

Enhancing Civic Engagement in College: Findings from Surveying Seniors at Six Liberal Arts Colleges

Report of an Investigation by the Midwest Alliance for Learning in the Liberal Arts
Colleges – Alma College, Augustana College, Gustavus Adolphus College, Illinois
Wesleyan University, Luther College, and Wittenberg University

Timothy Schermer, Augustana College
with
Michael Nolan, Augustana College
and
Jeff Ankrom, Wittenberg University
Jon Christy, Luther College
Ann Hall, Alma College
David Menk, Gustavus Adolphus College
Michael Thompson, Illinois Wesleyan University

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The six MALLA institutions (Alma College, Augustana College, Gustavus Adolphus College, Illinois Wesleyan University, Luther College, and Wittenberg University) administered the College Senior Survey (CSS) from the Higher Education Research Institute (HERI) in the spring term of 2007/08. The CSS includes several survey items directly relating to civic engagement, and the consortium also drafted a set of supplemental questions relating to civic engagement (see the appendices).

This is intended as a technical report on the results for review by the institutional researchers from the MALLA institutions, the faculty collaborators in the study, and others interested. The underlying questions are to understand the current levels of civic engagement by students while in college, what can be learned about the extent of development of students' civic values and skills, and how these are enhanced by our curricular and co-curricular programs.

1,244 surveys were completed with an overall response rate of 53%. Throughout this report, the names of the schools have been converted to colors, as per the consortium's confidentiality agreement. In data cleaning, three students who discontinued the survey at an early stage were excluded from most analyses.

School	Responses	Percent of Total Responses	Seniors Surveyed	Response Rate
Blue	296	23.8	519	57%
Gold	163	13.1	584	30%
Rust	264	21.2	469	56%
Salmon	86	6.9	199	43%
Silver	196	15.8	425	46%
White	239	19.2	452	53%
Total	1244	100	2345	53%

GENERAL BACKGROUND

The literature on civic engagement has shown positive relationships of a number of factors with higher levels of civic engagement (cited by Misa *et. al.*):

- Years of formal education
- Higher family social economic status (income and parental education levels)
- High school civics courses
- Social science courses
- Diversity coursework (dealing with issues of race/ethnicity, class, gender, sexual orientation)
- Service-learning coursework
- Positive interactions with diverse peers
- Higher SAT verbal scores
- Involvement with religious organizations (attending services, membership)

ANALYTICAL APPROACH

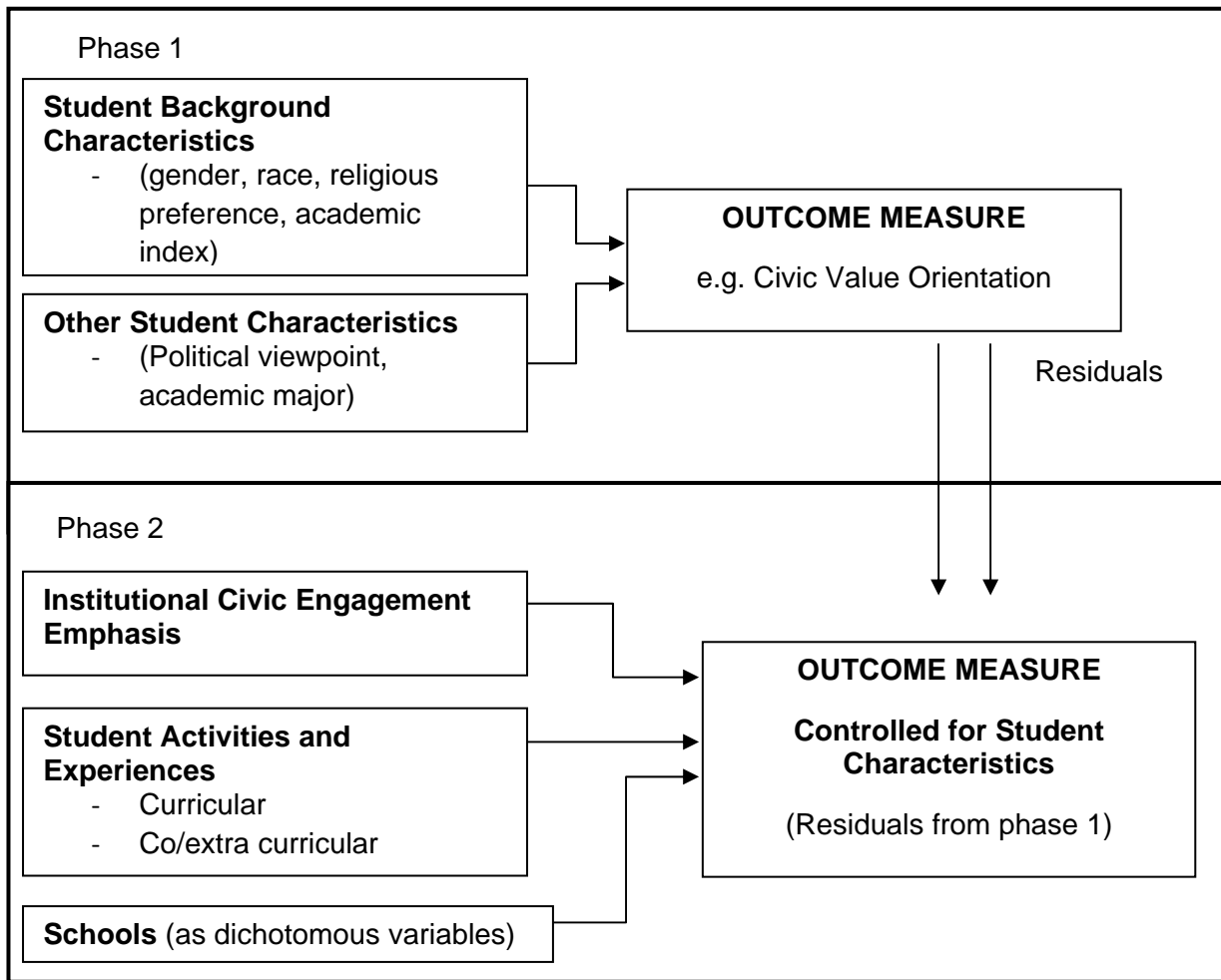
The general approach in the analysis has been to use Alexander Astin's Input-Environment-Output (I-E-O) model as a guide. Ultimately we are looking for answers to some key questions:

- What is the reported level of civic engagement by our students as seniors, and do these vary by student type?
- What college experiences of students and institutional characteristics are associated with higher levels of civic engagement skills or dispositions?
- Do our institutions vary significantly in their net effect on civic engagement, after controlling for student inputs and characteristics?
- Can we document a value-added for civic engagement?

The I-E-O model for analysis in this instance is not entirely clean in terms of separating student background characteristics from institutional effects. Clearly gender and race are fixed pre-college input variables, but other student characteristics such as political viewpoint, may have changed in college. Unfortunately we don't know the college-entrance values on these characteristics, only the senior year values. Despite this difficulty, which should be corrected in future surveys, in the analysis below the following student characteristics are used as variables primarily associated with the student as inputs, rather than as institutional/environmental variables: gender, race (Caucasian/non-Caucasian), religious preference (any religion/none), political viewpoint (far right to far left), an academic index of ability/effort, and the student's major (aggregated at the division level).

To repeat, since the religious preference, political viewpoint, and the planned major are reported during the senior year, they may be different than what would have been reported at matriculation. Similarly the academic index includes the college GPA as well as self-reported level of academic ability as a senior (the ACT/SAT scores would be preferred, but are not available). Despite this, it seems preferable for analysis to treat these as primarily student characteristics to be controlled for before looking at other institutional effects. Thus, for instance, variances for different percentages of majors in business or the social sciences, will be controlled for before looking at institutional net effects.

Figure 1 represents the overall approach used for analyzing each civic engagement outcome variable. Obviously we are not analyzing a scientific experiment in which causality can be established, so the main intent of the design choice is to specify the flow of predictive analysis using regression. In the first step, the student background and student associated characteristics will be controlled for. The residuals from that regression analysis, which represent the variance so far unexplained, will then be used in regression or in general linear modeling (GLM) to investigate variation due to institutional CE emphasis and the student's reported activities in college. The single arrows indicate the direction of prediction.



OVERVIEW OF THE CSS VARIABLES USED FOR ANALYSIS

Due to the large number of questions on the CSS of interest to this study, factor analysis was used to determine clusters of items that could be aggregated into meaningful scales for use in later regression or GLM analysis. The combination of items suggested by factor analysis were checked for reliability using Chronbach's alpha, with a general criteria that alpha should be at 0.7 or above to be utilized, and that each item would have a factor loading of at least .45. Below is a listing of the independent variables (IVs) used in analysis categorized as to input-environment-output and with a brief description of the derived scales. The scales are indicated in bold typeface. See the appendix for a master list of the individual and scale items used in the analysis along with their basic descriptive statistics.

Input

- Student gender (male/female)
- Student race (Caucasian/non-Caucasian)
- Student religious preference (any religion/no religion)
- Political viewpoint (far right to far left)

- Primary graduation major (coded to division level - natural sciences/math, social sciences, business/accounting, languages/arts/humanities, and education)
- **Academic Index** – This scale combines the student’s self-reported overall college GPA with his or her self assessment of his or her general academic and writing abilities and persistence, along with whether the student reports having enrolled in honors or advanced courses. The index is thus a combination of academic ability and effort, as reported by the student. The academic index is being considered as the best available surrogate for a combination of the ACT/SAT score and high school GPA, which would also reflect ability and effort, but is not available.

Environment

- **Institutional Civic Engagement Emphasis** - the extent to which the student perceives that the faculty, administration and institution as a whole emphasize community service and civic engagement.
- **Group Level College CE Involvement** – the extent to which the student reports having been involved in student groups that focus on various civic issues such as international issues, political issues, environmental issues, etc.
- **Ethnic Interactions** – the extent to which students report interacting with students from a different racial/ethnic group other than their own.
- School (named using colors) coded as a set of six dichotomous variables.
- Variables indicating participation in various activities/experiences (study abroad, student government, discussing politics, etc.).

Outcomes

- **Civic Values Orientation** – The personal importance to the student of being involved with a number of civic issues, such as promoting racial understanding, influencing the political structure, helping others in difficulty and becoming a community leader.
- **Contributive Career Orientation** – The importance to the student of having a career that allows him or her to express his or her values and contribute to society.
- **Status Career Orientation** – The importance to the student of having a career that conveys status and financial rewards.
- **Growth in Civic Skills** – The extent to which the student reports he or she has developed in a number of civic skill areas while in college, such as ability to get along with people of different races/cultures, interpersonal skills, leadership skills, and understanding of social problems.
- **Civic Skills Ability Self Rating** – The student’s self rating of his or her ability on a number of civic skills, such as social self, confidence, public speaking ability, and leadership ability.
- **Growth in Global/Social Issues Understanding** – the student’s report of growth in understanding global issues and social problems facing our nation.

ANALYSIS OF OUTCOME MEASURES

This section will look at each of the outcome variables separately. The first, Civic Values Orientation, will be discussed in detail, with the repetitive details dropped for the remaining outcomes.

Civic Values Orientation

Civic Values Orientation (CVO) is a scale based on how seniors rate the importance to them personally of engaging in a list of civic activities. It is a measure of a disposition toward civic values, and perhaps the scale of most significance. In addition it is composed of questions (with one exception – the last question listed below) used in both the CSS and entering student CIRP survey, so we are able to do a first-year to senior value-added analysis.

As listed in the appendix this scale is computed as the average of the responses to the following ten questions:

Indicate the importance to you personally of each of the following:

1="Not important," 2 = "Somewhat important," 3 = "Very important," 4="Essential"

Improving my understanding of other countries and cultures

Becoming a community leader

Keeping up to date with political affairs

Helping to promote racial understanding

Participating in a community action program

Becoming involved in programs to clean up the environment

Helping others who are in difficulty

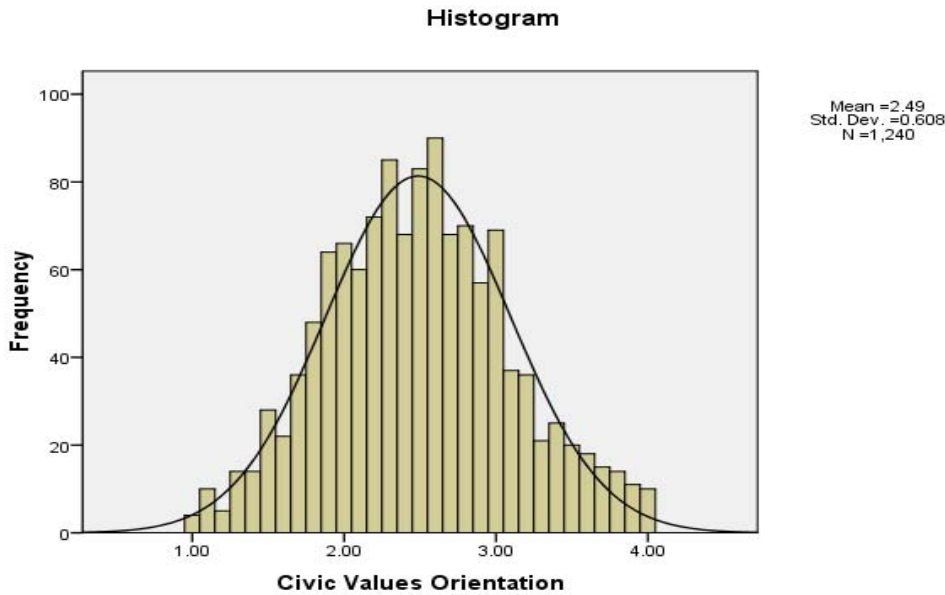
Influencing social values

Influencing the political structure

Improving the health of minority communities

The overall mean on this scale was 2.49. The histogram for CVO shows a fairly normal distribution. The means for the six institutions ranged from 2.41 to 2.59, and ANOVA indicates the institutional differences were statistically significant at $\alpha \leq 0.05$.

