outcomes (Nora, 2003; Rendón, Jalomo, & Nora, 2000). Examining the meaning and impact of engagement for Latino college students must account for their unique cultural experiences, such as dealing with racism (Solórzano, Villalpando & Oseguera, 2005; Torres, 2009), first-generation college student status (Gloria & Castellanos, 2012; Próspero, Russell, & Vohra-Gupta, 2012), family dynamics (Easley, Bianco, & Leech, 2012), and immigration histories (Morales, Herrera, & Murry, 2009; Stebleton, Huesman, & Kuzhabekova, 2010). This scholarship compels us to conclude that we can no longer assume that *engagement* is the same for all students.

Research utilizing SERU (Student Experience in the Research University) survey data supports these conclusions with evidence that reveals how diverse students report different outcomes. Kim and Sax's (2007) study of student-faculty interactions is an exemplar of examining how the level of impact on certain academic outcomes may vary by gender, race/ethnicity, and other student characteristics. This work revealed that "characteristics such as gender and race shape the nature of the relationship between student-faculty interactions and developmental outcomes," where the positive impact in assisting faculty with research was most impactful for African Americans' achievement as measured by GPA, and most influential for developing women's degree aspirations compared to men. While the degree of these differences was small, the authors conclude that their findings merit further study to examine how engagement may vary among different student groups.

Students' perceptions about their campus environment can also play a pivotal role in how they choose to engage, the extent of that engagement, and the meaning and intent of that engagement. Latino students' perspectives about their campus environment, which contributes to their reported *Sense of Belonging* and *Satisfaction* in engagement surveys, may be influenced by such experiences as feeling unwelcomed to join certain student organizations, being marginalized in certain student spaces, or experience microaggressions from their peers and/or faculty (Solórzano, 1998). Several studies indicate that students of color perceive a "chillier" campus climate compared to their White peers (Hurtado, Carter & Spuler, 1996; Rankin & Reason, 2005). Immigrant students (defined as first and second generation immigrants) were also found to report lower levels in their Sense of belonging, Satisfaction, and Persistence towards Graduation compared to their non-immigrant peers (defined as 3rd generation immigrants and beyond) (Stebbleton et al., 2010). These differences in students' perceptions

about their environments may have an impact on the ways that they engage, level of engagement, and the meaning of this engagement (Hernandez, in press; Torres & Hernandez, 2007).

Challenging the Normative Definition of Engagement—Quantitative Criticalism

We assert that the ways and levels of Latino student engagement must be assessed within an analytical framework that accounts for their perceptions, experiences, and interpretative meanings of the collegiate institutional cultural environment and climate. It is important to examine the extent to which this normative definition and assessment of student engagement as suggested by the National Survey of Student Engagement (NSSE) and Student Experience in Research Universities (SERU) represent a majority culturally-based perspective. Results from these surveys are used to inform institutional policy, curriculum, and academic support program development for all students. Yet, such engagement assessment surveys have been criticized for their failure to integrate the influence of culture (e.g., race/ethnic, gender, etc.) within its theoretical framework, measurement, and interpretations (Olivas, 2011). Very few studies have investigated item-level analysis of student engagement surveys (SERU, NSSE, etc.) to establish their cultural validity (Campbell & Cabrera, 2011).

Our effort to evaluate the cultural validity of SERU's factors for Latino college students challenges the normative understanding of the impact of engagement for college student success. In adopting a quantitative criticalist stance (Stage, 2007), this paper aims to assess the cultural validity of SERU for its relevance for Latino college students. Quantitative criticalism claims the responsibility to “forge challenges, illuminate conflict, and develop critique through quantitative methods in an effort to move theory, knowledge, and policy to a higher plane” (p. 8), which in this case, translates to challenging the normative practices of engagement survey research that fails to consider cultural nuances in its conceptual development process.

