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Predictors of Civic Values: Understanding Student-Level and Institutional-Level Effects

Joe L. Lott, II

This multilevel study extends the work of Pascarella, Ethington, & Smart (1988) and Rhee and Dey (1996) to investigate how student-level characteristics and organizational characteristics affect college students' civic values. Institutional variables found to impact civic values include institutional selectivity, institutional size, and attending a private institution. Student-level variables found to impact civic values include having taken a women's studies class, ethnic studies class, and being a social science major. Using Weidman's (1989) model as a conceptual base, this study has implications for a number of theories and practices that further explain the various socialization processes among students that facilitate civic values development.

Research about how college impacts civic values of college students has evolved during the past 50 years. Earlier and more contemporary works established a rich base upon which current scholars continue to expand the theoretical boundaries of understanding the impact of social and academic experiences on civic values. Pascarella, Ethington, and Smart (1988) revived the history of research on value development, and found, for example, that Jacob (1957) and Eddy's (1959) work held more of a pessimistic view about the impact of college on values, whereas Feldman and Newcomb (1969) were more optimistic about higher education's effect on such values. Since these earlier works, research has expanded significantly about effects of college on civic values, and this study contributes to this developing research.

Since the Pascarella et al. (1988) study, much has changed, which warrants further investigation into civic values. There is more information about curricular and cocurricular experiences that impact civic engagement outcomes. For example, research has shown that service-learning, volunteer programs, residential hall strategies, university–community partnerships, and many other activities promoted in higher education institutions increase civic engagement outcomes of students (Astin, 1993; Checkoway, 2001; Colby, Beaumont, Ehrlich, & Corngold, 2007; Colby, Ehrlich, Beaumont, & Stephens, 2003; Ehrlich, 2000; Eyer & Giles, 1999; Pascarella & Terenzini, 2005). In addition, Rhee and Dey (1996) extended Pascarella et al.'s (1988) work and found that additional variables impact civic values. For example, Pascarella et al. (1988) found that college grades, social leadership involvement, and faculty/staff interactions had significant effects on civic values. Rhee and Dey found, among other things, that college major and participation in student government impacted civic values.

There are also more robust statistical techniques that improve our understanding of the nested nature of the data collected on college students. Multi-level techniques have provided insight into student outcomes because they allow for investigations into student-level, institutional-level, and cross-level interactions (Raudenbush & Bryk, 2002). In addition to the sophisticated methodological techniques, there is also more information about the impact of different

Joe L. Lott, II, is Assistant Professor of Education Leadership and Policy Studies at the University of Washington Seattle.

types of institutions on student outcomes that warrant multi-level techniques (Pascarella & Terenzini, 2005). For example, Rhee and Dey (1996) found that institutional characteristics such as church-affiliated colleges, colleges with a higher percentage of students involved in campus/protests demonstrations, and social involvement differentiation significantly explained civic values. This study expands upon both Pascarella et al.'s (1988) and Rhee and Dey's work to understand how student-level characteristics, and the relationship between student-level characteristics and institutional characteristics, impact civic values.

Conceptual Framework

College impact models are useful in illustrating the social and academic experiences that impact a multitude of student outcomes, including civic values (e.g., Astin, 1993; Chickering, 1969, Lacy, 1978 Pascarella, 1985; Tinto, 1975; Weidman, 1989). Weidman's (1989) model provides guidance for this study because it is concerned primarily with noncognitive outcomes; it is longitudinal in nature; and it considers some of the salient elements of socialization to consider for the study of college impact, which include individual, group, and organizational sources of socializing influence. Weidman's framework is not meant to be exhaustive by his own admission. Rather, his work is meant to provide a conceptual roadmap to understanding how precollege values, aspirations, and other personal goals are either changed or maintained by exposure to other socializing influences while attending college, which includes social and academic experiences in college, family, and noncollege reference groups. These values and orientations are changed or maintained through the socialization process that "involves the acquisition and maintenance of membership in salient groups (e.g., familial, occupational, organizational) as well as society at large"

(Weidman, 1989, p. 294). His work is heavily influenced by other college impact models (e.g., Tinto, 1975; Chickering, 1969). Although the Weidman model was derived more than 20 years ago, Hurtado (2007) noted that it still "stands alone in the field as the most comprehensive and explicit specification of social structure as normative contexts that shape student career choices, lifestyle preferences, aspirations and values" (p. 99). This study mainly considers the impact of student background characteristics, parental socialization, and the college experience aspects of Weidman's model on civic values.

Research Questions

Given the prior findings and the goals of this study, the research questions that guided this study were:

1. What is the relationship between students' pre-college characteristics, indicators of social involvement, and indicators of academic involvement on their senior year civic values?
2. Does the relationship between students' pre-college characteristics, indicators of social involvement, and indicators of academic involvement on their senior year civic values vary by institution?
3. Can the unexplained variance in the relationship between student characteristics and civic values be predicted by institutional characteristics?