Figure 1



Phase 1: Using Regression to Predict CVO from Student Characteristics

Using stepwise regression resulted in the final model indicated in the table below. R square for the final model was 0.094, so the student characteristics in the model account for about 10% of the variation. Variables entered the model in the order shown in the following output from SPSS:

Table 2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
6	(Constant)	2.014	0.195		10.332	0.000
	CSSPOLVW How would you characterize your political views?	0.126	0.020	0.181	6.312	0.000
	MAJSS Social Science Major	0.176	0.039	0.126	4.471	0.000
	ACADINDEX Academic ability/effort index	0.022	0.006	0.107	3.863	0.000
	DCSSRLGD Religious preference (any religion)	0.161	0.044	0.103	3.625	0.000
	CSSRACE1 White/Caucasian	-0.275	0.073	-0.105	-3.790	0.000
	MAJBUAC Business/Acct Major	-0.163	0.048	-0.096	-3.381	0.001

a. Dependent Variable: SCCVOrient Civic Values Orientation

The “B” values are the coefficients for the regression equation to predict CVO and are interpretable as the value that is added or subtracted for a one unit change in the independent variable. For instance, one would subtract .275 from the prediction if the student is Caucasian (since 2 = White/Caucasian was marked, and 1 indicates it was not marked), and subtract .163 for a business/accounting major, but add

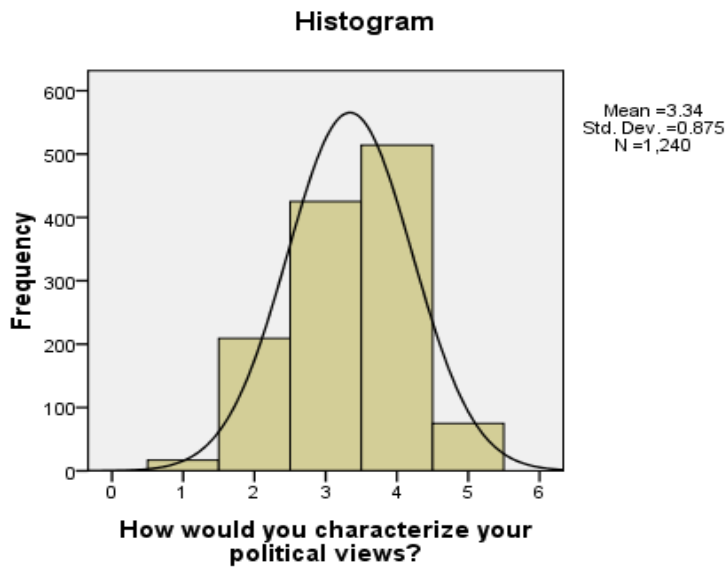
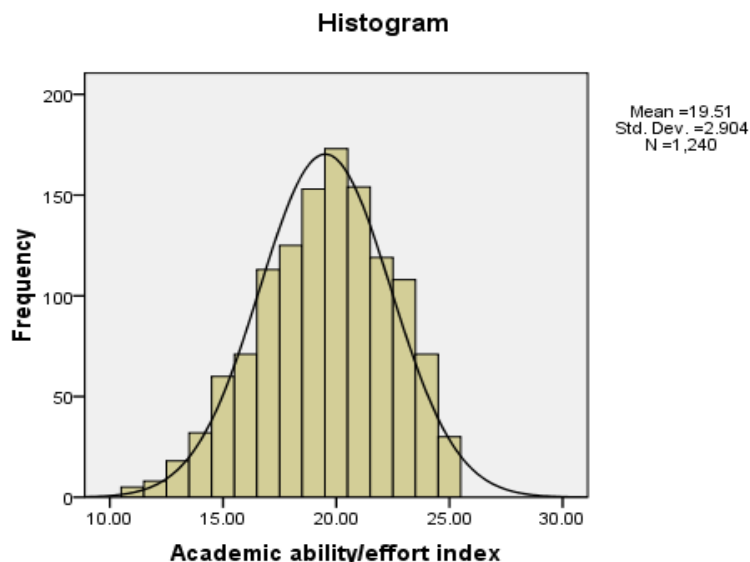


Figure 2

shift, with other variables held constant. Similarly, having any religious preference (Christian, Jewish, Muslim, etc.) adds .161 over having no preference. The difference in prediction by major has a fairly large shift going from a social sciences major to a business/accounting major, going from +0.176 to -0.275, or a change of .451.

For the variables that are being considered as continuous, CSSPOLVW, and ACADINDEX, the impact of the various levels can be explored with example cases and consideration of the frequency distributions of the variables.

Figure 3



.176 for a social science major, etc. Similarly, for CSSPOLVW and ACADINDEX, one multiplies the B value indicated times the response value and adds it to the equation.

Note that gender does not enter the model and, therefore, does not appear to have additional predicted value for CVO in the presence of the other variables in the model.

Some sense of the practical significance of each variable can be obtained by looking at the histogram distribution for CVO, Figure 1. For example, the average student has a score of 2.49, and

one can see that a shift of .275 for non-Caucasian makes a sizeable

Most students report a political view in the range 2="conservative," 3="middle of the road," or 4="liberal." The difference in prediction going from conservative (=2) to liberal (=4) is a change of 2 in the value of the responses, so the difference in the prediction is $2 * 0.126 = .252$. For the academic index, the standard deviation is about 3, so most students will be at the average predicted value + or - about $3 * 0.022 = 0.066$. This is a less dramatic difference than for some of the other examples.

Looking specifically at the contribution of the college GPA, a difference of one grade, say from a reported B average to an A average, makes a difference of +2 in the Academic index (since the index is computed as the sum of the values of the sub-items), or 0.044 in the predictive equation. Again, this is a relatively small change relative to the other student characteristics.

In summary, it appears that higher values of CVO are associated with being a minority student, having any religious affiliation, being politically more liberal, choosing an academic major related to the social sciences, and, more modestly, with having a higher academic ability/effort composite. Majoring in business/accounting is associated with a lower CVO, and gender does not appear to be significant, given the other student characteristics.

Phase 2: Using Regression to Predict CVO After Controlling for Student Characteristics

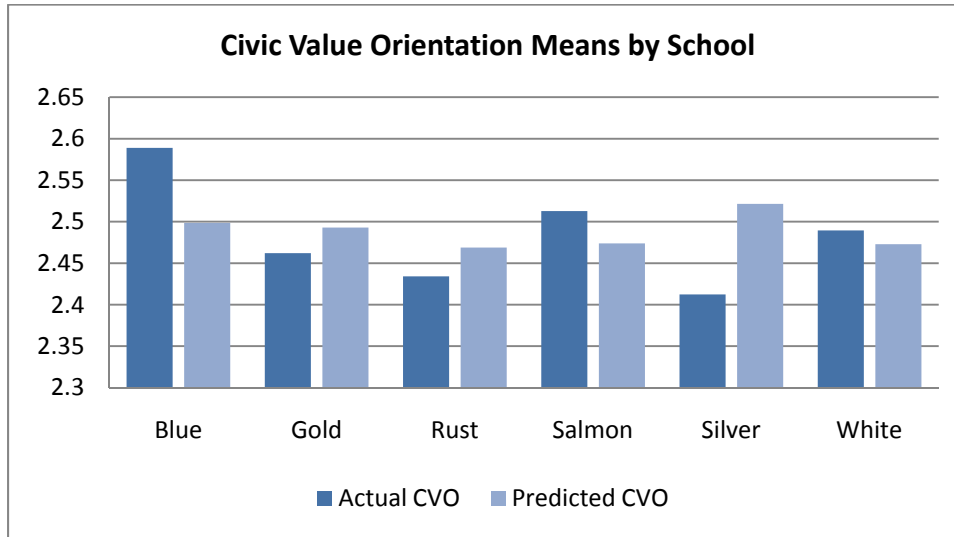
In Phase 2, regression is used to analyze the residuals from Phase 1. That is, we are constructing a model to predict CVO after controlling for the phase 1 student characteristics.

The table and graph below show the means and standard deviations by school for CVO, and the predicted and residual values from the phase 1 model. Notable is that three schools show actual CVO values higher than predicted, while three have actual CVO values lower than predicted.

Table 3

SCHOOL School	SCCVOrient Civic Values Orientation	PRErcvo_1 Unstandardized Predicted Value	RESrcvo_1 Unstandardized Residual	
Blue	Mean	2.5889	2.4984269	.0904244
	Std. Deviation	.57870	.17686649	.55622398
Gold	Mean	2.4620	2.4929303	-.0309671
	Std. Deviation	.66483	.19951455	.61771105
Rust	Mean	2.4342	2.4688382	-.0288382
	Std. Deviation	.59608	.18747516	.56306637
Salmon	Mean	2.5128	2.4739157	.0388750
	Std. Deviation	.57941	.17850109	.57620411
Silver	Mean	2.4123	2.5215149	-.1096592
	Std. Deviation	.62355	.19138252	.58389846
White	Mean	2.4895	2.4729087	.0162960
	Std. Deviation	.60213	.18414856	.57963635
Total	Mean	2.4873	2.4884906	.0001226
	Std. Deviation	.60804	.18655118	.57886396

Figure 4



The differences in the graph are perhaps exaggerated by the choice of the vertical scale. Although ANOVA showed the differences in the residuals among schools were statistically significant at $p \leq 0.01$, the variable SCHOOL only accounts for about 1% of the variation, as measured by Eta Squared.

Table 4: Measures of Association

	Eta	Eta Squared
SCCVorient Civic Values Orientation * SCHOOL School	.105	.011
PRErcvo_1 Unstandardized Predicted Value * SCHOOL School	.099	.010
RESrcvo_1 Unstandardized Residual * SCHOOL School	.113	.013

Whether the differences are of much practical significance is a matter of judgment, but it would appear that Blue, and possibly Salmon, and White, may be doing a marginally better job at developing the CVO values. Note, however, that the largest actual to predicted difference is 0.09, for Blue, and this is small compared to differences observed for most of the student characteristics and student experiences considered in this study.

Regardless of the amount of variation among the school means, the variation among students within schools is significant and associated with a variety of college experiences. The following table is the final model using stepwise regression on the residuals from phase 1 using all the environment variables simultaneously. The table includes the variables found to have significance at $p \leq 0.05$, and listed in order of entry into the model. R square for the model is 0.330, so the model accounts for about 33% of the variance.

Table 5: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
14	(Constant)	-2.061	.175		-11.760	.000
	SCGroupCEinvolvement Group Level College CE Involvement	.124	.028	.202	4.451	.000
	GENACT13 Discussed religion	.100	.037	.109	2.672	.008
	GENACT11 Discussed politics	.131	.037	.147	3.503	.000
	SCETHINT Ethnic Interaction	.065	.022	.115	2.947	.003
	COLACT11 Played varsity/intercollegiate athletics	.116	.041	.099	2.808	.005
	CSSACT09 Performed community service as part of a class	.071	.030	.086	2.369	.018
	CSSOPT06 Participated in a service or mission trip?	.094	.043	.080	2.197	.028
	COLACT06 Taken an ethnic studies course	.090	.040	.079	2.215	.027
	CSSACT23 Demonstrated for/against a war	.126	.046	.108	2.754	.006
	SATIS20 Leadership opportunities	.054	.024	.080	2.211	.027
	Blue	.110	.044	.095	2.521	.012
	GENACT09 Performed volunteer work	.070	.033	.084	2.089	.037

a. Dependent Variable: RESrcvo_1 Unstandardized Residual

Thus, after controlling for the phase 1 student characteristics, higher levels of Civic Values Orientation are associated with and predicted by:

- Higher involvement with student groups emphasizing civic engagement
- Discussing religion or politics more frequently
- Higher levels of racial/ethnic interactions
- Being a varsity athlete
- Demonstrating for/against a war (probably an indicator of personally active political involvement more generally)
- Performing community service as part of a class or other volunteer work, including mission trips
- Taking an ethnic studies course
- Being more satisfied with leadership opportunities
- Being a student from school Blue.