This research study asks the question: Does student engagement as assessed by SERU's seven factor model fit for Latino college students? It is hypothesized that (a) exploratory factor analysis (EFA) of the scores of Latino/a college students on the SERU will support Chatman's structure and (b) this model will demonstrate appropriate goodness of fit indices (KMO, chi-square, degrees of freedom, etc.). If EFA results does not support Chatman's model, is there an alternative factor structure model that best captures student engagement among Latino/a American college students? This line of inquiry follow the central tasks of quantitative criticalism (Stage, 2007), which are to use data to represent educational processes and outcomes on a large scale, reveal and identify inequities, and how they are perpetuated; and to challenge the models, measures, and analytic practices of research to better describe the experiences of misrepresented, marginalized students.

Further informing this quantitative criticalist stance is the use of critical race theory (CRT) (Solórzano, 1998) as a theoretical framework, which is "the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and its criteria" (Crotty, 1998, p. 3). In educational research, CRT has been a key tool to examine the perpetuation of inequities and challenge "race-neutral" policies and practices (Roithmayr, 1999, p. 4). Solórzano and Delgado Bernal (2001) identified five themes in CRT educational research that illustrate its basic perspectives, research methods, and pedagogy in education. For the purposes of this study, the most relevant theme is *the challenge to dominant ideologies* of meritocracy and equal opportunity in the education system. This challenge to dominant ideology is upheld with the empirical evidence reviewed that demonstrates the differences between Latinos and majority White students' levels of engagement and sense of belonging.

Method

Instrument

The defining objective of the *Student Experience in the Research University* (SERU) survey is to provide “important information about how students of diverse backgrounds and with varying economic pressures and competing obligations organize their time, define their academic purposes, respond to the curriculum and the extra-curricular opportunities for intellectual development, and make use of the resources of the institution” (*Center for Studies in Higher Education*, 2011). We investigated 121 items that comprised seven principal factors and subfactors of SERU (Chatman, 2009):

- Factor 1: Satisfaction with Educational Experience [29 items; 6 subfactors]
- Factor 2: Current Skills Self-Assessment (Nonquantitative) [17 items; 3 subfactors]
- Factor 3: Engagement with Studies [24 items; with 3 subfactors]
- Factor 4: Gains in Self-Assessment of Skills (Nonquantitative) [17 items; 3 subfactors]
- Factor 5: Development of Scholarship [11 items; 3 subfactors]
- Factor 6: Campus Climate for Diversity [8 items; 3 subfactors]
- Factor 7: Academic Disengagement (Inverted Scale) [15 items; 3 subfactors]

Chatman (2009) has demonstrated psychometric properties including factors, reliability and validity data. See Chatman (2009) for details in participants' response set options and scoring factors. Student responses to SERU survey are influenced by whether they have declared academic majors or not.

Participants

For this study, the 2009 SERU data for Latino students was secured from a large, research intensive, selective university. The 736 Latina/o students (444 females and 292 males) with mean age of 20.79 years ($SD = 3.83$) included 27% freshmen, 23.5% sophomore, 23.2% junior and 26.2% seniors. The total annual combined parents' income was as follows: 31.1% less than \$35,000; 20.4% between \$35,000 to \$64,999; 15.6% between \$65,000 to \$99,999; 11.3%

between \$100,000 to \$149,999; 4.6% at \$150,000 or more (17% missing). In regards to citizenship status, 88.0% were U.S. citizens, 11.1% were permanent residents, and 0.8% were missing.

Statistical Analysis

Data analyses in this study were conducted using SPSS version 19.0. Among the 736 participants, 13 participants with a response rate lower than 15% were removed which yields a total of 723 respondents. Item means were used to replace missing data. Of the 121 SERU items approximately 46% participants did not respond to 7 items from the *Satisfaction with Educational Experience* factor and 2 items from the *Academic Disengagement* factor. Therefore, 112 SERU items were included in data analyses.