METHODOLOGY

Data and Variables

To examine the potential influences on civic values, this study drew upon the 2000 and 2004 data from the Cooperative Institutional Research Program (CIRP) sponsored by the Higher Education Research Institute at the University of California at Los Angeles.

Respondents completed two surveys at two different times. In 2000, students completed the Student Information Form (SIF), which covers a wide range of student characteristics that include demographic information, financial aid, secondary school achievement, values, attitudes, and beliefs. In 2004, students completed the College Senior Survey (CSS), which provides a range of student outcomes including academic achievement and engagement, values, goals, satisfaction with the college experience, degree aspirations, and post-college plans.

Only students who completed both the SIF in 2000 and the CSS in 2004 were included in the analyses. The sample for this study comprised 12,013 students nested within 57 four-year institutions. Of the 12,013 students 7,450 (61.4%) were women and 4,563 (37.6%) were men. Most of the respondents were White (88%), and there were small percentages of students of color in the sample, including 325 (2.7%) African Americans, 175 (1.4%) American Indian/Alaska Native, 112 (0.093%) Pacific Islander, 574 (4.7%) Latino (Mexican American/Chicano, Puerto Rican American, and Other Latino), and 474 (3.9%) Asian Americans. Therefore, statistical controls were included at the student-level to account for ethnicity differences in the sample. Of the 57 institutions 51 (89.5%) were private institutions and 6 (10.5%) were public institutions. Also, 25 (43.9%) of the institutions were religiously affiliated, and 32 institutions (56.1%) were not religiously affiliated.

Variable Selection. Variables for the study were selected based on guidance from Weidman's (1989) model, past research using civic values as a dependent variable, and other variables hypothesized to impact civic values not previously considered in past research that used civic values as a dependent variable. This study used many of the variables used in Pascarella et al.'s (1988) and Rhee

and Dey's (1996) studies, which included precollege variables, academic variables, social involvement variables, and organizational variables. Precollege variables in the model, based on Pascarella et al.'s (1988) and Rhee and Dey's work, include high school grade point average (GPA), gender, race, and socio-economic status (SES); academic variables selected for the models include college GPA and being a social science major; social involvement variables hypothesized to impact civic values include student government involvement and having leadership training; and organizational variables selected to explain institutional variability include institutional selectivity (mean SAT score), religious affiliation, institutional control, historically Black college status, and an institution's average proportion of students involved in protest/demonstrations. The data definitions for all variables in the study are shown in Table 1.

Some variables are included that were not considered in the previously cited studies. Precollege variables included in this study were high school community service and political orientation. High school community service has been found to impact future civic orientation and is considered to be a statistical control on students' senior year civic values (Hart, Donnelly, Youniss, & Atkins, 2007). Little evidence has shown institutional effect on political orientation on students (Astin, 1993; Pascarella & Terenzini, 2005). However, because recent research has focused on more political dimensions of citizenship development (Colby et al., 2007), senior year political orientation is considered relevant to the study of civic values. Being involved in an ethnic studies, women's studies, and study abroad program were the academic variables hypothesized to impact civic values in this study. All have been shown to empower students and foster their self-discovery (Bataille, Carranza, & Lisa,

TABLE 1.
Variable Definitions

Variable	Definition
<i>Dependent Variable</i>	
Civic values 2004	8-item variable that rates personal importance on (a) influencing the political structure, (b) influencing social values, (c) becoming involved in programs to clean up environment, (d) developing a meaningful philosophy of life, (e) participating in community action programs, (f) helping to promote racial understanding, (g) keeping up to date with politics, (h) becoming a community leader (Cronbach's alpha = .849)
<i>Student-Level Variables</i>	
High school community service	Dichotomous: 1 = yes, 0 = no
High school grade point average	8-point scale: 1 = D, to 8 = A or A+
College grade point average	6-point scale: 1 = C- or less, to 6 = A
Taken an ethnic studies class	Dichotomous: 1 = yes, 0 = no
Taken a women studies class	Dichotomous: 1 = yes, 0 = no
Participated in study abroad	Dichotomous: 1 = yes, 0 = no
Social science major	Dichotomous: 1 = yes, 0 = no
Political orientation	5-point scale: 1 = far Right to 5 = far Left
Hours per week volunteered	8-point scale: 1 = none, to 8 = over 20 hours
Student government participation	Dichotomous: 1 = yes, 0 = no
Had a roommate of a different ethnicity	Dichotomous: 1 = yes, 0 = no
Leadership training in college	Dichotomous: 1 = yes, 0 = no
Engaged in campus/protest during college	Dichotomous: 1 = yes, 0 = no
Woman	Dichotomous: 1 = yes, 0 = no
Socioeconomic status (SES)	3-item standardized composite: (1) mothers education, (2) fathers education, (3) total household income (Cronbach's alpha = .686)
Student of color	Dichotomous: 1 = yes, 0 = no
Civic values 2000	Same variable as Civic Values 2004 but items were responded to in 2000 (Cronbach's alpha = .822)
<i>Organizational Variables</i>	
Institutional selectivity	Average SAT Verbal and SAT Math for freshman
Institutional size	Total undergraduate enrollment
Church affiliated	Dichotomous: 1 = church affiliated, 0 = non church affiliated
Institutional control	Dichotomous: 1 = private, 0 = public
%in campus protest/demonstrations	Percentage of student in an institution who participated in protest/demonstrations
Historically Black college or university (HBCU) status	Dichotomous: 1 = HBCU, 0 = non-HBCU