There are general themes in the list relating to active involvement in college in activities associated with civic values orientation -active involvement with persons of different ethnic, religious, or political views (what an AACU report on civic engagement terms “dialog across difference”), and active participation in civically related activities such as volunteer or community service work. Perhaps reinforcing the dialog across difference theme, “taking a women’s studies course” entered the model at one point, but was removed at the last step when “performed volunteer work” was added.

As a side note, an analysis of the same data using general linear modeling showed the same general themes and included in the model almost all the identical items, except that higher perceived emphasis on civic engagement on the part of the institution, faculty, and administration was included in the model. Thus faculty modeling might play a role that is significant although it did not emerge in this statistical model based on forward stepwise regression.

The add-on effect from varsity athletics, given the other variables in the analysis, is subject to some speculation. One possibility is that athletic teamwork and competition contributes to racial/ethnic interaction and contributes to CVO in line with the dialog across difference motif. A chi square test did not show a statistically significant difference in participation rates in varsity athletics based on Caucasian/non-Caucasian categories, however, so if this is the case, it may come from the more intense and cooperative interactions demanded by team sports. Another possibility is that the teamwork and sportsmanship values of athletics in and of themselves contribute to civic values. Also of note is that some varsity athletic teams engage in community service projects as a team activity.

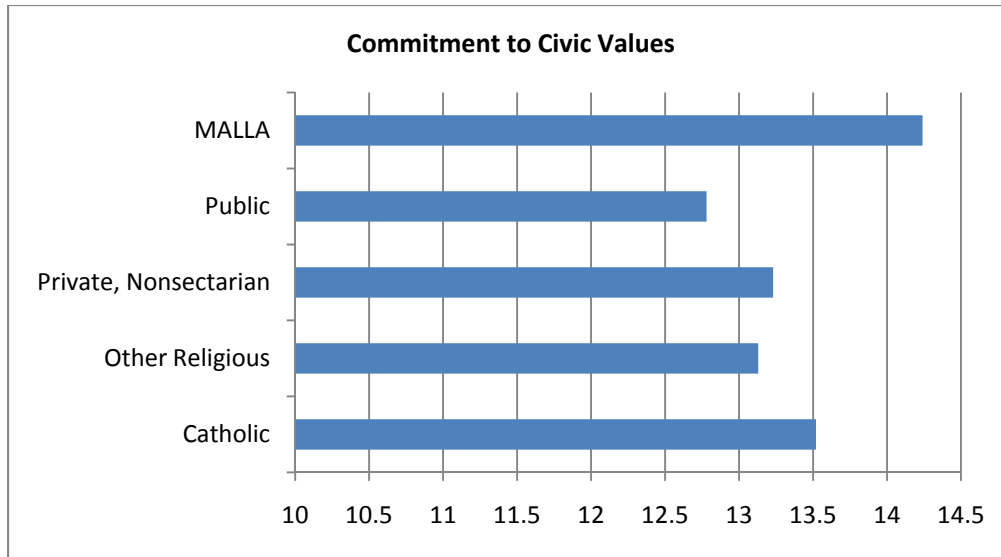
That specific activities such as participating in student government, taking a women’s studies course, or going on a foreign study term are not included in the model should not be seen as a reason to downplay those activities since when taken independently they correlate positively with higher CVO. Rather, these activities are not in the final model due to redundancy with other items in the model relating to the general themes of dialog across difference and active civic participation experiences.

Also notable is that there appears to be some add-on difference associated with school “Blue” in that in the predictive equation, 0.11 is added for students from school Blue. Blue has a wide emphasis on civic engagement in the curriculum and co-curriculum that would explain this.

Finally, it is of interest to compare the results for the six MALLA schools in this study with the results from a study by Margaret Ryan of Boston College. Ryan uses a very similar scale that she refers to as “Commitment to Civic Values.” This scale uses 7 of the 10 items in CVO and is computed as the sum of the responses. Since we have the data for those same seven items we can compare the results for our six institutions to her results. Her study looks at the CSS results from 142 institutions and 23,554 students and notes mean values for Commitment of Civic Values for seniors by institutional type as shown in the table below.

Table 6: Commitment to Civic Values	Mean	Std. Dev.
Catholic	13.52	4.03
Other Religious	13.13	3.8
Private, Nonsectarian	13.23	4.1
Public	12.78	3.91
Total	13.24	3.98

Figure 5



In comparison, the mean for the six MALLA institutions was 14.24, higher than any of the other averages. The range for the MALLA institutions was from 13.69 (still above any of the averages reported above) to 14.82. Thus, in comparison to the national distribution, the six MALLA schools had values clustered at the higher end. This is perhaps a result of our homogeneity as selective, residential, liberal arts colleges that promote the types of activities that emerged in the model as predicting higher CVO.

First-Year to Senior Value-Added Analysis for Civic Values

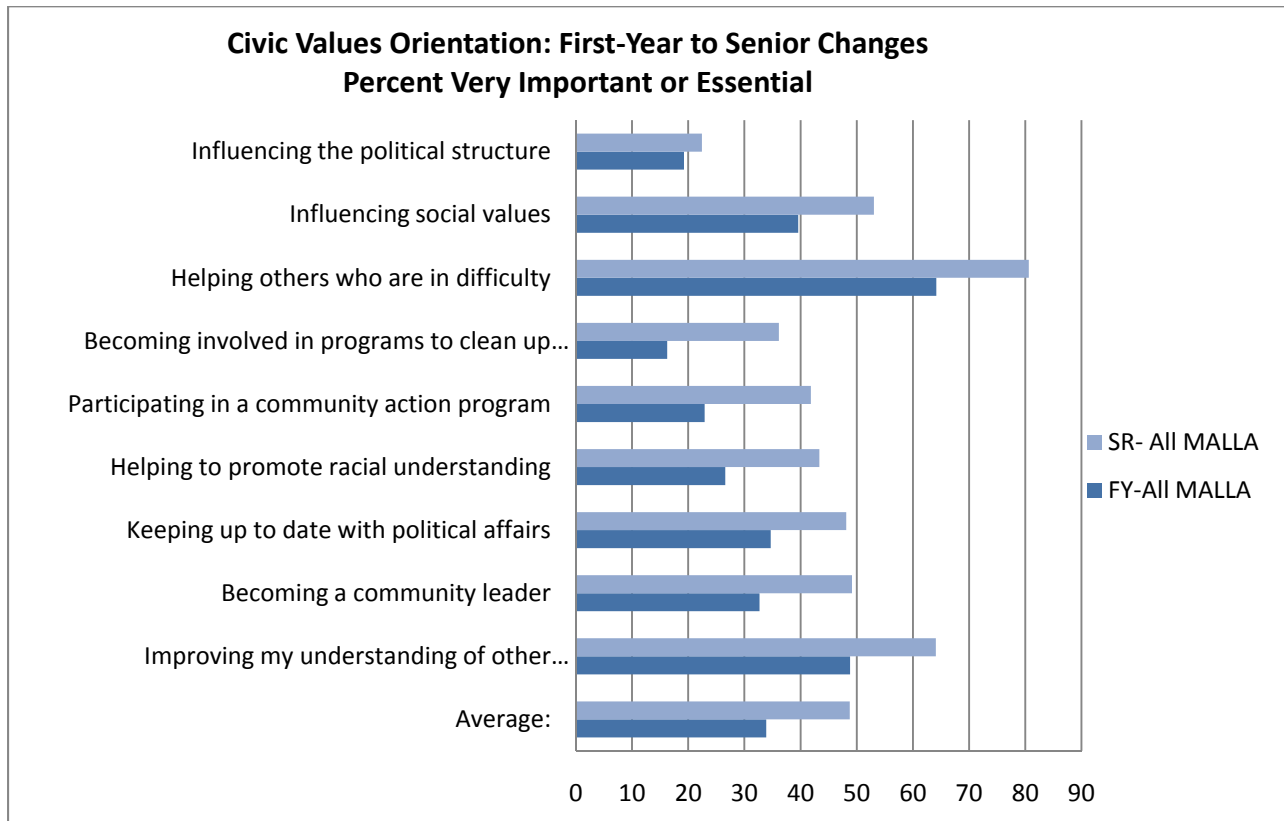
The intent of this section is to look at first-year to senior changes in civic values. In addition to using the CSS for seniors, all six institutions have used the CIRP First-Year Student Survey, given upon matriculation. The CIRP and CSS both contain all the items in the Civic Values Orientation scale, with the exception of the objective of improving the health of minority communities. Dropping this item, then, we can obtain a slight variant of CVO which we are labeling Civic Values Orientation (2), and which consists of nine of the ten items in CVO, and for which we have comparative data going from matriculation to the senior year. Of course, a true longitudinal pre-/post repeated measures design would be preferable, but not possible in a three year study or with anonymous respondents.

The following table shows the percentage of students who indicated each item in CVO2 was “very important” or “essential” to them personally. The CIRP percentages are based on the 2004 or 2005 entering student cohorts, depending on availability at each institution. The CSS data is from the 2008 administration of the CSS to seniors. The percentages from each of the six MALLA institutions have been averaged. There are positive gains on all the items, with an average gain of 14 percentage points. A table indicating the gains at each institution is included in the appendix.

Table 7 Civic Values Orientation (2)	MALLA – Averages		
	CIRP	CSS	Chg
<i>Indicate the importance to you personally of each of the following: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>	<i>% very imp or essential</i>	<i>% very imp or essential</i>	<i>FY to SR Chg</i>
Influencing the political structure	19	22	3
Influencing social values	40	53	13
Helping others who are in difficulty	64	81	16
Becoming involved in programs to clean up the environment	16	36	20
Participating in a community action program	23	42	19
Helping to promote racial understanding	27	43	17
Keeping up to date with political affairs	35	48	13
Becoming a community leader	33	49	16
Improving my understanding of other countries and cultures	49	64	15
Average	34	49	15

It should be emphasized that Table 7 does not represent a true longitudinal pre/post design looking at the same students as first-year students and again as seniors. The confounding effects of attrition among the cohort are not precisely know, but the validity of the data is supported at least qualitatively by the data from two institutions, Blue and Rust, both of whom obtained first-year to senior longitudinal reports for matched individuals as part of the CSS report from HERI. For Rust the average of the changes for the nine items based on the pre/post longitudinal students was 18.3, while the average of the changes based on all students (including non-matched) in the FY and senior surveys was 15.0. Similarly, for Blue the average for 274 students matched from the 2008 CSS and CIRP showed an average change of 20 percentage points, vs. 21 for all students. This suggests attrition might be ignored for schools similar to the MALLA schools, which have relatively high graduation rates, if we consider the numbers approximate.

Figure 6

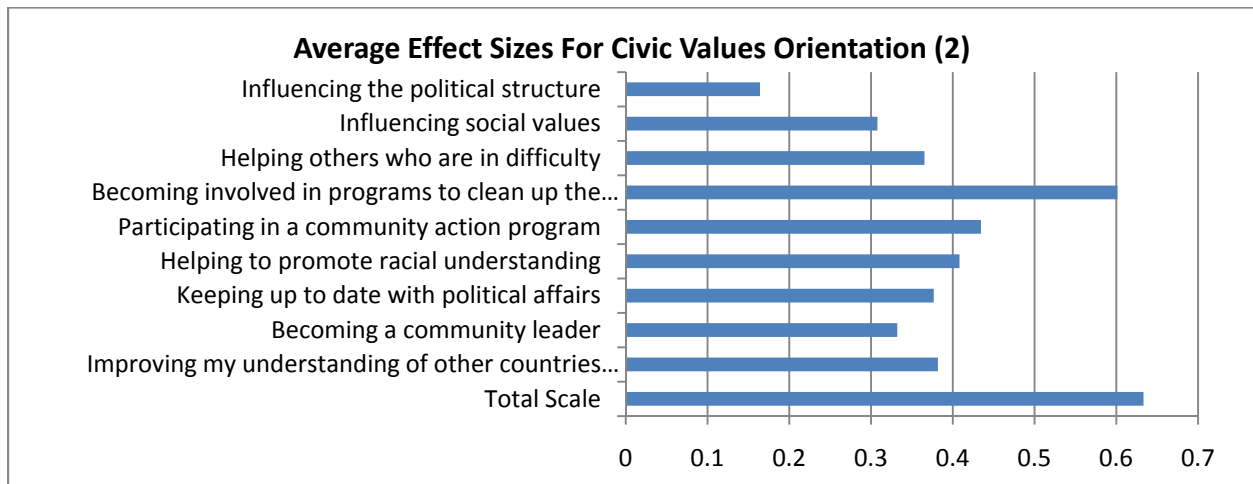


We can also look at value-added by considering the change in the means on each item going from the first-year to senior levels and computing the effect size corresponding to the difference. This is an approach that enables comparisons with other studies, and would be of primary interest if the data were available for all institutions. Only four of the institutions, however, have the necessary unit record data for the CIRP available. The Table 8 and Figure 7 below give the effect sizes for each CVO2 item for those four schools. The effect size used in this case is Cohen’s D, which is the difference in the means divided by the pooled standard deviation. The average effect sizes are, with the exception of “influencing the political structure” in the range of 0.30 to 0.43, which might be considered small or moderate, but, given the percentage shifts for “very important” to “essential” noted above, correspond to clearly observable changes. Notable is the strong effect sizes for Blue.