Exploratory factor analysis (EFA) was utilized to determine the underlying factors. Principal components analysis was conducted as factor extraction, followed by both orthogonal (varimax) and oblique (promax) rotations. The rotated factor matrix is interpreted after orthogonal rotation to determine the principal factors; and the pattern matrix is examined after oblique (promax) rotation for the subfactor loadings. Items which loaded higher than 0.30 were retained and evaluated for cross-loading. Consistent with Chatman (2011) the researchers employed similar decision-making process based on both quantitative results and conceptual meaning of items.

Results

Chatman SERU Factors with Latino Students

The initial EFA results indicated 26 components with eigenvalues greater than 1.00 accounting for 65.82% of the variance. The Kaiser-Meyer-Okin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity results were excellent: KMO=.890; Chi-square =

41764.927; $p < .001$ with 5886 degrees of freedom (George & Mallery, 2005). However, based on scree plot results, it appeared that seven, eight, or nine factors might offer best interpretation. Based on empirical results and conceptual analysis we selected the seven factor structural model which accounted for 40.36% of the total cumulative variance; these seven factors included 106 items with absolute factor loadings ranging from .30 to .82. The Cronbach alphas ranged from $\alpha = .75$ to $\alpha = .92$. Our research team compared the degree of similarity between our ascertained factors with Chatman's (2009) in order to identify labels and characterize student engagement among our sample of Latina/o college students. If the overall numbers of items within a given factor differ slightly from Chatman's then we characterized the factor as being "**Revised**."

Next to determine the SERU subfactors associated with the principal seven factors, an oblique rotation was conducted and pattern matrix was examined to identify subfactors and their loadings based on our sample data (see Table 1). We have also provided label descriptions for each of these subfactors based on their similarities and differences with Chatman and again assigned the label "**Revised**" where deemed appropriate. The subfactors' reliabilities and correlation matrix are presented.

Factor 1: Satisfaction with Education Experience – Revised (SEE-R) included all 22 items resulting in 4 components accounting for 56.95% of variance with reliability, $\alpha = .92$. **SEE-R** included four subfactors: Satisfaction with Advising – Revised, Quality of Instruction and Satisfaction of Availability, Sense of Belonging or Satisfaction – Revised, and Student's Perception of Faculty Responsiveness. *Satisfaction with Advising – Revised* and *Student's Perception of Faculty Responsiveness* reflect two distinct components from Chatman's *Satisfaction with Advising and Out of Class Contact* factor. The *Quality of Instruction and Satisfaction of Availability* represents a combination of items from *Satisfaction with Access and*

Availability of Courses and Quality of Instruction and Courses in the Major and two miscellaneous items: “*Satisfaction of grade point average*” and “*Educational enrichment programs (e.g., study abroad, UCDC, internships)*.” Finally, *Sense of Belonging or Satisfaction – Revised* is nearly equivalent to Chatman’s factor.

Factor 2: Engagement with Studies – Revised (ES-R) included 20 items (including one item from the *Development of Scholarship* factor, “*Extensively revised a paper at least once before submitting it*”) which resulted in 4 components accounting for 57.84% of variance with reliability, $\alpha = .90$. **ES-R** included four subfactors: Academic Involvement and Initiative in Class, Student-Initiated Engagement with Faculty, Collaborative Academic Work with Peers, Learning Experiences for Intrinsic Value, and Pursuit of Academic Rigor. The **ES-R** factor is nearly equivalent to Chatman’s. The SERU items within the four subfactors manifested a different pattern loading for our Latina/o college student sample. Researchers selected the descriptive labels including *Student-Initiated Engagement with Faculty, Learning Experiences for Intrinsic Value, and Pursuit of Academic Rigor* to highlight Latino college students’ sense of agency and engagement in the learning process as well as their interactions with faculty and peers to support their academics.