1996; Chang, 2002; Luebke & Reilly, 1995; Salisbury, Umbach, Paulsen, & Pascarella, 2009); therefore, they may also explain civic values. Cocurricular variables hypothesized to impact civic values include volunteering in college, having an ethnic roommate, and being involved in protests/demonstrations. As mentioned in previous sections, volunteering has been shown to increase the range of student outcomes. In addition, diverse experiences in college found to increase students' sense of community include having a roommate from a diverse background (Saenz, Ngai, & Hurtado, 2007; Van Laar, Levin, Sinclair, & Sidanius, 2005); and these variables have not yet been reported in studies that predict civic values. Rhee and Dey (1996) used the aggregate effect of student protest to determine if there is a relationship between proportion of students in an institution who participated in campus protest and civic values. This study took a step back to understand, first, if there is a level-1 effect of student protest on civic values.

Dependent Variable. The main dependent variable is Civic Values 2004 (civic values), an eight-itemed measure that represents the collective importance that students assign to their involvement in activities that promote a social and civic community during their senior year of college (see descriptive information in Table 2). The Cronbach's internal consistency coefficient for civic values is .849. This measure was based on factor analyses conducted across randomly generated samples such that the covariances between the Civic Values 2000 and Civic Values 2004 measures are equal (see Lott & Eagan, 2011 for more information about the psychometric properties of these measures).

ANALYTICAL APPROACH/RESULTS

Hierarchical linear modeling (HLM) was the most appropriate analysis for this study because of the nested nature of the data, as it allows

for between-institution, within-institution, and cross-level estimations (Raudenbush & Bryk, 2002). This research estimated a two-level model in which students (level 1) were nested in institutions (level 2). Ignoring this nesting by aggregating the student-level data to the institutional level would lead to interpretation errors, including shift of meaning, the ecological fallacy, and prevention of appropriately modeling interactions between student-level and organizational-level variables (Snijders & Bosker, 1999). In addition, treating the data at the micro-level, when in fact macro-level variables should be considered, leads to unnecessarily conservative tests (Snijders & Bosker, 1999). Therefore, HLM was the optimal approach for this study. However, before the HLM model was estimated, the assumptions for linear models were tested in SPSS.

The first step in determining the feasibility of applying HLM to the nested data is to determine if there is between-institutional variability to be explained by estimating an unconditional model, also known as a one-way random effects ANOVA, that has no predictors in the model. The purpose of the unconditional model is to estimate student-level variance in civic values as a function of variability within institutions (or among students) and variability due to between-institution differences. The decomposition of the total variability in civic values allows for the determination of what proportion of that total variance is due to individual differences and what is due to institutional differences. Thus, as shown in Table 3, the intra-class correlation was .043, which means that 4.35% of the variance in civic values is a function of between institution differences (the intra-class correlation). The chi-square test, $\chi^2(56) = 579.45, p < .001$, indicates that the average civic values of students within institutions vary significantly across institutions. The unconditional model also

TABLE 2.
Statistical Description of Variables

Variables	Minimum	Maximum	<i>M</i>	<i>SD</i>
<i>Dependent Variable</i>				
Civic Values 2004	8	32	17.98	5.054
<i>Student-Level Variables</i>				
Political orientation	1	5	3.00	0.798
High school community service	0	1	0.33	0.468
High school grade point average	1	8	6.73	1.223
College grade point average	1	6	4.71	0.877
Taken an ethnic studies class	0	1	0.39	0.486
Taken a women studies class	0	1	0.22	0.414
Participated in study abroad	0	1	0.29	0.452
Social science major	0	1	0.28	0.385
Hours per week volunteered	1	8	2.38	1.385
Student government participation	0	1	0.11	0.314
Had a roommate of a different ethnicity	0	1	0.35	0.478
Leadership training in college	0	1	0.24	0.425
Engaged in campus/protest during college	0	1	0.26	0.436
Woman	0	1	0.62	0.484
Socioeconomic status (SES)	-8.65	3.89	0.01	2.329
Student of color	0	1	0.14	0.348
Civic Values 2000	8	32	16.86	4.622
<i>Organizational Variables</i>				
Institution selectivity	1017	1410	1173.70	91.320
Institution size	844	18,879	3898.53	4157.159
Church affiliated	0	1	0.438	0.500
Institutional control	0	1	0.894	0.309
% in campus protest/demonstrations	0.58	0.95	0.773	0.089
HBCU status	0	1	0.035	0.185

shows that there is also considerable variation within schools ($\sigma = 29.969$).