Table 8

Civic Values Orientation (2)	Effect Sizes				
	Blue	Gold	Rust	White	Average
<i>Indicate the importance to you personally of each of the following: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>					
Influencing the political structure	0.31	0.06	0.15	0.14	0.16
Influencing social values	0.43	0.29	0.18	0.34	0.31
Helping others who are in difficulty	0.52	0.26	0.23	0.45	0.37
Becoming involved in programs to clean up the environment	0.85	0.56	0.47	0.52	0.60
Participating in a community action program	0.63	0.38	0.32	0.41	0.43
Helping to promote racial understanding	0.59	0.27	0.37	0.40	0.41
Keeping up to date with political affairs	0.65	0.17	0.39	0.30	0.38
Becoming a community leader	0.27	0.40	0.34	0.32	0.33
Improving my understanding of other countries and cultures	0.60	0.24	0.32	0.37	0.38
Total Scale	0.80	nav	0.57	0.53	0.63

Figure 7



In comparison, in the study by Ryan cited above for the similar Commitment to Civic Values scale, the effect sizes for the First-year CSS to Senior CSS changes in the mean can be computed from her data and are considerably smaller:

Table 9

Commitment to Civic Values	Mean	SD	N	Mean	SD	N	Diff. in Means	pooled SD	Effect size
Catholic	12.91	3.58	7037	13.52	4.03	7037	0.61	3.81	0.16
Other Religious	12.52	3.42	5770	13.13	3.80	5770	0.61	3.61	0.17
Private, Nonsectarian	12.82	3.74	5868	13.23	4.10	5868	0.41	3.92	0.10
Public	12.18	3.74	2946	12.78	3.91	7037	0.60	3.86	0.16

In conclusion, the data indicates that the MALLA schools are having an unusually high impact on the development of civic values, with above average means at the senior level. Moreover this impact seems to be associated with a number of curricular and co-curricular activities. The most beneficial activities seem to relate to either active participation in volunteer or service learning types of activities or to engaging personally or intellectually in a broad range of diversity experiences based on race/ethnicity, gender, religion, politics, or culture.

Growth in Civic Skills

For the remaining outcome variables the discussion will follow the format for CVO in an abbreviated fashion.

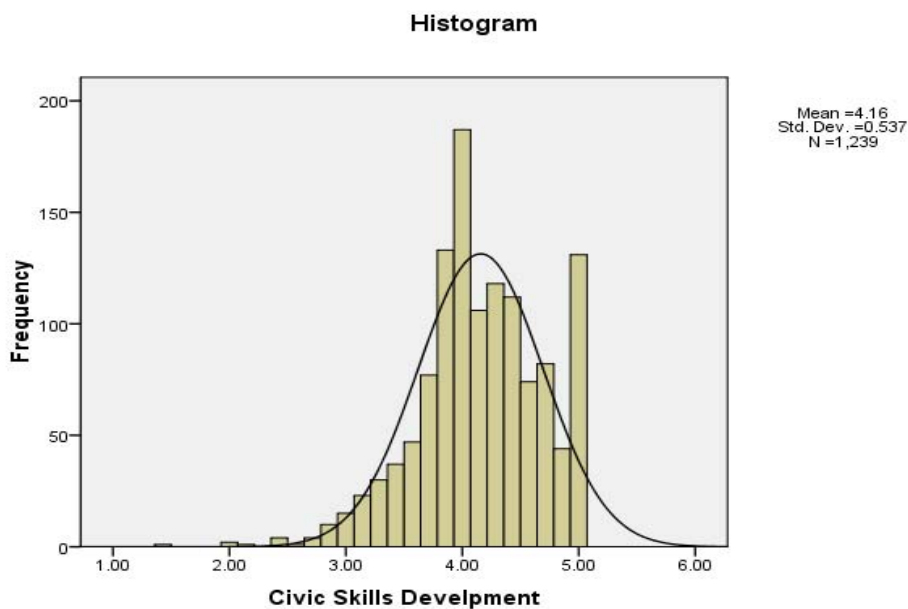
Growth in Civic Skills is composed of the following items, which are all based on self-ratings:

Compared with when you first entered this college, how would you now describe your . . . 1="Much Weaker," 2 = "Weaker," 3 = "No Change," 4="Stronger," 5="Much Stronger"

- Ability to get along with people of different races/cultures
- Interpersonal skills
- Leadership abilities
- Knowledge of people from different races/cultures
- Understanding of the problems facing your community
- Understanding of social problems facing our nation

Below is the distribution for Growth in Civic Skills for the six institutions:

Figure 8



The coefficients for the Phase 1 model are shown below. The model has R square = 0.037.

Table 12: Coefficients^a

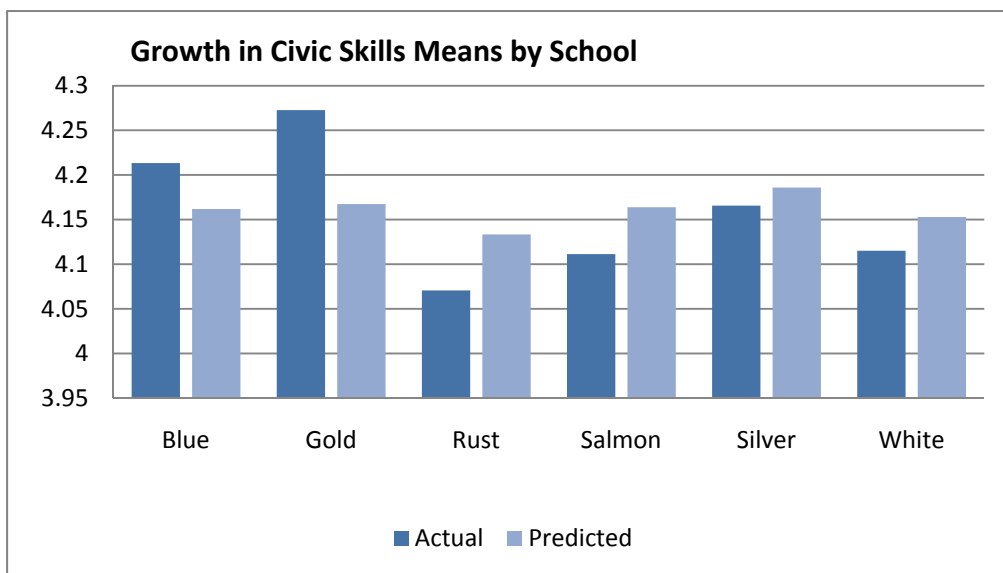
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
4	(Constant)	3.520	.110		31.951	.000
	ACADINDEX Academic ability/effort index	.028	.005	.150	5.338	.000
	MAJNS Natural Science Major	-.071	.036	-.059	-1.959	.050
	DCSSRLGD Religious preference (any religion)	.116	.039	.084	2.992	.003
	MAJSS Social Science Major	.082	.037	.067	2.224	.026

a. Dependent Variable: SCCivSkillsDev Civic Skills Development

The main predictive items in the model center on academic experiences, the academic index, and major (with natural sciences being a negative and social sciences a positive), but having a religious preference has a, perhaps, unexpectedly strong positive predictive value.

The observed actual and phase 1 predicted values for GCS are graphed below:

Figure 9



For this outcome Blue and Gold stand out as having actual scores better than would be predicted based on the phase 1 variables.

The final phase 2 model for civic skills development, which has R square = .201, is:

Table 12: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
8	(Constant)	-1.659	.209		-7.920	.000
	SATIS20 Leadership opportunities	.136	.025	.220	5.349	.000
	SCETHINT Ethnic Interaction	.084	.022	.161	3.847	.000
	CSSACT09 Performed community service as part of a class	.076	.031	.099	2.440	.015
	GENACT13 Discussed religion	.070	.033	.083	2.091	.037
	COLACT01 Joined a social fraternity or sorority	-.112	.040	-.107	-2.779	.006
	SCGroupCEinvolvement Group Level College CE Involvement	.064	.024	.112	2.599	.010
	SCInstCEemphasis Institutional CE Emphasis	.055	.027	.088	2.052	.041
	COLACT18 Participated in a study-abroad program	.149	.073	.077	2.034	.042

a. Dependent Variable: RESRCS1 Unstandardized Residual

Perhaps surprising, since one claim often made for the Greek system is that it develops leadership skills, is that joining a social fraternity or sorority appears with a negative coefficient in the predictive equation. Note also the rather large positive coefficient associated with participating in a study-abroad program. Also, note that no individual school now remains in the predictive equation. This indicates that the school differences observed in phase1 have now been largely explained by the differences in student experiences included in this phase 2 model. In particular, Blue's appearance in the phase 1 model is explainable by the students at Blue having experiences from the list of items in Table 12 that are predictive of higher CVO.

Civic Skills Self Rating

The Civic Skills Self Rating scale is comprised of the following CSS items:

Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. 1="Lowest 10%," 2 = "Below Average," 3 = "Average," 4="Above Average," 5="Highest 10%"

Self-confidence (social)

Public speaking ability

Risk-taking

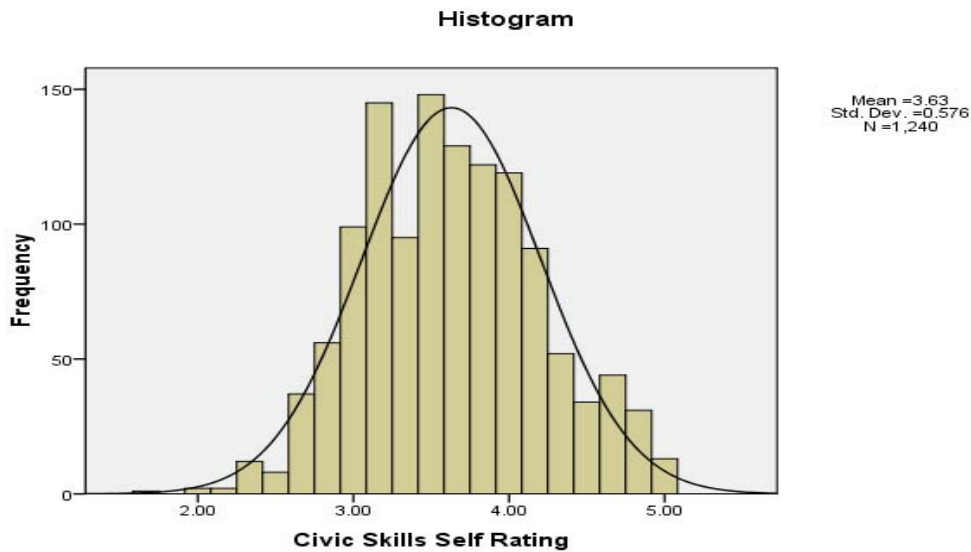
Self-confidence (intellectual)

Leadership ability

Self-understanding

Below are the SPSS outputs associated with Civic Skills Self Rating:

Figure 10



Phase 1 model (R square = .130):

Table 13: Coefficients^a

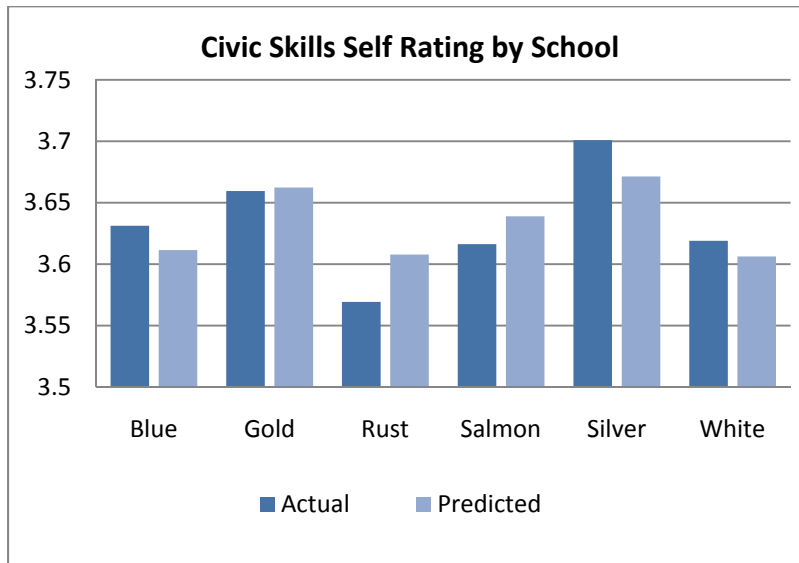
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
4	(Constant)	3.196	.163		19.613	.000
	ACADINDEX Academic ability/effort index	.058	.005	.293	10.897	.000
	CSSSEX Your sex (1=M, 2=F)	-.250	.033	-.202	-7.573	.000
	MAJHUM English/Language/Humanities Major	.100	.039	.069	2.586	.010
	CSSRACE1 White/Caucasian	-.152	.067	-.061	-2.279	.023

a. Dependent Variable: SCCivicSkillRating Civic Skills Self Rating

The large coefficient for gender indicates that males generally rate themselves higher on civic skills than females. Also minorities and English/foreign language/humanities majors rate themselves higher.

