

# USING SEM TO DESCRIBE THE INFUSION OF CIVIC ENGAGEMENT INTO THE CAMPUS CULTURE

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## **Abstract**

This study assesses whether Tufts University's campus culture was successful at infusing civic-mindedness in all undergraduates. Civically-minded undergraduates were defined as students who were involved in civic engagement activities as well as those who held civic attitudes and values. A structural equation model was developed and findings revealed that the campus environment had a significant positive impact on civic values and beliefs and a positive indirect effect on civic engagement activities. The model confirmed that there is a supportive campus culture and provides evidence that the institution's mission is successful and verifiable.

**Keywords:** civic engagement; structural equation model; campus culture; institutional mission; civic activities; civic values and beliefs

## **Introduction**

The development of student citizenship is an important goal of higher education especially as the nation's graduates are faced with solving complex, social problems. Jacoby and Hollander (2009) argue that educating students to become active citizens is not only an essential value of higher education, but fundamental to the future of American democracy and the health of society. In order for higher education to meet these goals, colleges and universities need to institutionalize civic engagement and discuss the importance of active citizenship with their

faculty, staff, and students. One method to institutionalize civic engagement is to emphasize the education of active citizens within the campus mission statement.

At Tufts University, civic engagement is a central tenant of the institutional mission. In fact, the university strives "... to foster an attitude of 'giving back,' an understanding that active citizen participation is essential to freedom and democracy; and a desire to make the world a better place" (Tufts University's Vision Statement, 1994-95). In addition, Tufts University strengthened its commitment to educating public citizens and leaders by establishing the Jonathan M. Tisch College of Citizenship and Public Service (Tisch College) in 2000. The purpose of Tisch College is to foster a culture of active citizenship throughout the university and to build faculty and student knowledge, skills, and values around civic engagement. Initially, Tisch College focused on integrating civic engagement courses into the curriculum, supporting civic engagement research, and developing a set of strong partnerships with community organizations. Currently, Tisch College has clarified its strategy and works with four key constituencies (students, faculty, community partnerships, and alumni) with varying degrees of intensity (Hollister, Mead, & Wilson, 2006).

In an effort to evaluate the civic engagement initiatives, the Office of Institutional Research & Evaluation (OIR&E) along with administrators from Tisch College launched a series of research studies. This paper focuses on one of those studies. The authors collected data regarding undergraduates' civic engagement activities, attitudes, and values to gain a better understanding of how the Tufts environment influenced and shaped the students' development in these areas. The main objectives of the study were to assess the effectiveness of Tufts University's mission of infusing the principles of active citizenship within its students and to

provide empirical evidence that a supportive campus culture can affect civic engagement outcomes. For the purposes of this paper, three main research questions are addressed:

1. How does the campus environment affect the civic attitudes and beliefs of students?
2. How does the campus environment affect the civic engagement activities of students?
3. Does the campus culture have a different impact on male and female students? or on students of color and white students?

### **Literature Review**

There has been an increasing trend to educate college students to become informed, active citizens for the well-being of their communities. In order for higher education to successfully address this mission, colleges and universities need to infuse the principles of civic-mindedness into the curricular and co-curricular activities of the campus. Jacoby and Hollander (2009) argue that, “civic engagement must be woven into the fabric of the institution if it is to be successful over time” (p. 228). In addition, they offer three campus-based strategies to cultivate and sustain civic engagement: (1) to develop campus-wide infrastructure for civic engagement, (2) to provide access and opportunity for all students regardless of race, ethnicity, social class, religion, politics, and (3) to demonstrate the long-term effects of civic engagement to the individual and to society. Since institutionalizing service-learning through the development of a campus-wide infrastructure has been successful (Pigza & Troppe, 2003; Furco, 2001; Hollander & Saltmarsh, 2000; Holland, 1997; Bringle & Hatcher, 1996), Jacoby and Hollander proposed that this model can be easily adapted to institutionalizing civic engagement. They further

recommend that the institutional mission, strategic plan, and presidential speeches contain or emphasize the importance of civic engagement. In addition, supporting democratic classrooms, involving students in campus government, creating campus policies that encourage student involvement, and tailoring the approach of student affairs professionals are also other methods to institutionalize civic engagement (Jacoby & Hollander, 2009; Hoffman, 2006).