Because one of the main objectives of the study was to understand institutional variability in civic values, a random-intercept only model was estimated. Before institutional categories were added to explain the between institutional variability, level 1 variables were entered as

fixed effects based on secondary academic achievement, sociodemographics, curricular, and cocurricular activities (see Table 1 for variable definitions). Level 2 variables were then added to explain the variability in the intercept. Mean SAT, institutional size, religious affiliation, institutional control, mean protest, and HBCU status data were entered by themselves to

understand the total effect of the between-institution variability. Despite their total effect, all were entered into the final model because of their theoretical and statistical relevance.

Final Model

In the final model, all continuous level 1 variables were group-mean centered so the intercept could be interpreted as an estimate for within-group variability and dichotomous variables were uncentered because the interest is in understanding the effect of the variables on individuals (Raudenbush, & Bryk, 2002). Level 2 variables were grand-mean centered. Thus, the full level 1 model and level 2 equations that were estimated for this study were, respectively:

$$\text{Civic Values}_{ij} = \beta_{0j} + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9 + \beta_{10} + \beta_{11} + \beta_{12} + \beta_{13} + \beta_{14} + \beta_{15} + \beta_{16} + \beta_{17} + r_{ij}, \text{ and}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01} + \gamma_{02} + \gamma_{03} + \gamma_{04} + \gamma_{05} + \gamma_{06} + u_{0j}$$

where β_1 is high school community service, β_2 is high school GPA, β_3 is college GPA, β_4 is ethnic studies class, β_5 is women's studies class, β_6 is study abroad, β_7 is social science major, β_8 is Civic Values 2000, β_9 senior year political orientation, β_{10} is hours per week volunteered,

β_{11} is student government involvement, β_{12} is ethnic roommate, β_{13} is leadership training, β_{14} is protest, β_{15} is women, β_{16} is SES, β_{17} is student of color, r_{ij} is the within institution variability after controlling for other variables in the model, γ_{00} is the grand mean of Civic Values 2004, γ_{01} is selectivity, γ_{02} is size, γ_{03} is religious institution, γ_{04} is private institution, γ_{05} is % mean protest, γ_{06} is HBCU, and u_{0j} is random effect associated with unit j .

Limitations

This study had several limitations. First, there are likely other level 1 variables that explain civic values as indicated by the final level 1 variance component. The variables used for this study were based on prior research findings and hypotheses based on extant literature. More indicators of social involvement, academic involvement, and/or civic engagement would have provided more insight into the level 1 variance. These variables could very well be in CIRP data. However, at this point they have not yet been discovered. Second, results of this study cannot be generalized beyond the sample in this study. Although the sample is sufficiently large, there are several reasons the results are limited to the sample. The main reason results cannot be generalized is because subjects were not randomly selected from the

TABLE 3.
HLM Unconditional Model

Fixed Effect	Coefficient	SE	t ratio	df	Reliability
Civic Values 2004 Intercept (γ_{00})	15.6639	0.1341	116.776	56	.886
Random Effects	SD	Variance Component	df	χ^2	p value
Intercept for Civic Values 2004, U_0	0.954	1.360	56	579.45	.000
Level 1 Variance	4.345	29.969			
Intraclass Correlation = .043					