Phase 1 model observed actual vs. predicted by school:

Figure 11



On this scale Blue, Silver and White score higher than predicted. Also of note is Silver’s particularly high observed value.

Phase 2 model (R square = 0.088):

Table 14: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
5	(Constant)	-.769	.117		-6.589	.000
	SCGroupCEinvolvement Group Level College CE Involvement	.064	.026	.109	2.477	.014
	COLACT15 Participated in leadership training	.128	.044	.123	2.941	.003
	GENACT14 Worked on a local, state, or national political campaign	.121	.043	.119	2.800	.005
	COLACT11 Played varsity/intercollegiate athletics	.118	.045	.106	2.624	.009
	COLACT04 Participated in student government	.151	.059	.106	2.560	.011

Active participation in group activities appears to be the dominant theme associated with higher levels of confidence in civic skills. Contrast this result with that for CVO, in which dialog with others, or curricular consideration of different viewpoints, appeared to be the major theme. Both results seem reasonable. Perhaps it is not surprising that those who actively practice civic skills in college will rate themselves higher in them as seniors. When looking at the list of items in this scale, it’s not obvious how all of them relate directly to varsity athletics, which appears in the model with a fairly large

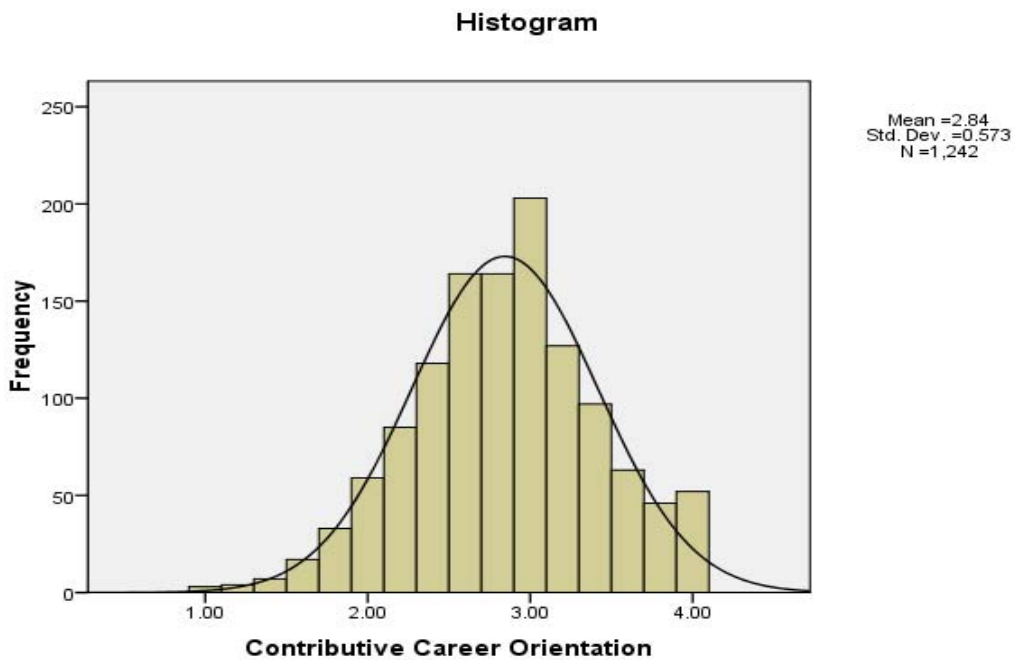
coefficient, but this may be related to the general values of teamwork, leadership, personal responsibility, and initiative.

Contributive Career Orientation

When thinking about your career path after college, how important are the following considerations: 1="Not important," 2 = "Somewhat important," 3 = "Very important," 4="Essential"

- Expression of personal values
- Creativity and initiative
- Working for social change
- Discovery/enhancement of knowledge
- Leadership potential

Figure 12



Phase 1 model (R square = .057):

Table 15: Coefficients^a

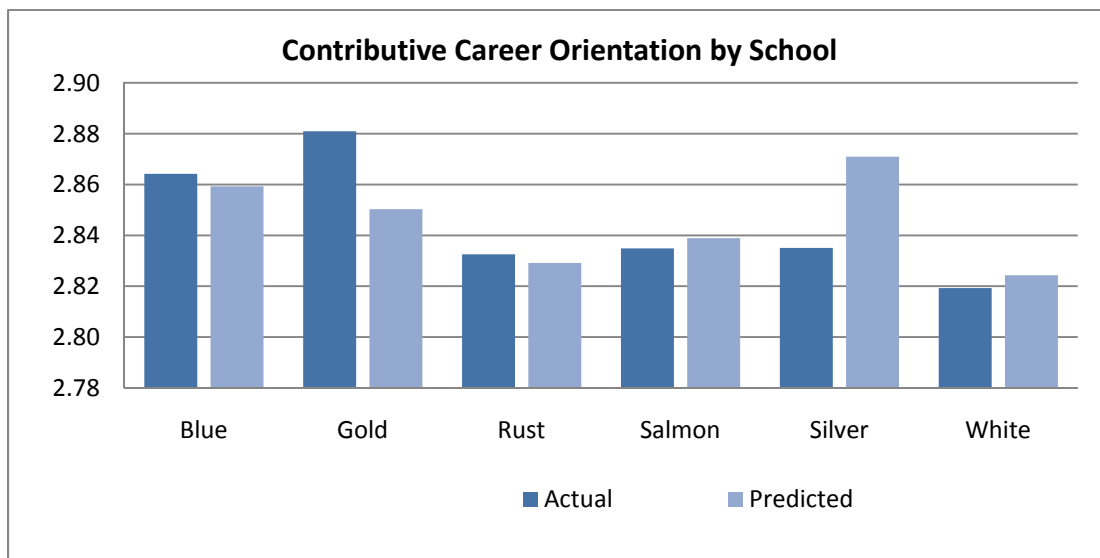
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
7	(Constant)	2.329	.188		12.412	.000
	CSSPOLVW How would you characterize your political views?	.079	.019	.120	4.091	.000
	ACADINDEX Academic ability/effort index	.024	.006	.123	4.348	.000
	MAJNS Natural Science Major	-.140	.039	-.108	-3.586	.000
	DCSSRLGD Religious preference (any religion)	.124	.043	.084	2.903	.004
	MAJBUAC Business/Acct Major	-.113	.048	-.071	-2.363	.018
	MAJED Education Major	.110	.051	.064	2.166	.031
	CSSRACE1 White/Caucasian	-.144	.070	-.058	-2.065	.039

a. Dependent Variable: SCContrOrient Contributive Career Orientation

The association of lower values on this scale with majoring in the natural sciences, which includes health professions, and with majoring in business/accounting is disappointing.

School statistics for the phase 1 model:

Figure 13



Phase 2 model (R square = .191):

Table 16: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
6	(Constant)	-1.358	.160		-8.465	.000
	SCGroupCEinvolvement Group Level College CE Involvement	.112	.028	.183	4.043	.000
	SATIS20 Leadership opportunities	.095	.026	.141	3.633	.000
	SCETHINT Ethnic Interaction	.067	.023	.119	2.861	.004
	CSSHPW18 Volunteer work	.052	.018	.116	2.851	.005
	CSSOPT07 Completed an internship/practicum with a not-for profit organization, government agency or educational institutions (other than required student teaching).	.120	.044	.107	2.745	.006
	CSSOPT09 Donated money to a political, social service, or other community charitable or non-profit organization?	.102	.045	.090	2.294	.022

a. Dependent Variable: RESRCCO_1 Unstandardized Residual

Perhaps not surprisingly, taking an internship with a not for profit, government, or educational institution is associated with interest in a contributive career.

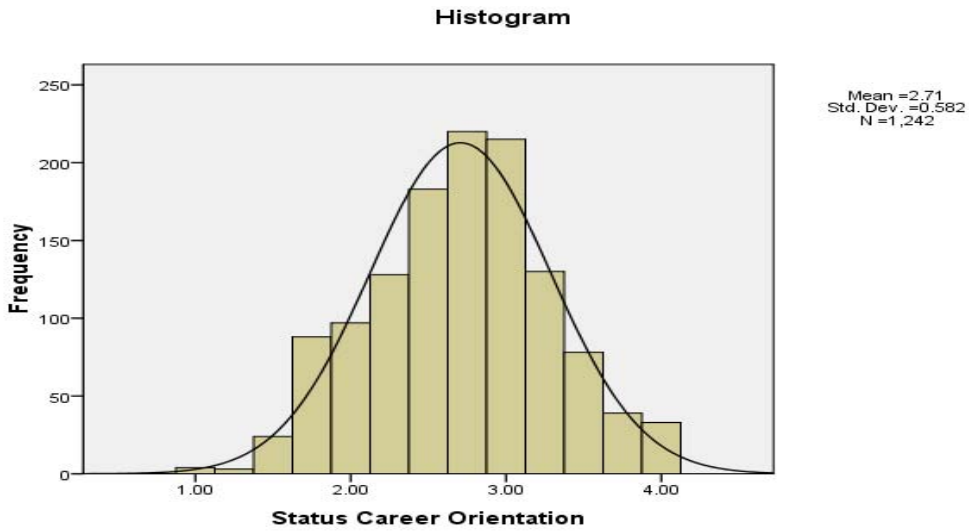
Status Career Orientation

When thinking about your career path after college, how important are the following considerations: 1="Not important," 2 = "Somewhat important," 3 = "Very important, 4="Essential"

-
- High income potential
 - Stable, secure future
 - Social recognition or status
 - Availability of jobs

The distribution for this scale is given below. Note that higher values on this scale might be considered less desirable in terms of civic engagement development.

Figure 14



Phase 1 model (R square = .081):

Table 17: Coefficients^a

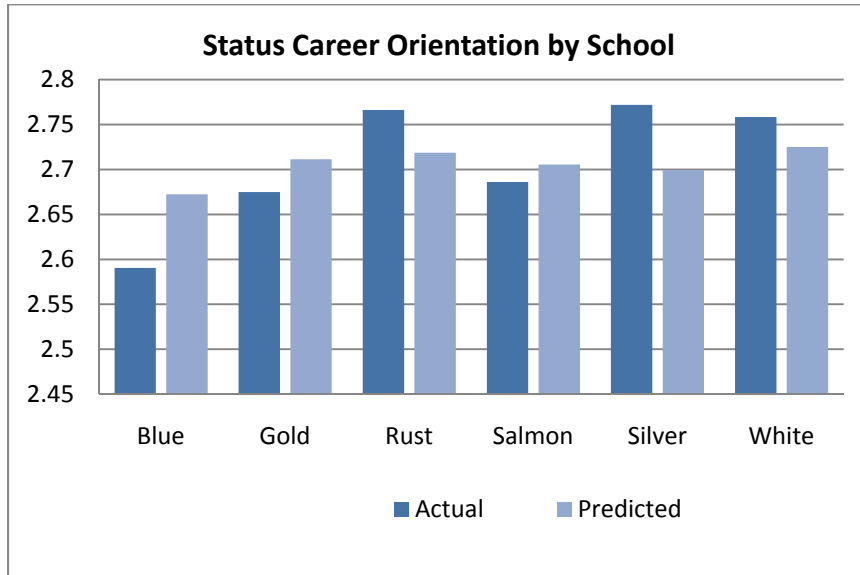
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
5 (Constant)	3.385	.155		21.879	.000
MAJBUAC Business/Acct Major	.215	.047	.133	4.591	.000
CSSPOLVW How would you characterize your political views?	-.108	.018	-.163	-5.872	.000
MAJED Education Major	-.219	.050	-.126	-4.402	.000
CSSRACE1 White/Caucasian	-.158	.069	-.063	-2.279	.023
MAJHUM English/Language/Humanities Major	-.094	.042	-.064	-2.217	.027

a. Dependent Variable: SCStatusCareer Status Career Orientation

It's interesting that minorities tend to score higher on both the contributive orientation and status orientation scales, showing that these are, as suggested by the factor analysis, largely independent measures, although they would seem to be antithetical.