Hoffman (2006) emphasizes that the campus culture is essential in educating citizen-scholars and argues, “students’ perspectives and attitudes are shaped by their entire environment, not just the courses and programs designed to teach them” (p. 15). In addition to the recommendations above, he advises to align campus practices with civic ideals and offers several suggestions such as fostering respect and civility to all, welcoming dissenting viewpoints, and building relationships with external communities. Hamrick (1998) also explains how students discern the symbols embedded in the campus culture as support for institutional values. Faculty and staff need to be thoughtful in the messages that they are sending to their students and how their action and inaction may be perceived. One method to bring awareness and support for institutional values is to intentionally send empowering verbal and symbolic messages to the campus community through mission statements and mottos. However, empowering messages are not enough and Hoffman recommends that colleges and universities display these messages in prominent spaces and educate the campus community on how to incorporate the spirit of these messages into their daily lives (2006).

Kuh (2000) found that institutions that emphasized character development as a priority were more successful in developing the desired impact in their students compared to colleges and universities where this was not a priority. Character development was defined as values that relate to moral, ethical, spiritual, civic, and humanitarian areas. In fact, Kuh states, “at these

[value-orientated] institutions, the environment seemed to matter to character development as much (or almost as much) as did the nature of students' expediencies" (n.p.). This is an important finding because it conflicts with previous research that found where students go to college makes little difference in their development (Pascarella & Terenzini, 1991; Pace, 1990). Moreover, Pascarella, Terenzini, and Pace have found that student effort was the most important influence in how college affects students. At Kuh's value-orientated institutions, however, environmental factors are equally important as student effort. He attributes this unusual finding to the fact that these value-orientated institutions have salient missions that emphasize character development. Therefore if character development is important to institutions, Kuh suggests socializing new faculty, staff, and students to value character development, to align institutional policies and practices with the institutional mission, and to create a campus environment where students can develop to their full potential. In addition, faculty, staff, and students need to develop a shared vision of the ideal student experience, to agree on the purpose of the institution, and to outline the expectations for each member in the campus community. Since part of Kuh's character development included areas that encompass civic engagement development, institutions could use his recommendations to help institutionalize civic engagement and instill the principles of active citizenship throughout the campus community.

While there are several research studies that recommend specific implementation strategies or detail a set of organizational factors to develop the "engaged university" (Hoffman, 2006; Holland, 1997; Bringle & Hatcher, 1996), there are few studies that quantitatively measure the impact that the campus culture actually has on civic engagement outcomes. This study was undertaken to provide empirical evidence that a supportive campus culture significantly affects the civic engagement activities and values of its students.

## Methodology

### *Participants*

The participants in the study include 4,118 seniors from four graduating classes (2005 to 2008) at Tufts University. Tufts University is a private research institution that has four campuses (three in Massachusetts and one in France) and grants graduate, professional, and bachelor's degrees. The main campus is located in Medford/Somerville and houses the two schools (Arts and Sciences and Engineering) that educate undergraduate students. Tufts University attracts academically talented, first time-full time freshmen. The undergraduate student body is equally divided between men and women and approximately two-thirds are from outside of New England. Each year, over 1,300 students graduate with bachelor's degrees and the institution has a consistent four-year graduation rate of  $85\% \pm 2\%$  (Terkla, Topping, Jenkins, & Storm, 2009).

Over half of the participants in this study are female (55.9%) and approximately two-thirds are Caucasian (66.0%) with 12.4% Asian, 6.9% Latino, 6.4% Black, 5.6% International, and 1.5% Multiracial. For the remaining 1.1% of the sample, their race/ethnicity is either missing or unknown. Approximately 7% of participants were transfer students. The sample is equally divided (23.7% to 25.7%) among those who graduated in each year. The majority of the participants received a degree from Arts & Sciences (85.9%) and earned an average GPA of 3.38 ( $SD = 0.362$ ). Almost half of the participants (47.7%) studied abroad while at Tufts University and 55.2% of the sample indicated that they had participated in community service or civic engagement activities while in college.