TABLE 4.
HLM Results: Final Model

Fixed Effect	Coefficient	SE	t ratio	df	p value
Intercept for Civic Values 2004, β_0	12.9872***	3.193	4.067	50	.000
Mean SAT(Y_{01})	-0.0073**	0.0020	-3.303	50	.002
Size (Y_{02})	0.0001*	0.0000	2.096	50	.041
Religious institution (Y_{03})	-0.4974	0.3690	-1.345	50	.185
Private institution (Y_{04})	3.0826**	1.0290	2.994	50	.005
MeanProtest (Y_{05})s	-1.3665	1.0290	-0.634	50	.528
HBCU(Y_{06})	0.0938	1.0350	0.091	50	.928
High school community service, β_1	-0.0435	0.0836	-0.520	9763	.602
High school grade point average, β_2	-0.1423***	0.0370	-3.811	9763	.000
College grade point average, β_3	0.1997	0.0510	-1.610	9763	.113
Ethnic studies class, β_4	0.6195***	0.0838	7.385	9763	.000
Women studies class, β_5	0.2678**	0.0992	2.698	9763	.007
Study abroad, β_6	0.7586***	0.0906	8.365	9763	.000
Social science major, β_7	0.7292***	0.1000	7.256	9763	.000
Civic values 2000, β_8	0.4200***	0.0090	42.439	9763	.000
Senior year political orientation, β_9	0.5897***	0.0570	10.326	9763	.000
Hrs/week volunteered, β_{10}	0.3800***	0.0287	13.229	9763	.000
Student government, β_{11}	0.5473***	0.1233	4.437	9763	.000
Ethnic roommate, β_{12}	0.1422	0.0839	1.695	9763	.090
Leadership training, β_{13}	0.3828***	0.0920	4.161	9763	.000
Protest, β_{14}	1.7270***	0.0900	19.131	9763	.000
Woman, β_{15}	-0.3863***	0.0820	-4.683	9763	.000
SES, β_{16}	0.0590**	0.0170	3.423	9763	.001
Student of color, β_{17}	0.5649***	0.1170	4.794	9763	.000
Random Effects	SD	Variance Component	df	χ^2	p value
Intercept for civic values, U_0	0.4686	0.21960	50	57.214	.225
Political orientation, U_1	0.2113	0.04400	50	67.141	.053
Level 1 variance, R	3.6850	13.57984			

* $p < .05$. ** $p < .01$. *** $p < .001$.

population of college students. The sample for this study only comprised 12% students of color, which included Black, Latino, Asian, and Native American students who were represented across 57 institutions. Given the

total sample, that is an average of 25 students of color per institution. In addition, the small number of students of color does not allow between-group comparisons across race/ethnic groups.

Findings

The results of the final full level 1 and level 2 models are presented in Table 4. The results of the civic values intercept, which represents the grand mean, show that after controlling for other institution-level variables the effect of mean SAT is negative and significant ($\gamma_{01} = -0.0073$, $t = -3.303$; $p < .001$), which means that institutions with higher mean SAT scores have lower civic values 2004 scores than do institutions with lower mean SAT scores. Findings show that private institutions had significantly higher civic values scores than do public institutions ($\gamma_{04} = 3.082$, $t = 2.994$; $p < .01$). Last, institutional size was statistically significant in the model ($\gamma_{02} = 0.0001$, $t = 2.096$; $p < .05$); however, the small estimate of the effect size does not lend itself to any substantive or practical meaning. Institutional size was measured by the total number of undergraduate students and ranged from 844 to 18,879. Therefore, a one unit increase in institutional size translates into a ten thousandth of a point increase in civic values, which does not contribute much to understanding the relationship between institution size and civic values.

Based on the fully specified model, there were 14 level 1 variables that significantly impacted civic values. Precollege variables that negatively impacted the dependent variable included high school GPA ($\beta_2 = -0.1423$, $t = 3.811$, $p < .001$) and the effect of being a woman ($\beta_{15} = -0.3863$, $t = -4.683$, $p < .001$). Precollege variables that positively impacted civic values included SES ($\beta_{15} = 0.059$, $t = 3.423$, $p < .01$). Thus, as students' level of SES increased, so did their civic values. Also, students of color had significantly higher civic values than did White students ($\beta_{17} = 0.5649$, $t = 4.794$, $p < .001$).

College academic variables also significantly impacted civic values. Students who took

at least one ethnic studies class ($\beta_4 = 0.619$, $t = 7.395$, $p < .001$) or women's studies class ($\beta_5 = 0.267$, $t = 2.698$, $p < .01$) had significantly higher civic values than did those who did not take a class in either. Students who participated in study abroad ($\beta_6 = 0.758$, $t = 8.365$, $p < .01$) had significantly higher civic values than did those who did not participate as part of a study abroad program in college. Last, students who majored in a social science ($\beta_7 = 0.729$, $t = 7.256$, $p < .01$) had significantly higher civic values than did students who majored in a field other than a social science field.

Also, students' political orientation, their social experiences in college, and leadership experiences in college uniquely impacted civic values. Political orientation in students' senior year significantly impacted civic values ($\beta_9 = 0.589$, $t = 10.326$, $p < .001$); as students' political orientation moves from right (conservative) to left (liberal), civic values increases. Students involved in student government had significantly higher scores on the dependent variables than did those who were not involved in student government ($\beta_{11} = 0.547$, $t = 4.437$, $p < .001$). Students who participated in some type of leadership training had significantly higher civic values than did those who did not participate in such training ($\beta_{13} = 0.382$, $t = 4.161$, $p < .001$). Students who engaged in some sort of protest had significantly higher civic values than those who did not. Last, students' freshman year civic values in 2000 significantly and positively explained their civic values in 2004 ($\beta_8 = 0.420$, $t = 42.439$, $p < .001$). In fact, students' civic values in 2000 explained the most variance in civic values 2004, as it had the largest zero-order Pearson's correlation coefficient when compared to the correlation coefficients of other predictors and the outcome ($r = .479$, $p < 0.001$). Volunteering had the second largest correlation coefficient

with the civic values of seniors ($r = .234$, $p < .001$; data available upon request).