School statistics for the phase 1 model:

Figure 15



Phase 2 model (R square = .091):

Table 18: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
5	(Constant)	-.327	.129		-2.535	.012
	COLACT01 Joined a social fraternity or sorority	.208	.054	.172	3.825	.000
	CSSOPT01 If you participated in a study abroad program, was it in a developing country?	-.133	.049	-.112	-2.726	.007
	CSSACT09 Performed community service as part of a class	.099	.036	.111	2.738	.006
	CSSOPT06 Participated in a service or mission trip?	-.129	.053	-.101	-2.422	.016
	CSSOPT03 Been a member of a college organization that requires community service?	.115	.055	.094	2.068	.039

a. Dependent Variable: RESRSCO_1 Unstandardized Residual

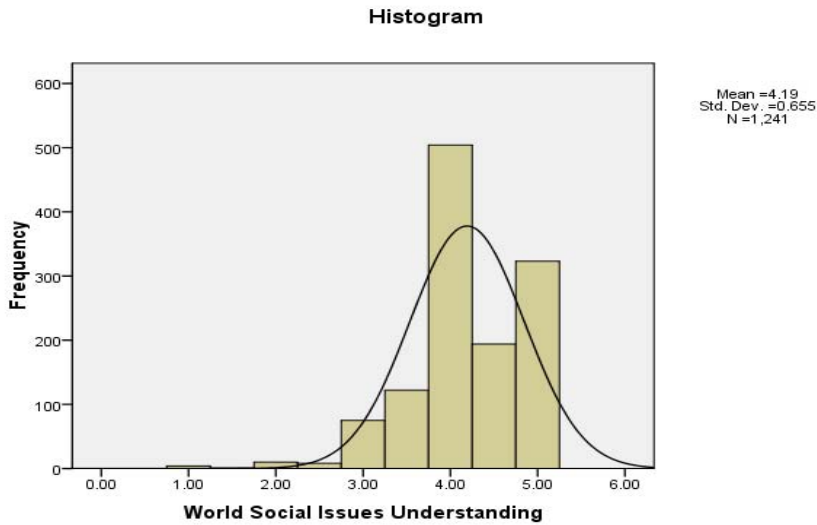
Growth in Global/Social Issues Understanding

Compared with when you first entered this college, how would you now describe your:
 1="Much Weaker," 2 = "Weaker," 3 = "No Change," 4="Stronger," 5="Much Stronger"

Understanding of global issues

Understanding of social problems facing our nation

Figure 16



Phase 1 model (R square = .054):

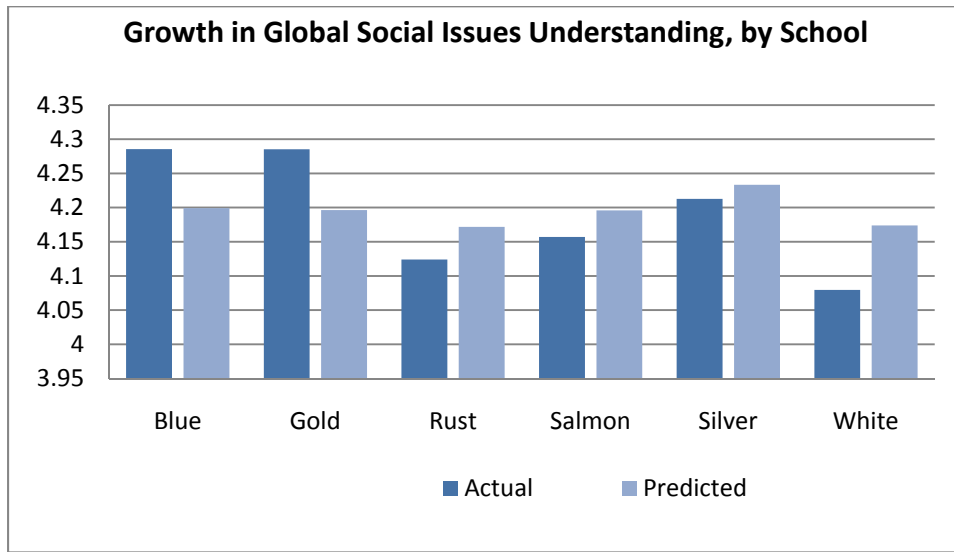
Table 19: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
4	(Constant)	3.094	.154		20.122	.000
	ACADINDEX Academic ability/effort index	.034	.006	.149	5.347	.000
	MAJSS Social Science Major	.174	.042	.116	4.152	.000
	CSSPOLVW How would you characterize your political views?	.093	.022	.124	4.279	.000
	DCSSRLGD Religious preference (any religion)	.110	.049	.065	2.260	.024

a. Dependent Variable: SCWSIUnderstanding World Social Issues Understanding

School statistics for the phase 1 model:

Figure 17



Phase 2 model (R square = .129):

Table 20: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
6	(Constant)	-1.298	.194		-6.703	.000
	GENACT11 Discussed politics	.163	.039	.169	4.130	.000
	SCInstCEemphasis Institutional CE Emphasis	.107	.031	.145	3.419	.001
	SCETHINT Ethnic Interaction	.070	.025	.116	2.827	.005
	SATIS20 Leadership opportunities	.082	.031	.113	2.655	.008
	COLACT01 Joined a social fraternity or sorority	-.114	.049	-.093	-2.341	.020
	CSSOPT09 Donated money to a political, social service, or other community charitable or non-profit organization?	.099	.049	.081	2.037	.042

a. Dependent Variable: RESRGSU_1 Unstandardized Residual

SUMMARY OF REGRESSION ANALYSIS

The following tables summarized the variables associated with the various outcomes in the predictive equations from the regression models. Note that “Status Career Goals” is included for purposes of contrasting with “Contributive Career Goals,” and is displayed separately to the far right since it seems incorrect to consider it a desired civic engagement outcome, but is more ambivalent in that regard.

SUMMARY OF PHASE 1 And 2 REGRESSION MODELS

Variables in the models with positive and negative coefficients

Table 21: Phase 1 Models: Student Based

Outcome						
Civic Values Orientation	Growth in Civic Skills	Civic Skills Self Rating	Growth in Global/Social Issues Understanding	Contributive Career Goals		Status Career Goals (In contrast to Contributive Career Goals)
Positive						
Political view - more liberal			Political view - more liberal	Political view - more liberal		Political - more conservative
Any religious preference	Any religious preference		Any religious preference	Any religious preference		
Non-Caucasian		Non-Caucasian		Non-Caucasian		Non-Caucasian
Higher academic index	Higher academic index	Higher academic index	Higher academic index	Higher academic index		
Social science major	Social science major	English/ language/ humanities major	Social science major	Education major		Business/ accounting major
		Gender - Male				
Negative						
Business/ accounting major	Natural science major			Business/ accounting major		Education major
				Natural science major		English/ language/ humanities major

Table 22: Phase 2 Models: College Experiences Based

Outcome					
Civic Values Orientation	Growth in Civic Skills	Civic Skills Self Rating	Growth in Global/Social Issues Understanding	Contributive Career Goals	Status Career Goals
Positive					
CE group involvement	CE group involvement	CE group involvement		CE group involvement	Joined a social fraternity or sorority
Discussed religion	Discussed religion				Member of a college organization that requires community service
Discussed politics			Discussed politics		
Higher ethnic interactions	Higher ethnic interactions			Higher ethnic interactions	
Community service as part of a class	Community service as part of a class				Community service as part of a class
Satisfied with leadership opportunities	Satisfied with leadership opportunities		Satisfied with leadership opportunities	Satisfied with leadership opportunities	
	Institutional CE Emphasis		Institutional CE Emphasis		
Volunteer work				Volunteer work	
			Donated money to a charitable or non-profit org.	Donated money to a charitable or non-profit org.	
Service or mission trip	Participated in study abroad program	Participated in leadership training		Internship/ practicum with a not-for profit, government or educ. Institution	
Ethnic studies course		Worked on a local, state or nation campaign			
Demonstrated for/against a war		Participated in student government			
Varsity athletics		Varsity athletics			
Enrolled at school Blue					
Negative					
	Joined a social fraternity or sorority		Joined a social fraternity or sorority		Study abroad in a developing country
					Service or mission trip

Observations:

- All the MAALA institutions are having a significant impact on the development of students' civic values and skills
- Gender is not a factor in presence of the other student characteristics included in the study. The exception is for the self-rating of civic skills, where males rate themselves higher.
- Non- Caucasian ethnicity is consistently associated with higher positive CE outcomes.
- Having a religious preference consistently is associated with higher positive CE outcomes.
- Higher academic ability/effort is associated with higher positive CE outcomes, but only modestly.
- There are significant variations by major. In general being a social science major is associated with higher CE outcomes, while being a business/accounting or natural science major is associated with lower CE outcomes.
- Individual schools do not generally remain as independent variables in the final models, even though all schools were entered in the regression analysis in the form of dichotomous variables. The exception is Blue's association with an increase in Civic Values Orientation. The differences between schools observed at the end of phase 1 are, therefore, largely accounted for by the differences in the experiences of individual students relative to the set of phase 2 independent variables. These are almost entirely activities or curricular experiences of individual students, except for the perception of the institutional emphasis on civic engagement, which might be considered more of an institutional characteristic. In other words, the differences among the experiences of students within each institution are the most important thing in explaining the variance. As a corollary, institutions might be able to positively affect civic engagement by encouraging the activities noted as positively associated with our desired outcomes.
- Ethnic interactions are generally a positive, reinforcing efforts directed both toward structural diversity and creating opportunities for significant interaction of students on diversity issues
- Discussion or interaction with others on issues of politics, religion, gender, or ethnicity is associated with positive civic engagement outcomes.
- Active involvement while in college in groups with a civic related emphasis is a positive.
- Volunteer or service experiences are a positive.
- An emphasis on civic engagement by the institution is a positive.
- Varsity athletics appears to make some positive contribution to both civic values and civic skills development, while fraternity or sorority membership appears to be associated with lower levels of growth in civic skills and with higher levels of status career seeking.

Many studies have documented a positive impact from a college liberal education on civic engagement. In particular, civic engagement has been shown, as in this study, to be related to "encountering difference", not only in the sense of demographic diversity (race, gender, sexuality, socioeconomic status), but also attitudinal (religion, political) and intellectual (academic controversy, conflicting evidence) (Reason et al, 2008; Gurin et al, 2002; Hoy and Meisel, 2008). The above analysis has shown correlational associations between engaging in certain activities and experiences while in college and our civic engagement outcomes, and although it seems reasonable to presume, in part based on the literature, that a significant part of the association is causal, the amount would be speculation.

IMPLICATIONS

- Structural and curricular diversity in a broad sense (racial/ethnic, gender, religious, political, etc.) is valuable for the development of civic values and engagement. The curriculum, co-curriculum, and faculty pedagogy should promote positive interactions among persons of heterogeneous backgrounds, and challenge students with ideas that are different from their own.
- We should encourage activities that promote dialogue with others about social issues, politics, religion, gender, race/ethnicity, and international affairs.
- We should promote active involvement in civic activities – volunteer activities, service learning, participation in political campaigns, etc.
- Students may benefit from perceiving an institutional commitment to civic values. Faculty role modeling may be particularly important.
- Students in certain majors, particularly business/accounting and the natural sciences, may be missing experiences that would be helpful in developing civic engagement values and skills, and we might investigate ways to encourage their participation.
- Fraternities and sororities may impede development of civic values if they isolate students into homogeneous groups that enable students to avoid exposure to students with different backgrounds and opinions, or emphasize social status over social values.
- Our foreign study programs, intercollegiate athletic programs and campus ministries programs have evidenced potential for promoting civic values and skills. We should consider their impact as we alter or develop these programs.

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APPENDICES

The appendices below include descriptive statistics on each scale by school and a copy of the supplemental questions used with the CSS survey.

Student Academic Index and Ethnic Interactions Index

Because the student academic index and ethnic interactions index were not included in the main narrative above, they are list below in the format used for the other scales.

Below are the two major environment scales used in the analysis above but not listed in the text.

Student Academic Index

Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. 1="Lowest 10%", 2 = "Below Average", 3 = "Average", 4="Above Average", 5="Highest 10%"

Academic ability

Writing ability

Persistence

Since entering college have you: Enrolled in honors or advanced courses? (1="No", 2="Yes")

What is the average grade you received during your college career, both overall and in your major?
(1=D, 2=C, 3=C+, 4=B-, 5=B, 6=B+, 7=A-, 8=A or A+)

Ethnic Interactions

To what extent have you experienced the following with students from a racial/ethnic group other than your own?