Factor 3: Current Skills Self-Assessment – Nonquantitative (CSSA-N) included 17 items resulting in 4 components accounting for 60.91% of variance with reliability, $\alpha = .90$. **CSSA-N** included four subfactors: Cultural Appreciation and Social Awareness – Revised, Critical Thinking and Communication – Revised, Computer and Research Skills – Revised, and Self-Competence and Efficacy Skills. The **CSSA-N** is equivalent to Chatman’s factor and its subfactors. The *Self-Competence and Efficacy Skills* subfactor reflects Latina/o college

students' assessment of their belief and mastery skills involving leadership, interpersonal social interactions, presentation, and oral communications using English language.

Factor 4: Gains in Self-Assessment of Skills – Nonquantitative (GSAS-N) included 17 items resulting in 4 components accounting for 57.95% of variance with reliability, $\alpha = .89$. **GSAS-N** included four subfactors: Gains in Critical Thinking and Communication-Revised, Gains in Self-in-Relationship-to-Others Competence & Efficacy Skills, Gains in Internet & Computer Skills – R, and Gains in Cultural Appreciation – R. The **GSAS-N** factor is equivalent to Chatman's factor while the three subfactors obtained for our Latino college student sample reflect subsets of items from Chatman's original subfactors. The **Gains in Self-in-Relationship-to-Others Competence & Efficacy Skills** subfactor highlights the importance of collectivism (that is, "self-in-relationship-to-significant others," Ivey, Sue, & Pedersen, 1991) and Latino college students' belief in their abilities relative to their self-knowledge, interpersonal and leadership skills, personal social responsibility, and cross cultural perspective.

Factor 5: Campus Climate for Diversity (CCD) included 8 items resulting in 2 components accounting for 74.45% of variance with reliability, $\alpha = .90$. **CCD** included two subfactors: Climate of Respect for Personal Characteristics & Beliefs and Freedom to Express Beliefs. The **CCD** factor among Latino college students is equivalent to Chatman's factor and its associated subfactors.

Factor 6: Development of Scholarship – Revised (DS-R) included 9 items resulting in 2 components accounting for 66.41% of variance with reliability, $\alpha = .89$. **DS-R** included two subfactors: Critical Reasoning and Assessment of Reasoning –Revised and Critical Foundations for Reasoning – Revised. The **DS-R** factor is nearly equivalent to Chatman's factor as well as its subfactors.

Factor 7: Academic Disengagement – Revised (AD-R) included 13 items resulting in 3 components accounting for 55.63% of variance with reliability, $\alpha = .75$. **AD-R** included three subfactors: Poor Academic Habits, Self-Oriented Extracurricular Engagement, and External-Oriented Extracurricular Engagement. The **AD-R** factor among Latino college students is equivalent to Chatman’s factor and its subfactor entitled “*Poor Academic Habits.*” *Self-oriented* extracurricular activities appear to reflect Latina/o college students’ self-interests and pursuits as well as their close personal interactions with friends; whereas *external-oriented* activities signify Latina/o students’ involvement with campus organizations, physical recreation & leisure, entertainment, and social interactions with peers.

Discussion

This study sought to examine the cultural validity of SERU, Student Experiences at the Research University, survey to explore if, and to what extent, cultural nuances may influence the fit of its seven factor structure for Latino college students. Results from exploratory factor analyses (EFA) supported and confirmed the SERU principal seven-factor model (Chatman, 2009) indicating that the structural, external framework for assessing student engagement using SERU offers utility for Latino students. However, secondary EFA to ascertain SERU subfactors demonstrated cultural variations in item factor loading patterns. For several principal SERU factors, the ascertain number of subfactors varied as well as the number of items associated with such subfactors. As a consequence EFA procedures require researchers to generate plausible conceptual interpretation and meanings of such variations in patterns.