DISCUSSION

A combination of student-level and institutional-level variables were found to significantly impact civic values of college students. This study included variables that prior research found to impact civic values and also added variables that were not considered in these quantitative studies (Pascarella et al., 1988; Rhee & Dey, 1996). When examining the common findings across the three studies, earlier civic values significantly impacted later civic values, and social science majors had significantly higher civic values scores than did non-social science majors. Between this study and Pascarella et al.'s (1988), leadership experiences and secondary experiences were the significantly related variables to civic values. However, this study disaggregated these concepts and found that high school GPA negatively impacted civic values and that leadership training positively impacted civic values.

In both this study and Rhee and Dey's (1996), level 1 variables that significantly impacted civic values were student government, SES, academic involvement, and social involvement. SES and student government participation positively impacted civic values in both studies. This study disaggregated academic involvement and social involvement to estimate particular experiences hypothesized to impact civic values. Thus, participation in an ethnic studies class, a women's studies class, and study abroad positively and significantly impacted civic values. Having an ethnic roommate and being involved in protest were the social involvement indicators for this study, and both were positive and significant. The effect of being a minority was different in the two studies. This study found that the effect of being a minority was positively and significantly related to civic

values versus being White, whereas Rhee and Dey did not find such an effect. This study also found that the effect of being a woman had a negative impact on civic values and that gender was not significant in their study. Last, being involved in a student protest significantly impacted civic values in this study, and this item contributed to Rhee and Dey's social involvement construct.

No common institutional characteristics were found across the three studies. In their fully specified model, Pascarella et al. (1988) found that institution size and attending an HBI had no effect on civic values. Rhee and Dey (1996) found that religiously affiliated institutions and an institution's proportion of students who participated in protest/demonstrations positively impacted the intercept. This study found that institutional selectivity, institution size, and institution control significantly explained the mean of civic values. Specifically, more selective institutions had lower scores on their mean civic values, whereas religiously affiliated institutions and private institutions had significantly higher institutional mean civic values scores versus their counterparts.

Findings from this study provide insight into the multiple dimensions that are related to college students' civic values. The findings have implications for theory and practice. This study reflects the most current information to date about the student-level and institutional-level variables that significantly impact college students' civic values. These variables explain social and academic experiences that have not been considered before in models that have estimated the impact of covariates on civic values.

Institutional-Level Effects

Institutional selectivity was a negative predictor of civic values. This selectivity measure provides a context for the type of student profile institutions seek to have, maintain,

or increase, because the institutional mean SAT/ACT scores often serve as a proxy for *U.S. News & World Report* rankings (Pascarella et al., 2006). Many times admission policies and practices place great weight on standardized measures in admissions decisions. However, as with this study, selective institutions do not always fare positively across student outcomes related to fostering civic values when compared to less selective institutions. For example, Toutkoushian and Smart (2001) found that, after 4 years of college, students from more highly selective institutions reported significantly lower gains in interpersonal skills than did students from less selective institutions. They also reported that students from less selective institutions reported significantly higher gains in tolerance/awareness than did students from more selective institutions. One explanation could be that the negative selection hypothesis, which states that individuals who are least likely to obtain a college education benefit the most (Brand & Xie, 2010), is in play here. Students who have lower than average grades throughout their secondary educational careers and students from disadvantaged backgrounds, who often have lower standardized SAT and ACT scores, may have extra motivation to overcome their educational and social circumstances; they may invest their energies in ways that promote their learning. Therefore, it may be that college experiences significantly enhance civic values development for those least likely to obtain a college education versus those who are most likely to obtain a college education. It is clear that more research is needed to understand the degree to which the relationship between the negative selection hypothesis and institutional selectivity exists across institutional contexts.

Students from private institutions had significantly higher average civic values scores than did those from public institutions. Research is inconclusive about the effect of

institutional control across a range of variables (Pascarella & Terenzini, 2005). For this study, limited conclusions can be drawn from the effects of private versus public institutions. Fifty of the 56 institutions in the study were private. Given the disparity between the private/public representation of institution, results should be interpreted very cautiously. More information is needed from a more representative sample of public institutions to adequately assess civic values differences between public and private institutions. Future studies that attempt to capture the impact of private versus public institutions on civic values should make efforts to attain a good balance between the two to get a better understanding of the dimensions within the two categories that impact civic values of college students.