Dined or shared a meal

Had meaningful and honest discussions about racial/ethnic relations outside of class

Shared personal feelings and problems

Had intellectual discussions outside of class

Studied or prepared for class

Socialized or partied

APPENDIX Table 1: SCALES with Descriptive Statistics by School

Institutional Civic Engagement Emphasis <i>1=strongly agree to 5=strongly agree</i>	All Schools				Means for Individual Schools						Sig
	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
CSSOPT18 Overall, my school has emphasized community service and civic engagement in its programs.	3.72	0.93	1241	0.902	3.61	4.15	3.50	3.92	3.34	4.02	***
CSSOPT19 Senior administrators (e.g. president, vice presidents, provost, deans, program directors) at my school have emphasized community service and civic engagement.	3.46	0.99	1241	0.892	3.43	3.80	3.22	3.42	3.27	3.71	***
CSSOPT20 Faculty at my school have emphasized community service and civic engagement.	3.59	0.92	1241	0.889	3.51	3.88	3.46	3.88	3.35	3.74	***
Total Scale (alpha = .878)	3.59	0.61	1241		3.52	3.94	3.39	3.74	3.32	3.83	***

Group Level College CE Involvement <i>Since entering college to what extent have you been involved with a student group or groups that emphasize: (1=never to 5=very often)</i>	All Schools				Means for Individual Schools						Sig
	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
CSSOPT10 Political involvement	2.11	1.20	1238	0.723	2.22	2.24	1.81	2.12	2.07	2.24	***
CSSOPT11 Environmental issues	2.27	1.15	1238	0.736	2.32	2.23	2.22	2.33	2.25	2.29	
CSSOPT12 International issues	2.15	1.19	1238	0.824	2.04	2.31	2.00	2.41	2.13	2.25	**
CSSOPT13 Racial/ethnic diversity issues	2.15	1.18	1238	0.781	2.04	2.31	2.15	1.98	2.15	2.21	
CSSOPT14 Social/community service issues	2.96	1.35	1238	0.733	2.80	2.92	3.05	3.29	3.03	2.88	*
CSSOPT15 Global economic development issues (poverty, health care, literacy, etc)	2.31	1.24	1238	0.803	2.25	2.45	2.24	2.53	2.15	2.39	
CSSOPT17 During the past year, how many total hours per week did you typically spend doing activities with the student groups listed above? (1 = "None", 2 = "Less than one hour", 3 = "1 to 2 hours", 4 = "3 to 5 hours", 5 = "6-10 hours", ...)	1.96	0.84	1238	0.568	1.75	1.98	2.00	2.15	1.96	2.07	***
Total Scale (alpha = .863)	2.27	0.61	1238		2.20	2.35	2.22	2.40	2.25	2.33	

Civic Values Orientation	All Schools				Means for Individual Schools						Sig
<i>Indicate the importance to you personally of each of the following: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
CSSOBJ04 Influencing the political structure	1.92	0.87	1240	0.677	1.98	1.89	1.83	1.99	1.84	1.99	
CSSOBJ05 Influencing social values	2.56	0.86	1240	0.698	2.61	2.55	2.48	2.62	2.47	2.65	
CSSOBJ09 Helping others who are in difficulty	3.13	0.74	1240	0.598	3.18	3.02	3.10	3.17	3.14	3.15	**
CSSOBJ14 Becoming involved in programs to clean up the environment	2.33	0.84	1240	0.613	2.47	2.35	2.28	2.15	2.20	2.37	**
CSSOBJ16 Participating in a community action program	2.37	0.88	1240	0.780	2.52	2.34	2.31	2.47	2.20	2.38	*
CSSOBJ17 Helping to promote racial understanding	2.42	0.93	1240	0.769	2.57	2.38	2.37	2.45	2.27	2.44	**
CSSOBJ18 Keeping up to date with political affairs	2.53	0.90	1240	0.699	2.70	2.47	2.46	2.53	2.54	2.43	
CSSOBJ19 Becoming a community leader	2.44	0.91	1240	0.688	2.44	2.52	2.46	2.53	2.38	2.41	
CSSOBJ22 Improving the health of minority communities	2.31	0.94	1240	0.679	2.45	2.28	2.27	2.24	2.25	2.28	
CSSOBJ20 Improving my understanding of other countries and cultures	2.86	0.90	1240	0.721	2.97	2.83	2.79	2.97	2.84	2.81	
Total Scale (alpha = .879)	2.49	0.61	1240		2.59	2.46	2.43	2.51	2.41	2.49	*

Contributive Career Orientation	All Schools				Means for Individual Schools						Sig
<i>When thinking about your career path after college, how important are the following considerations: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
CARCON06 Expression of personal values	2.93	0.78	1242	0.756	2.94	2.95	2.93	2.85	2.93	2.94	
CARCON05 Creativity and initiative	2.81	0.83	1242	0.679	2.83	2.87	2.81	2.76	2.85	2.73	
CARCON01 Working for social change	2.61	0.95	1242	0.660	2.63	2.67	2.55	2.71	2.49	2.67	
CARCON10 Discovery/enhancement of knowledge	3.10	0.82	1242	0.660	3.12	3.10	3.08	3.14	3.08	3.09	
CARCON09 Leadership potential	2.78	0.83	1242	0.644	2.81	2.82	2.80	2.72	2.84	2.67	
Total Scale (alpha = .704)	2.84	0.57	1242		2.86	2.88	2.83	2.83	2.84	2.82	

Status Career Orientation	All Schools				Means for Individual Schools						Sig
<i>When thinking about your career path after college, how important are the following considerations: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
CARCON02 High income potential	2.45	0.88	1243	0.804	2.24	2.44	2.52	2.44	2.50	2.59	***
CARCON04 Stable, secure future	3.26	0.73	1243	0.726	3.19	3.18	3.34	3.22	3.28	3.32	
CARCON03 Social recognition or status	2.16	0.84	1243	0.706	2.03	2.25	2.17	2.08	2.30	2.13	**
CARCON07 Availability of jobs	2.96	0.75	1242	0.675	2.90	2.83	3.04	3.00	2.99	2.99	
Total Scale (alpha = .705)	2.71	0.58	1242		2.59	2.67	2.77	2.69	2.77	2.76	**

Growth in Civic Skills	All Schools				Means for Individual Schools						Sig
<i>Compared with when you first entered this college, how would you now describe your: 1="Much Weaker", 2 = "Weaker", 3 = "No Change", 4="Stronger", 5="Much Stronger"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
SLFCHG08 Ability to get along with people of different races/cultures	3.90	0.81	1239	0.761	3.96	4.01	3.81	3.74	3.90	3.89	
SLFCHG07 Interpersonal skills	4.34	0.68	1239	0.684	4.30	4.43	4.24	4.41	4.37	4.38	*
SLFCHG06 Leadership abilities	4.28	0.71	1239	0.696	4.25	4.41	4.22	4.41	4.32	4.22	*
SLFCHG05 Knowledge of people from different races/cultures	4.05	0.79	1239	0.723	4.17	4.22	3.91	3.90	3.99	4.04	***
SLFCHG09 Understanding of the problems facing your community	4.16	0.74	1239	0.787	4.25	4.27	4.07	4.01	4.14	4.12	**
SLFCHG10 Understanding of social problems facing our nation	4.25	0.69	1239	0.724	4.32	4.32	4.18	4.26	4.26	4.16	
Total Scale (alpha = .853)	4.16	0.58	1239		4.21	4.27	4.07	4.11	4.17	4.12	**

Civic Skills Ability Self Rating	All Schools				Means for Individual Schools						Sig
<i>Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. 1="Lowest 10%", 2 = "Below Average", 3 = "Average", 4="Above Average", 5="Highest 10%"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
CSSRAT15 Self-confidence (social)	3.50	0.89	1240	0.765	3.50	3.50	3.51	3.42	3.56	3.49	
CSSRAT12 Public speaking ability	3.43	0.90	1240	0.700	3.43	3.45	3.37	3.60	3.53	3.34	
CSSRAT13 Risk-taking	3.31	0.84	1240	0.615	3.29	3.39	3.24	3.26	3.28	3.41	
CSSRAT14 Self-confidence (intellectual)	3.77	0.81	1240	0.727	3.73	3.81	3.71	3.67	3.86	3.81	
CSSRAT08 Leadership ability	3.94	0.77	1240	0.683	3.96	3.94	3.90	4.01	4.05	3.84	
CSSRAT16 Self-understanding	3.82	0.77	1240	0.662	3.88	3.87	3.68	3.73	3.92	3.83	*
Total Scale (alpha = .782)	3.63	0.58	1240		3.63	3.66	3.57	3.62	3.70	3.62	

Growth in Global Social Issues Understanding	All Schools				Means for Individual Schools						Sig
<i>Compared with when you first entered this college, how would you now describe your: 1="Much Weaker", 2 = "Weaker", 3 = "No Change", 4="Stronger", 5="Much Stronger"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
SLFCHG14 Understanding of global issues	4.14	0.72	1241	0.928	4.25	4.25	4.06	4.06	4.17	4.00	***
SLFCHG10 Understanding of social problems facing our nation	4.24	0.69	1241	0.921	4.32	4.32	4.18	4.26	4.26	4.16	
Total Scale (alpha = .829)	4.19	0.65	1241		4.29	4.29	4.12	4.16	4.21	4.08	**

Student Academic Index	All Schools				Means for Individual Schools						Sig
<i>Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. 1="Lowest 10%", 2 = "Below Average", 3 = "Average", 4="Above Average", 5="Highest 10%"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
COLL GPA What is the average grade you received during your college career, both overall and in your major? (1=D, 2=C, 3=C+, 4=B-, 5=B, 6=B+, 7=A-, 8=A or A+)	6.26	1.43	1240	0.822	6.27	6.40	6.07	6.55	6.61	6.00	***
CSSRAT01 Academic ability	4.05	0.72	1240	0.797	3.98	4.09	4.00	4.00	4.27	3.99	***
COLACT13 Since entering college have you: Enrolled in honors or advanced courses? (1="No", 2="Yes")	1.40	0.49	1240	0.556	1.38	1.42	1.34	1.60	1.47	1.37	***
CSSRAT18 Writing ability	3.81	0.79	1240	0.613	3.79	3.87	3.78	3.74	3.91	3.76	
CSSRAT10 Persistence	3.99	0.72	1240	0.537	3.97	3.97	3.94	4.08	4.12	3.95	
Total Scale (alpha = .661) (.705 based on standardized items)	19.51	2.90	1240		19.39	19.74	19.12	19.98	20.37	19.07	***

Ethnic Interactions	All Schools				Means for Individual Schools						Sig
<i>To what extent have you experienced the following with students from a racial/ethnic group other than your own?</i>	Mean	Std. Deviation	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
ETHEXP01 Dined or shared a meal	3.19	1.12	1236	0.835	2.94	3.23	3.21	3.01	3.44	3.32	***
ETHEXP02 Had meaningful and honest discussions about racial/ethnic relations outside of class	2.82	1.17	1236	0.816	2.78	2.87	2.79	2.59	2.85	2.92	
ETHEXP04 Shared personal feelings and problems	2.97	1.22	1236	0.879	2.81	2.92	2.96	2.86	3.20	3.08	*
ETHEXP06 Had intellectual discussions outside of class	3.00	1.21	1236	0.883	2.99	3.01	2.87	3.02	3.08	3.07	
ETHEXP08 Studied or prepared for class	2.88	1.27	1236	0.790	2.73	2.89	2.93	2.67	2.96	3.03	*
ETHEXP09 Socialized or partied	3.32	1.09	1236	0.816	3.09	3.30	3.39	3.23	3.47	3.46	***
Total Scale (alpha = .914)	3.03	4.00	1241		2.89	3.04	3.02	2.90	3.17	3.15	*

Commitment to Civic Values (published scale)	All Schools				Means for Individual Schools						Sig
<i>Indicate the importance to you personally of each of the following: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>	Mean	SD	N	R with scale	Blue	Gold	Rust	Salmon	Silver	White	
CSSOBJ04 Influencing the political structure	1.92	0.87	1241	0.748	1.98	1.89	1.83	1.99	1.84	1.99	
CSSOBJ05 Influencing social values	2.56	0.86	1241	0.742	2.61	2.55	2.48	2.62	2.47	2.65	
CSSOBJ16 Participating in a community action program	2.37	0.88	1241	0.770	2.52	2.34	2.31	2.47	2.20	2.38	**
CSSOBJ17 Helping to promote racial understanding	2.42	0.93	1241	0.742	2.57	2.38	2.37	2.45	2.27	2.44	*
CSSOBJ18 Keeping up to date with political affairs	2.53	0.90	1241	0.754	2.70	2.47	2.46	2.53	2.54	2.43	**
CSSOBJ19 Becoming a community leader	2.44	0.91	1241	0.732	2.44	2.52	2.46	2.53	2.38	2.41	
Total Scale	14.24	4.00	1241		14.82	14.14	13.91	14.59	13.69	14.29	*

APPENDIX Table 2: Variable List With Descriptive Statistics by School

Scales and individual CSS items used in analysis. (Variable labels include SPSS name.)