## ***Data***

The data source for the study is the annual senior survey that is administered to the senior class during their final spring semester. Typically, the senior survey is completed by over 95% of the graduating class and students are queried on a variety of topics: academic advising, curriculum, faculty, post-baccalaureate plans, campus services, and extra-curricular activities. One section of the survey focuses on community service and civic engagement. Specially, 60 items were developed in order to ascertain how undergraduates learned about civic engagement activities, to assess how their civic values and attitudes were shaped by their college experience, and to evaluate their civic engagement activity levels while at Tufts University.

All items were scored on either 4-point or 5-point Likert scales and higher scores indicated more civically-minded individuals. Appendix 1 displays a sample of the civic engagement questions. The survey items were a subset of the Civic and Political Activities and Attitudes Survey (CPAAS). The CPAAS is the primary data source for the Tisch College Outcomes Evaluation Study which is a nine year longitudinal research study examining the link between students' civic engagement activities and their civic and political actions and attitudes throughout college and beyond. The instrument was developed by compiling questions from eight existing validated civic engagement instruments and soliciting input from national experts (Terkla, O'Leary, Wilson, & Diaz, 2007).

## ***Data Cleaning***

Prior to data analysis, the data went through several data cleaning steps. Sixty-four participants (1.4%) were deleted from the initial 4,694 seniors because they failed to complete more than half of the civic engagement and community service items. Second, using

Mahalanobis distances, 512 of the participants were identified as multivariate outliers and were removed from the analysis. The outliers were not significantly different from the initial participants based on race/ethnicity, year of graduation, or discipline, but tended to have lower cumulative GPAs<sup>1</sup> and were more likely to be males.<sup>2</sup> In total, the data cleaning process removed 576 of the initial 4,694 participants (12.3%) for a final sample of 4,118. The remaining participants had missing values on some of the survey items in question. The missing values ranged from 0.6% to 8.2% of the cases ( $M = 3.4\%$ ,  $SD = 2.4\%$ ) and single stochastic regression imputation was employed to resolve missing values.

### ***Structural Equation Model***

To create a structural equation model (SEM), the authors conducted statistical analyses in two parts. In order to reduce the survey questions into a smaller number of variables, exploratory factor analysis (EFA) was conducted on half of the dataset ( $N = 2043$ ). The general purpose of EFA is to reduce a large quantity of data into a more manageable set of factors (Meyers, Gamst, & Guarino, 2006). The factor structure from the exploratory analysis was tested by confirmatory factor analysis (CFA) on the remaining half of the dataset ( $N = 2075$ ). CFA is typically employed to determine how well the theoretical factor structure fits the empirical data (Meyers et al., 2006). In the second part of the analysis, the authors used SEM to examine the effects of the latent variables campus environment and students' values and beliefs on the latent outcome variable, civic engagement. SEM is a flexible model that allows researchers to simultaneously test the causal relationships between the variables of interest and examine how well the observed variables represent the underlying latent factors (Kline, 2005).

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<sup>1</sup>  $F(1, 4564) = 19.629$ ,  $p < 0.001$

<sup>2</sup>  $\chi^2(2, 4630) = 10.870$ ,  $p = 0.004$



SEM was selected because it has several advantages over regression modeling such as the ability to test the overall model instead of testing individual coefficients, the capacity to model mediating variables rather than solely additive models, the ability to test coefficients across between-subjects groups, and better model visualization due to the graphical interface (Garson, 2009). The structural equation model was analyzed with AMOS 17.0 by maximum likelihood estimation. Assessment of model fit for the SEM was based on four indexes (1) the model chi-square, (2) the Steiger-Lind root mean square error of approximation (RMSEA) with its 90% confidence interval, (3) the Bentler comparative fit (CFI), and (4) the standardized root mean square residual (SRMR). The authors determined that a model with  $RMSEA \leq 0.05$ ,  $CFI > 0.95$ , and  $SRMR < 0.10$  is an excellent fit of the model to the data (Meyers et al., 2006; Kline, 2005).