We assert that these variations in the subfactor patterns demonstrate Latino students’ unique experiences as minoritized students of color highlighting their approaches, intentions, and perspective toward meaning making relative to student engagement. Latino students’ perceived

cultural roles as students and sense of agency is emphasized within our SERU subfactors. For example, Chatman's Factor 4: *Engagement with Studies* subfactors (Academic Involvement and Initiative, Research or Creative Projects Experiences, and Collaborative) describe the variety of ways students participate in their academics via classroom behaviors, and their work with faculty and fellow students. Our subfactors demonstrate a different pattern of academic engagement for Latinos wherein academic engagement is differentiated by type of student roles and associated actions required. Classroom initiative requires Latino students to engage as members of an academic community by contributing to class discussions and being recognized by the instructor during class, affording *respecto* to teachers. Student-initiated engagement with faculty requires a different role wherein Latino students engage as individuals by communicating with faculty outside of class seeking to establish a more *personalismo* relationship.

This cultural validity assessment offers implications for understanding diverse meanings of college student engagement. Because this study demonstrated that Chatman's seven factor structure held, we contend that the general contours of engagement as measured by SERU may have a common foundation for all student populations. On the other hand, our analytic results showed differences in SERU subfactors highlighting cultural nuances in assessing student engagement for Latinos. These findings challenge the notion that there can be one, normative definition of student engagement which encompasses the breadth of cultural diversity that exists among college students; and equally that one singular assessment measure will appropriately capture engagement for all students. In part our results support the assertion that such analytic practices that measure engagement by norming towards measures of central tendency may not capture and/or be as fully descriptive and explanatory for students on the margin (Harper &

Quaye, 2008), and answers the call to reconsider student engagement research for these students to be culturally inclusive (Campbell & Cabrera, 2011).

Wolf-Wendell and colleagues caution that “researchers need to be aware not only of the definition of the terms involvement, engagement, and integration but also of the underlying epistemological and methodological assumptions that guide the study and the use of the terms” (2009, p. 423). This study followed this directive by recognizing prior research that demonstrates how sociocultural identities based on race/ethnicity, gender, language, etc. influence the dynamic, interactive relationship between Latino college students, faculty, peers, and the college environment (Dowd, Sawatzky, & Korn, 2011; Nora, 2003; Rendón, Jalomo, & Nora, 2000; Solórzano, Villalpando & Oseguera, 2005; Stebleton, Huesman, & Kuzhabekova, 2010; Torres, 2009) that may promote or stifle engagement as well potential successful outcomes. To that end, by utilizing critical race theory and a quantitative criticalist stance our analytic and conceptual interpretations represent the cultural nuances depicted in the revised SERU subfactors. Such a cultural validity assessment offered an opportunity to move away from the practice of merely assessing Latino engagement by comparing levels of their engagement to other racial/ethnic groups, towards a more substantive examination of how engagement and its item level analysis may be unique for this population.

This study is an initial effort to assess the cultural validity of engagement surveys, and as a result has limitations that offer directions for further study. First, the factor cross-loadings patterns while consistent with Chatman (2009) may be problematic. Second, our study represents an analysis of a sample of Latino students at one institution in the northeast during 2009 academic year. Testing our ascertain SERU model particularly in regards to revised subfactors with multiple samples of Latino students across academic years and geographic regions is

warranted. Third, the choice to conduct institution specific analysis may be considered a limitation because the sample size does not afford conducting a confirmatory factor analysis. Nonetheless, in conducting institution-specific analysis is consistent with our conceptualization wherein institutional effort is half of the equation in contributing to student engagement. It is essential for institutions to examine their own data to understand how engagement manifests at their own campuses (LaNasa, Cabrera, & Transgurd, 2007)—the relative composition of diverse students and its associated campus climate may both play a critical role in how Latino students' engage, their sense of belonging, and their perceptions of the campus climate.

Despite these limitations, this study offer a promising new approach in examining student engagement for minoritized student populations that more fully captures their perspectives and experiences, and also embraces a quantitative criticalist stance in challenging normative practices in educational research that assumes all students, despite their race/ethnicity, backgrounds, and histories, perceive the same opportunities and benefits for their engagement.

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