Scales										
	All Schools			Means for Individual Schools						Sig
	Mean	SD	N	Blue	Gold	Rust	Salmon	Silver	White	
SCCVorient Civic Values Orientation	2.49	0.61	1240	2.59	2.46	2.43	2.51	2.41	2.49	*
SCContrOrient Contributive Career Orientation	2.84	0.57	1242	2.86	2.88	2.83	2.83	2.84	2.82	
SCStatusCareer Status Career Orientation	2.71	0.58	1242	2.59	2.67	2.77	2.69	2.77	2.76	**
SCCivSkillsDev Civic Skills Development	4.16	0.58	1239	4.21	4.27	4.07	4.11	4.17	4.12	**
SCCivicSkillRating Civic Skills Ability Self Rating	3.63	0.58	1240	3.63	3.66	3.57	3.62	3.70	3.62	
SCWSIUnderstanding Global Social Issues Understanding Developme	4.19	0.65	1241	4.29	4.29	4.12	4.16	4.21	4.08	**
ACADINDEX Student Academic Index	19.51	2.90	1240	19.39	19.74	19.12	19.98	20.37	19.07	***
SCCivicValues Commitment to Civic Values	14.24	4.00	1241	14.82	14.14	13.91	14.59	13.69	14.29	*
SCInstCEemphasis Institutional CE Emphasis	3.59	0.85	1241	3.52	3.94	3.39	3.74	3.32	3.83	***
SCGroupCEinvolvement Group Level College CE Involvement	2.27	0.87	1238	2.20	2.35	2.22	2.40	2.25	2.33	
SCETHINT Ethnic Interaction	3.03	4.00	1241	2.89	3.04	3.02	2.90	3.17	3.15	*
Individual CSS Items										
College Activities <i>1="No", 2="Yes"</i>	All Schools			Means for Individual Schools						Sig
	Mean	SD	N	Blue	Gold	Rust	Salmon	Silver	White	
COLACT01 Joined a social fraternity or sorority	1.35	0.48	1244	1.20	1.20	1.46	1.56	1.33	1.48	***
COLACT04 Participated in student government	1.12	0.33	1244	1.09	1.14	1.05	1.28	1.16	1.15	***
COLACT06 Taken an ethnic studies course	1.60	0.49	1244	1.65	1.52	1.61	1.53	1.56	1.64	*
COLACT07 Taken a women's studies course	1.34	0.47	1244	1.36	1.33	1.41	1.22	1.30	1.34	*
COLACT08 Attended a racial/cultural awareness workshop	1.46	0.50	1244	1.48	1.53	1.39	1.50	1.45	1.49	
COLACT09 Had a roommate of different race/ethnicity	1.25	0.44	1244	1.18	1.32	1.24	1.20	1.35	1.26	***
COLACT10 Participated in an ethnic/racial student organization	1.22	0.42	1244	1.18	1.25	1.17	1.22	1.22	1.31	**
COLACT11 Played varsity/intercollegiate athletics	1.35	0.48	1244	1.38	1.42	1.34	1.36	1.23	1.36	**
COLACT15 Participated in leadership training	1.37	0.48	1244	1.26	1.37	1.35	1.52	1.41	1.43	***
COLACT18 Participated in a study-abroad program	1.47	0.50	1244	1.66	1.60	1.29	1.43	1.47	1.37	***

Additional School Specific Questions	All Schools			Means for Individual Schools						Sig
	Mean	SD	N	Blue	Gold	Rust	Salmon	Silver	White	
<i>1="No", 2="Yes"</i>										
CSSOPT01 If you participated in a study abroad program, was it in a developing country?	1.22	0.42	1125	1.35	1.22	1.20	1.18	1.11	1.19	***
CSSOPT02 If you participated in a study abroad program, what was the length of your time abroad?	2.65	0.80	627	2.42	2.61	2.82	2.55	2.81	2.93	***
CSSOPT03 Been a member of a college organization that requires community service?	1.62	0.49	1241	1.51	1.56	1.67	1.70	1.62	1.71	***
CSSOPT04 Performed volunteer community service that was sponsored by a college organization?	1.80	0.40	1241	1.80	1.79	1.80	1.87	1.75	1.80	
CSSOPT05 Performed volunteer community service other than through a college organization?	1.60	0.49	1241	1.58	1.56	1.64	1.66	1.56	1.60	
CSSOPT06 Participated in a service or mission trip?	1.22	0.41	1240	1.20	1.18	1.14	1.40	1.15	1.33	***
CSSOPT07 Completed an internship/practicum with a not-for profit organization, government agency or educational institutions (other than required student teaching).	1.34	0.47	1240	1.30	1.36	1.29	1.33	1.36	1.39	
CSSOPT08 Voted in a state, local, or national election?	1.81	0.39	1241	1.88	1.94	1.64	1.92	1.77	1.82	***
CSSOPT09 Donated money to a political, social service, or other community charitable or non-profit organization?	1.58	0.49	1240	1.59	1.48	1.55	1.50	1.66	1.61	**
Satisfaction										
Satisfaction	All Schools			Means for Individual Schools						Sig
	Mean	SD	N	Blue	Gold	Rust	Salmon	Silver	White	
<i>1="Can't Rate/Don't know", 2="Very dissatisfied", 3="dissatisfied", 4="neutral", 5="Satisfied", 6="Very Satisfied"</i>										
SATIS17 Opportunities for community service	4.98	0.86	1157	4.73	5.25	4.97	5.16	4.90	5.12	***
SATIS20 Leadership opportunities	5.05	0.81	1189	4.94	5.18	5.07	5.31	5.06	4.98	***

CSSACT	All Schools			Means for Individual Schools						Sig
	Mean	SD	N	Blue	Gold	Rust	Salmon	Silver	White	
1="Not at all", 2="Occasionally", 3="Frequently"										
CSSACT09 Performed community service as part of a class	1.66	0.67	1244	1.57	1.86	1.48	1.78	1.43	2.00	***
CSSACT10 Voted in a student election	2.00	0.68	1244	1.83	2.13	1.96	1.94	2.03	2.18	***
CSSACT21 Played a musical instrument	1.60	0.81	1244	1.71	1.60	1.56	1.84	1.62	1.42	***
CSSACT23 Demonstrated for/against a war	1.17	0.44	1243	1.17	1.19	1.15	1.19	1.14	1.22	
CSSHPW18 Volunteer work	2.13	1.22	1243	1.86	2.24	2.21	2.29	2.06	2.29	***
GENACT										
GENACT	All Schools			Means for Individual Schools						Sig
	Mean	SD	N	Blue	Gold	Rust	Salmon	Silver	White	
1="Not at all", 2="Occasionally", 3="Frequently"										
GENACT03 Socialized with someone of another racial/ethnic group	2.28	0.56	1241	2.24	2.27	2.24	2.21	2.39	2.32	*
GENACT09 Performed volunteer work	1.94	0.65	1241	1.76	2.00	2.01	2.17	1.85	2.01	***
GENACT10 Participated in political demonstrations	1.23	0.47	1241	1.36	1.21	1.16	1.19	1.15	1.24	***
GENACT11 Discussed politics	2.12	0.62	1241	2.24	2.07	2.02	2.21	2.17	2.06	***
GENACT13 Discussed religion	2.04	0.60	1240	2.20	1.99	1.95	2.01	1.99	2.00	***
GENACT14 Worked on a local, state, or national political campaign	1.14	0.43	1241	1.19	1.14	1.08	1.09	1.16	1.17	*

Appendix: Table 3 Effect Sizes for First-year to Senior Changes in Civic Values Orientation (2) Base on Means

Civic Values Orientation (2)	Blue				Gold				Rust				White			
	FY	SR	Chg	Effect size*	FY	SR	Chg	Effect size*	FY	SR	Chg	Effect size*	FY	SR	Chg	Effect size*
<i>Indicate the importance to you personally of each of the following: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>	Mean	Mean	Diff.	Effect size*	Mean	Mean	Diff.	Effect size*	Mean	Mean	Diff.	Effect size*	Mean	Mean	Diff.	Effect size*
Influencing the political structure	1.73	1.98	0.25	0.31	1.84	1.89	0.05	0.06	1.74	1.83	0.09	0.11	1.86	1.99	0.13	0.14
Influencing social values	2.26	2.61	0.35	0.43	2.30	2.55	0.25	0.29	2.27	2.48	0.21	0.26	2.35	2.65	0.30	0.34
Helping others who are in difficulty	2.77	3.18	0.41	0.52	2.82	3.02	0.20	0.26	2.82	3.10	0.28	0.34	2.79	3.15	0.36	0.45
Becoming involved in programs to clean up	1.79	2.47	0.68	0.85	1.88	2.35	0.47	0.56	1.85	2.28	0.43	0.56	1.93	2.37	0.44	0.52
Participating in a community action	1.98	2.52	0.54	0.63	2.02	2.34	0.32	0.38	1.90	2.31	0.41	0.51	2.04	2.38	0.34	0.41
Helping to promote racial understanding	2.05	2.57	0.52	0.59	2.14	2.38	0.24	0.27	1.96	2.37	0.41	0.47	2.08	2.44	0.36	0.40
Keeping up to date with political affairs	2.11	2.70	0.59	0.65	2.32	2.47	0.15	0.17	2.05	2.46	0.41	0.45	2.15	2.43	0.28	0.30
Becoming a community leader	2.20	2.44	0.24	0.27	2.16	2.52	0.36	0.40	2.20	2.46	0.26	0.28	2.12	2.41	0.29	0.32
Improving my understanding of other countries and cultures	2.43	2.97	0.54	0.60	2.61	2.83	0.22	0.24	2.34	2.79	0.45	0.52	2.47	2.81	0.34	0.37
Total Scale	2.15	2.60	0.45	0.80	2.23	2.48	0.25	nav	2.13	2.45	0.32	0.57	2.20	2.51	0.31	0.53

*Cohen's D = difference in means divided by the pooled standard deviation

Blue, Rust CIRP FY data from 2004/5; Gold, White CIRP data from 2005/6

Appendix: Table 4, First-year to Senior Changes for Civic Values Orientation (2) as Percent Indicating Very Important or Essential

Civic Values Orientation (2)	Blue			Gold			Rust			Salmon			Silver			White			ALL - Averages		
	CIRP	CSS	Chg	CIRP	CSS	Chg	CIRP	CSS	Chg	CIRP	CSS	Chg	CIRP	CSS	Chg	CIRP	CSS	Chg	CIRP	CSS	Chg
<i>Indicate the importance to you personally of each of the following: 1="Not important", 2 = "Somewhat important", 3 = "Very important", 4="Essential"</i>	<i>% very imp or essential</i>	<i>% very imp or essential</i>	<i>FY to Sr Chg</i>	<i>% very imp or essenti al</i>	<i>% very imp or essenti al</i>	<i>FY to Sr Chg</i>	<i>% very imp or essenti al</i>	<i>% very imp or essenti al</i>	<i>FY to Sr Chg</i>	<i>% very imp or essenti al</i>	<i>% very imp or essenti al</i>	<i>FY to Sr Chg</i>	<i>% very imp or essenti al</i>	<i>% very imp or essenti al</i>	<i>FY to Sr Chg</i>	<i>% very imp or essenti al</i>	<i>% very imp or essenti al</i>	<i>FY to Sr Chg</i>	<i>% very imp or essenti al</i>	<i>% very imp or essenti al</i>	<i>Avg FY to SR Chg</i>
CSSOBJ04 Influencing the political structure	17	25	8	19	23	3	16	18	2	24	24	0	19	19	0	20	26	6	19	22	3
CSSOBJ05 Influencing social values	38	55	17	38	51	13	36	49	13	41	61	20	46	47	1	39	56	17	40	53	13
CSSOBJ09 Helping others who are in difficulty	63	86	23	64	75	11	61	78	17	59	83	24	76	79	2	62	83	21	64	81	16
CSSOBJ14 Becoming involved in programs to clean up the environment	16	45	29	20	41	21	14	35	21	12	23	12	15	34	18	21	40	19	16	36	20
CSSOBJ16 Participating in a community action program	23	49	26	24	42	18	18	39	21	24	44	20	25	34	9	23	42	19	23	42	19
CSSOBJ17 Helping to promote racial understanding	27	52	25	30	41	11	21	40	19	23	46	24	32	35	2	27	47	20	27	43	17
CSSOBJ18 Keeping up to date with political affairs	32	57	25	39	45	6	29	46	17	35	45	10	42	51	8	31	45	14	35	48	13
CSSOBJ19 Becoming a community leader	33	48	15	33	49	16	33	50	17	33	58	25	35	43	8	30	48	18	33	49	16
CSSOBJ20 Improving my understanding of other countries and cultures	45	68	23	52	61	9	39	63	23	58	68	10	56	64	8	44	62	18	49	64	15
Average:	33	54	21	35	47	12	30	46	17	34	50	16	39	45	6	33	50	17	34	49	15

Blue, Rust: CIRP 2004/5, Silver, White: CIRP 2005/6

Appendix

MALLA SUPPLEMENTAL ITEMS FOR THE COLLEGE SENIOR SURVEY January, 2008

If you participated in a study abroad program, was it in a developing country? YES NO

If you participated in a study abroad program, what was the length of your time abroad?

Not applicable

0-4 weeks (e.g. interim term)

5-15 weeks (e.g. one whole semester/term)

16-32 weeks (e.g. over a semester/term to an academic year)

More than 32 weeks

Since entering college have you: (Mark YES or NO for each item) YES NO

- Been a member of a college organization that requires community service?
- Performed volunteer community service that was sponsored by a college organization?
- Performed volunteer community service other than through a college organization?
- Participated in a service or mission trip?
- Completed an internship/practicum with a not-for profit organization, government agency or educational institutions (other than required student teaching).
- Voted in a state, local, or national election?
- Donated money to a political, social service, or other community charitable or non-profit organization?

Since entering college to what extent have you been involved with a student group or groups that emphasize: (For each group, select only one category below based on the primary focus of the group's activities.)

(very often, often, sometimes, seldom , never)

- Political involvement
- Environmental issues
- International issues
- Racial/ethnic diversity issues
- Social/community service issues
- Global economic development issues (poverty, health care, literacy, etc)
- Faith based/religious issues

During the past year, how many total hours per week did you typically spend doing activities with the student groups listed above?

None to less than 1 hour
1 - 5 hours
6- 10 hours
11 - 20 hours
over 20 hours

Please indicate your level of agreement with the following:

(agree strongly, agree, neutral, disagree, disagree strongly)

- Overall, my school has emphasized community service and civic engagement in its programs.
- Senior administrators (e.g. president, vice presidents, provost, deans, program directors) at my school have emphasized community service and civic engagement.
- Faculty at my school have emphasized community service and civic engagement.