While theoretical studies explain the importance of the campus culture in developing citizen scholars and empirical research depicts how attending college affects the development of civic engagement outcomes, there is a lack of organizational-level research that quantifies the relationships among the campus environment, students' values and beliefs, and civic engagement activities. After examining the relevant literature, the authors propose using SEM to test the following conceptual model in Figure 1. In addition, the authors examine whether there are differences in the strength and/or direction of the relationships between male and female students and between students of color and white students.

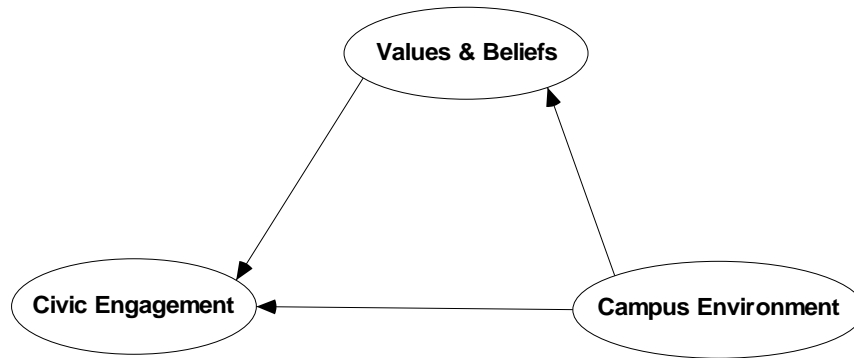


Figure 1. The proposed conceptual model explaining the effects of the campus environment and students' values and beliefs on civic engagement activities

## Findings

### *Factor Analysis*

After reviewing the 60 items on civic engagement activities and attitudes, 15 questions were selected for factor analysis using the principal axis factoring extraction method and a varimax rotation for students' values and beliefs. Two survey items did not load strongly on the factors and were removed. Preliminary EFA revealed three factors for students' values and beliefs that accounted for 63% of the total variance. The three factors were labeled self-efficacy, community connectedness, and leadership ability. Self-efficacy contained five survey items that measured students' perceptions of whether political service and community service are effective ways to create change and whether these activities are an important personal responsibility. Community connectedness also comprised of five items and measured students' increased awareness of issues facing their communities and their interest and responsibilities in serving their communities. Lastly, leadership ability consists of three questions gauging how important it is to the participants to become community leaders or take active roles in specific civic engagement activities or actions.

Similarity, 13 survey items were selected for a factor analysis using the principal axis factoring extraction method and a varimax rotation for campus environment. The campus environment clustered into four factors which were labeled as prevalence of social problems, satisfaction with Tufts, prevalence of unhealthy and risky behaviors, and support for multicultural competency. The four factor solution accounted for 54% of the total variance and three items loaded on factor 1, four items on factors 2 and 3, and two items on factor 4. Prevalence of social problems focused on whether students felt sexual harassment, racism, homophobia, and academic dishonesty were campus problems. Satisfaction with Tufts asked students questions about their overall satisfaction with their undergraduate education, whether their expectations had been met, and how they would rate their academic experience at Tufts. Participants were also asked if given the opportunity to relive their college experience whether they would chose to attend Tufts again. Prevalence of unhealthy and risky behaviors concentrated on whether students felt that alcohol abuse, drug abuse, and eating disorders were campus problems. Lastly, support for multicultural competency evaluated how well the Tufts curriculum or Tufts extracurricular activities prepared students to function in a multicultural society.

The dependent variable, civic engagement, is comprised of two sets of questions. The first set of questions asked students what type of civic engagement activities they participated in at Tufts University. Civic engagement activities were defined as community service, advocacy, political involvement, and community-based research. The second set of questions asked students what type of community and public service activities that they planned to become involved in after graduation. The community and public service activities were defined as volunteering in the community, working for a non-profit organization, participating in service

work through their church, synagogue, or other faith-based organizations, conducting research for social change, making donations to charities or political campaigns, running for elected office, serving on a non-profit board, and attending graduate school in a field related to political or social change. The six items for current civic engagement and the twelve items for future civic engagement were separately summed together to create the two measures for the dependent variable.