Student-Level Effects

Having taken an ethnic studies class, a women's studies, being a social science major, and/or having participated in study abroad had positive effects on civic values. These academic experiences expose students to diverse cultures and increase their appreciation for cultural differences. Diverse academic experiences are significant predictors of positive intergroup relations across race (Saenz et al., 2007) and political participation (Johnson & Lollar, 2002). Findings from this study provide new information about the types of academic experiences that impact civic values. Weidman (1989) suggested that normative pressures exerted in academic domains that reinforce values can be better understood through Holland's (1985) theory of vocational personalities, which has been used to understand the intersection of psychological and sociological factors that explain students' selection of majors and their socialization into majors (Pike, 2006). Students' personalities, their academic

environments, and the interactions between their personalities and academic environments are hypothesized to explain college student experiences. Pike (2006) recommended that future research applying Holland's model go beyond investigating environments as systems for reinforcing personalities and seek to understand how they contribute to the development of individual personalities and attitudes. This study shows that there are a set of academic experiences that impact civic values and using Holland's model as a conceptual framework allows for more nuanced understanding of the socialization processes that contribute to civic values development within ethnic studies, women's studies, study abroad, and majors within the social sciences.

A number of extracurricular activities were significantly related to civic values. That leadership training is positively correlated with civic values is not surprising. This type of training exists across multiple dimensions in the university setting. It has been established that college experiences increase the capacity for leadership; and leadership experiences increase the capacity for responsible civic engagement leadership (Astin, 1993, Eyler & Giles, 1999; Pascarella & Terenzini, 2005). This quantitative analysis is limited in understanding the types of leadership experiences that impact civic values because it was represented by a single item. And although it is clear that important socialization processes cultivate and reinforce normative behavior in leadership activities (Weidman, 1989), more research is needed about how the various peer cultures operate based on the individual environmental contexts within which the leadership training occurs.

Involvement in student government was also positively related to civic values. Research has shown that involvement in student government is positively related to a number of student outcomes (Astin, 1993;

Pascarella & Terenzini, 2005). However, a synopsis of past research, particularly using CIRP data, has revealed a negative relationship between altruism and involvement in student government (Kuh & Lund, 1994). These findings may be a result of inappropriately modeling interactions between student-level data and institutional-level data, which led to interpretation errors and unnecessarily conservative tests (Snijders & Bosker, 1999). Future studies that include involvement in student government as a covariate should consider the nested nature of the data and model the error structures properly. Other studies have found that participation in campus governance increases levels of organizing, planning, managing, and practical confidence and competence in working with people who are different than oneself (Kuh & Lund, 1994). These are the types of civic skills that are necessary, among others, to be a coalition builder and effective citizen, which are related to civic values (Colby et al., 2003). Although many are not able to participate in student government due to finite positions, more information is needed about the particular types of socialization experiences that develop civic values for students so these experiences can be extended to students who do not participate in campus governance.

Students who indicated that they were involved in some sort of campus protest/demonstration had higher scores on civic values than those who did not. Although there are one-person protests, protests are typically done in groups whose goal is to create change through attitudes, knowledge, behavior, and symbols (Chambers & Phelps, 1994). There is a long history of student protest on college campuses (e.g., Altbach, 1974; Williamson, 2008); and there has been mixed findings on student protest and student outcomes (Astin, 1993). Chambers and Phelps (1994) argued that student activism facilitates leadership

and development, and it contributes to institutional change because these students contribute to the educational milieu.

This process may also sensitize participants to the human condition, which may lead to an increase in civic values. Today, students are involved in a variety of protesting that includes, but not limited to, immigration laws (Fischer, 2010), tuition increases (Hayden, 2010), and workers' rights (Biemiller, 2007). There likely will be more in the coming years given the dire financial strains across many colleges and universities. More studies are needed about the relationship between student protest and civic values and the degree to which leadership skills develop.

Participation in diversity cocurricular activities and a student's propensity to socialize are among the strong predictors of positive interactions across race (Saenz et al., 2007). Having a roommate from a diverse background increases the chances of both sharing in extracurricular activities and socialization among students. When applying contact theory to randomly assigned and nonrandomly assigned roommates to understand the extent to which in-group versus out-of-group contact reduces prejudices, Van Laar et al. (2005) found that that interethnic roommates' prejudices were reduced among students from their first year to their fourth year. They noted that the contact among interethnic roommates meets many conditions thought to facilitate prejudice reduction, which include having equal status, working together to maintain a mutually satisfying home environment, having high acquaintance potential, and having an increased level of familiarity, which generates positive affective ties. This has implications for both peer influence and institutional policy, the latter through intentional room assignment. Residential housing facilities have a great potential for facilitating intergroup relationship by pairing students from diverse

backgrounds together. Given the choice, many students select roommates who belong to their racial and ethnic groups, but assigning roommates may be away to facilitate reduction of prejudice, which expands the notion of community and better facilitates civic values development.