CFA suggested several changes to the factor structure. Leadership ability loaded on students' values and beliefs and the outcome variable, civic engagement. In addition, community connectedness loaded on students' values and beliefs and campus environment. Lastly, two factors (prevalence of social problems and prevalence of unhealthy and risky behavior) were dropped from the final structure due to poor loading. The remaining measurement models were confirmed by CFA. Table 1 displays the means, standard deviations, ranges, and Cronbach alphas for the seven observed variables in this study.

Table 1. Mean, Standard Deviations, Ranges, and Cronbach Alphas for the Measurement Model

Variables	Mean	Std. Deviation	Range	$\alpha$
Self-efficacy	3.79	0.83	0 – 5.0	0.89
Leadership ability	2.68	0.75	1.0 – 4.0	0.82
Community connectedness	3.83	0.73	0.4 – 5.0	0.85
Satisfaction with Tufts	3.48	0.60	1.0 – 4.5	0.72
Multicultural competency	3.73	0.86	0 – 5.0	0.57
Current engagement	0.90	1.11	0 – 6.0	0.56
Future engagement	4.31	2.72	0 – 12.0	0.78

### ***Revised Structural Equation Model***

The proposed conceptual model (as indicated in Figure 1) was not supported by the data as the path coefficient between campus environment and civic engagement was not statistically

significant ( $p = 0.154$ ). When the relationship between the two variables was dropped, the revised SEM reported the following sufficient goodness-of-fit indices (CFI = 0.989, RMSEA = 0.045, and SRMR = 0.021) and the remaining path coefficients were statistically significant ( $p < 0.001$ ). Although the chi-square test was significant indicating a lack of fit,  $\chi^2(10) = 52.496$ ,  $p < 0.001$ , Jöreskog and Sörbom (1978) and Bentler (1992) advise against using the chi-square value as the sole predictor of model fit due to chi square's sensitivity to sample size.

Figure 2 represents the revised structural equation model and highlights how the campus environment had a significant positive impact (0.32) on students' civic values and beliefs and a significant positive indirect effect on civic engagement activities of undergraduates (0.24). Students' values and beliefs had a significant direct effect on their level of civic engagement (0.73). In addition, the campus environment was significantly defined and measured by three observed variables: satisfaction with Tufts (0.65), support for multicultural competency (0.63), and community connectedness (0.20). Students' values and beliefs were significantly defined and measured by self-efficacy (0.83), leadership ability (0.37), and community connectedness (0.76). Lastly, the latent dependent variable, civic engagement, was significantly defined and measured by current engagement (0.54), future engagement (0.65), and leadership ability (0.83). Overall, the campus environment explained 10% of the variance in students' values and beliefs and students' values and beliefs explained 54% of the variance in civic engagement as indicated by the  $R^2$  statistics. Table 2 displays the unstandardized regression coefficients, standard errors, and p-values for the indicators and latent variables of the revised structural equation model.

Table 2. Unstandardized Regression Coefficients, Standard Errors, and P-Values for the Revised Structural Equation Model

Parameters	Campus Environment	Values & Beliefs	Civic Engagement
Civic Engagement		0.664*** (0.039)	
Values & Beliefs	0.367*** (0.041) <sup>a</sup>		
Self-efficacy		1.170*** (0.039)	
Leadership ability		0.527*** (0.068)	0.617*** (0.087)
Community connectedness	0.306*** (0.037)	1.000 <sup>b</sup>	
Satisfaction with Tufts	0.928*** (0.077)		
Multicultural competency	1.000 <sup>b</sup>		
Current engagement			1.000 <sup>b</sup>
Future engagement			1.206*** (0.069)

\*\*\* p < 0.001

<sup>a</sup> Standard errors are in parentheses after coefficients

<sup>b</sup> Not tested for statistical significance

In addition to explaining how the campus culture affects the values and beliefs of students and their civic engagement activity levels, the authors tested whether the model is invariant (equivalent) across race/ethnicity and sex. The authors found that there were no significant differences between students of color and white students or between male students and female students with regards to the strength and direction of the relationships among the three latent variables. However, there was a difference in the explanatory power between male and female students. When the path coefficients for males and females were constrained to be equal, civic values and beliefs in male students explained 13% more variance in civic engagement activity compared to female students.

## Discussion

The main research questions in this paper focused on the impact of the campus environment on students' civic attitudes, values, and activities. The results indicate that there is a direct effect of the campus environment on civic attitudes and beliefs and an indirect effect of the campus environment on civic engagement activity levels. The model proposes that there is a

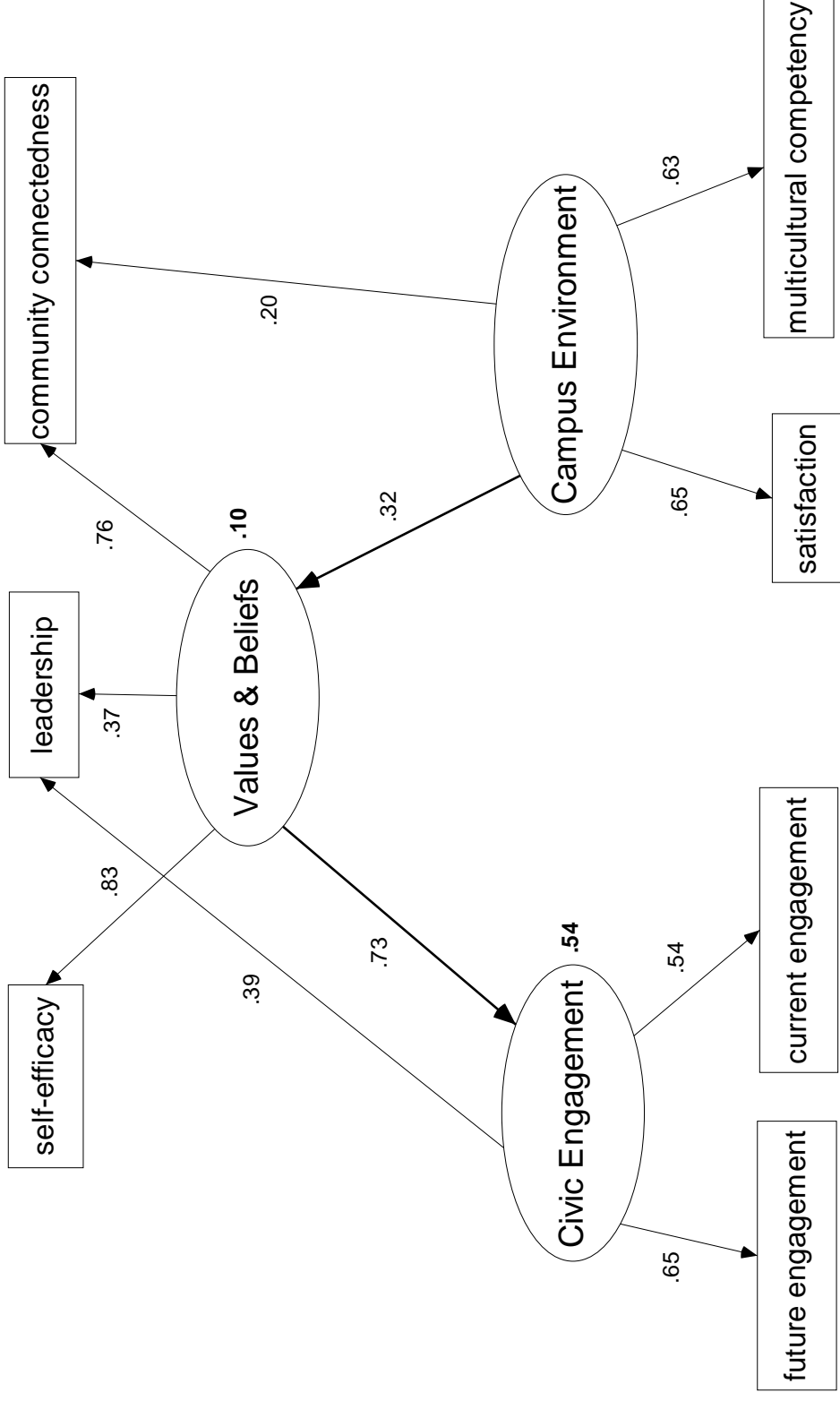


Figure 2. Standardized parameter estimates for the final SEM describing the relationships among campus environment, students' values and beliefs, and civic engagement. *Notes:* Variance explained ( $R^2$ ) is in bold font. Latent variables are in ovals and indicator variables are in rectangles. Estimates shown are significant at  $p < 0.001$ .