More volunteering is significantly related to civic values. This is no surprise, as volunteering in college positively influences students' leadership ability, their ability to think critically, their ability to get along with people of different races and cultures, and their understanding of problems facing the community (Astin & Sax, 1998). Now one can add civic values to the list of dependent variables influenced by volunteering. However, time spent volunteering is what is correlated with civic values. Students who volunteer tend to engage in it because they are motivated by altruistic and value-driven reasons (Hustinx et al., 2010). Although one can expect more students in American institutions to engage in more volunteering in years to come, because it is perceived as a great resume builder for better placement in various job sectors as well as professional and graduate schools, increasing their exposure to multiple types of volunteer activities may increase other rewarding aspects of volunteering (Hustinx et al., 2010). Therefore, more strategies are needed to increase the frequency of volunteering and more research is needed about the types of volunteer experiences that better facilitate civic values growth.

Political orientation significantly impacted the model. As students move from "far Right" to "far Left" their civic values increase. It is known that one of the strongest predictors of students' senior year political orientation is their precollege orientation (Dey, 1997); little evidence has shown an institutional effect on students' political orientation (Astin, 1993; Pascarella & Terenzini, 2005). This finding has implications for those who design programs

that expose student to diverse opinions and perspectives, particularly politically. Colby et al. (2007) made a good point when they stated that “although the core values of the academy demand an environment of open inquiry, it is challenging to create such an environment, particularly around political ideas” (p. 77). In academic environments, students and faculty tend to communicate almost exclusively with people who share their political views, which is why Colby et al. (2007) argued for a systematic approach to creating an environment of open-minded inquiry that includes, but is not limited to, balancing tensions, reflecting, implementing campus-level strategies, inviting diverse views, and guidelines for civic discussions. Such an intentional approach that involves students, faculty, and administrators would create an environment that encourages members of the campus community with different political ideologies to convene and converse about the issues that undergird the items of the civic values measures, such as political influence, environmental responsibility, community action, and racial understanding, among others.

Several demographic controls were found to impact civic values. Women had significantly lower scores than did men. This is a new finding when comparing results to prior studies examining civic values. Pascarella et al. (1988) estimated regression models across different student subpopulations, including gender, and found there were no direct differences estimated between men and women. Rhee and Dey (1996) found no significant differences between men and women in their study. It is also important to mention that, in this study, the point-biserial coefficient shows that there is no difference between men’s and women’s civic values in their first year ($r_{pb} = .007$, $p = 0.076$) but men’s civic values was significantly higher than those of women by their fourth year ($r_{pb} = .018$, $p < .001$). Dey (1997) found across several decades of

research that there were significant changes in women’s political orientation. Perhaps some elements of the college environment mediate the significant growth from first year to senior year civic attitudes for men, or there could be another fundamental shift in women students’ orientations, as Dey found. More research is needed that investigates this phenomenon.

Socioeconomic status positively impacted students’ senior year civic values, a finding also consistent with prior research (Pascarella et al., 1988; Rhee & Dey, 1996). Social networks may explain this relationship. People in higher SES categories belong to more organizations and therefore have larger social networks that many times foster self-agency and self-belief (Wilson & Musick, 1997). Many times it is the middle class that forms and provides leadership to civic organizations and community building (Putnam, 2000). Therefore, it is important that we find ways to increase levels of self-agency for low SES students by increasing their social networks and social capital. More information is needed about the various ways this could be facilitated on college campuses by recruiting college students from low SES backgrounds and integrating them into university–community partnership agendas.

Last, students of color had higher civic values 2004 scores than did White students. Pascarella et al. (1988) found that different predictors impacted civic values across regression models based on White men, White women, Black men, and Black women. Rhee and Dey (1996) did not find significant differences with race/ethnicity. The sample in this study was over 88% White, which necessitated a dichotomous variable whereby other race/ethnic groups were combined. Ideally, one would want to estimate civic value differentials within race/ethnic groups, but minorities tend to be underrepresented in large-scale data sets. Therefore, more effort should be taken by institutions to recruit more

minorities into their studies so that robust comparisons could be made across various student outcomes, particularly civic values.

CONCLUSION

This study extended past research that understood institutional- and student-level effects on civic values. Using Weidman's (1985) model as a conceptual base, implications for the further study of civic values and implications for practices that shape college students' civic values are given. Higher education always has functioned as a system that prepares the next generation of local, global, political, and civic leaders (Bowen, 1977) and will

long serve as a primary vehicle of civic engagement for young adults (Gutmann, 1999). Both researchers and practitioners must continue to enhance our understanding of the curricular and cocurricular experiences that facilitate civic values' development of college students, as these students will shape the civic infrastructure of local and global communities in significant ways.

Correspondence concerning this article should be addressed to Joe L. Lott, II, Department of Education Leadership and Policy Studies, College of Education, Box 353600, University of Washington, Seattle, WA 981051; mjlott1@u.washington.edu

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