stronger relationship between the campus environment and students' values and beliefs (0.32) compared to the campus environment and civic engagement activities (0.24). However, the strongest relationship in the structural equation model is the correlation between students' civic values and beliefs and civic engagement activities (0.73). Therefore, it is important for higher education institutions whose goal is to develop civically-minded students to focus on fostering supportive campus environments as well as targeting programs and initiatives that will directly affect the civic attitudes and beliefs of its students. Civically-minded individuals are defined as students who are involved in civic engagement activities as well as those who hold civic values and beliefs.<sup>3</sup>

At Tufts University, the institution is committed to developing civically-minded students and actively infuses the principles of active citizenship within the campus community. In the last decade, Tufts founded the Tisch College of Citizenship and Public Service and established the Presidential Award for Citizenship and Public Service for graduating students. Moreover during this period, the President, Provost, Deans, and members of the faculty have emphasized the importance of civic engagement in formal and informal messages to the campus. In addition, administrators, educators, and researchers at Tisch College work with various schools, departments, and student groups to continue to grow the university's capacity for engagement. In recognition of its exemplary commitment to service, Tufts University was selected for the President's Higher Education Community Service Honor Role in 2008 and 2009 (Tufts University named to President's Honor Role for Community Service, 2010). In 2006, the Carnegie Foundation for the Advancement of Teaching chose Tufts University for its new

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<sup>3</sup> In this analysis, civic values and beliefs stand for community connectedness, leadership ability, and self-efficacy. However, civic values and beliefs could also represent being informed and responsible citizens, supporting equality and justice for all, understanding complex social problems, appreciating and valuing differences, and encouraging social and political change.



Community Engagement Classification. The award was created to recognize colleges and universities that have institutionalized community engagement in their mission, policies, practices, and culture (Tufts recognized for embracing community engagement, 2007). Lastly, The Princeton Review and Campus Compact selected Tufts University for the book, *Colleges with a Conscience: 81 Great Schools with Outstanding Community Involvement* (Brand, 2005).

Due to Tufts' awards, recognitions, and institutional action supporting civic engagement, the authors felt confident that the model would confirm a significant relationship between the campus environment and civic attitudes and beliefs and a significant relationship between the campus environment and civic engagement activities. The interesting finding in the study is how the relationship between the campus environment and civic engagement activities is mediated through students' values and beliefs. One possibility is that self-efficacy (belief that one can affect change) influences students' motivation to participate in civic engagement. Without this belief that political and community service makes a difference and can create social change, it is plausible that students will consider their efforts wasted and will be unwilling to devote their limited time to an activity that is unrewarding. Conversely, it is very plausible that a strong self-efficacy may have lasting effects and continue to motivate students to engage in civic engagement activities after graduation. Therefore, university administrators need to design programs that help students increase their self-efficacy and provide them with the necessary tools to initiate positive change. Another possibility is that students need to develop their leadership abilities in order to feel empowered to participate in civic activities. If students do not feel that social issues are important or they do not value being an active participant in social change, they may disengage or avoid civic engagement activities entirely. Thus it is reasonable to posit that

students with strong belief systems that feel they can make a difference will devote their time to civic-minded activities during their undergraduate years and beyond.

### **Limitations**

A limitation of this research study is that the relationships among the three latent variables may not hold across other colleges and universities since the model used data from a single institution. In fact, the proposed model may only be applicable to institutions that are similar to Tufts University. In addition, colleges and universities that do not foster and provide institutional support for civic engagement may find no significant impact of the campus environment on civic engagement outcomes. This may lead researchers to find different relationships among the three latent constructs for civically engaged institutions and non-civically engaged institutions.

Another limitation of the research study is that the research design did not contain covariates to control for pre-college attitudes and beliefs. Since Tufts University generally attracts civically-minded individuals to their student body, the effect of the campus environment on students' values and beliefs may not be as large as reported since students' initial values may be high when they enter college. Lastly, the civic engagement questions from the senior survey may not fully capture the effect of the campus environment on the development of civic engagement activity, attitudes, and beliefs. It is plausible if the entire CPAAS (and not a subset of the survey instrument) was administered to the same population, the authors would have found a stronger effect.

## **Conclusion & Implications for Future Research**

The model confirms that there is a supportive campus culture for civic engagement and provides strong empirical evidence that Tufts' institutional mission of service is successful and verifiable. In addition, the model explains how the campus culture can affect students' civic values and beliefs which can in turn affect their level of civic engagement activities. This research is important to institutional researchers, higher education scholars, and university administrators who are interested in the impact of the campus culture on civic engagement outcomes and who intend to use quantitative methods to test whether their institutional missions are reaching all students.

Future research studies should focus on whether this model is generalizable to other institutions. In particular, researchers may discover that the strength of the relationships between the three latent variables vary depending on the type and size of the institution and whether civic engagement has been embedded in the campus culture. Another area of interest is testing whether the institutional mission of civic engagement at Tufts has influenced its staff and faculty. Does working in an institution that is dedicated to active citizenship affect their civic attitudes, beliefs, and activities? How do faculty and staff's actions contribute to the institutional mission of civic engagement?

Since this analysis emphasized the importance of self-efficacy through civic engagement activities, it would be interesting to explore whether there are differences in students' self-efficacy for certain types of current and future civic activities. It is possible that participating in activism and advocacy may require a higher level of self-efficacy than participating in community service or community-based research. In addition, future research should include

evaluating civic engagement programs to document and measure how these programs develop or instill self-efficacy within their students. If evaluators find that some programs are better than others for increasing students' self-efficacy, a further in-depth analysis of these programs may be warranted to understand how they are achieving this goal.

Lastly, graduate and professional students are sometimes overlooked when institutions discuss developing civic engagement outcomes in its students. In an effort to explore civic engagement on the graduate and professional level, the Office of Institutional Research & Evaluation has added several civic engagement questions to its exit and alumni surveys. However, more attention is needed to explore whether graduate and professional students at Tufts University display the same patterns of behavior as the institution's undergraduates. Specifically, do differences exist in the behavior of students who are in disciplines that have embedded civic engagement activities within their graduate programs compared to disciplines where it is not an integral part of the curriculum? How does the development of civic engagement outcomes affect their professional and academic lives? Do graduate students who attend programs that emphasize civic engagement eventually incorporate civic learning into their courses as faculty members? In order to explore these questions, the authors hope to expand the civic engagement sections on the graduate and professional exit and alumni surveys and to conduct future research studies investigating these questions.

## Appendix 1. Sample of Civic Engagement Questions from Senior Survey

Please indicate your level of agreement with each of the statements below:<sup>4</sup>

1. Service to others is valued at Tufts University
2. My Tufts education helped me become more aware of my responsibility to serve my community
3. My Tufts education increased my interest in making change in my community
4. Political service is an effective way to create change
5. Community service is an effective way to create change
6. Being engaged in politics is an important responsibility I have
7. Being involved in making change in my community is an important responsibility I have
8. An undergraduate education should equip students with the skills and knowledge they need to make political and social change

During your time at Tufts, how would you rate your improvement in your understanding of:<sup>5</sup>

9. Problems facing your community?
10. Social problems facing our nation?

How important to you personally is:<sup>6</sup>

11. Helping others who are in difficulty?
12. Participating in a community action program?
13. Becoming a community leader?

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<sup>4</sup> Scale is: Strongly agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly disagree = 1, Not applicable = 0

<sup>5</sup> Scale is: Much stronger = 5, Stronger = 4, No change = 3, Weaker = 2, Much weaker = 1

<sup>6</sup> Scale is: Essential = 4, Very important = 3, Somewhat important = 2, Not important = 1

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