

INVESTIGATING THE PREDICTORS OF LEADER SELF-EFFICACY (LSE) DEVELOPMENT AMONG FRESHMEN IN HISTORICALLY BLACK INSTITUTIONS

Abstract

Previous studies indicate that a college-student's leader self-efficacy (LSE) enhances the ability to be an effective leader. However, there is limited empirical evidence on the college experiential factors that develop students' LSE in Historically Black Institutions (HBIs). The purpose of this study is to adapt Astin's input-environment-outcome (I-E-O) model to identify the effects of college experiential variables (environment) on student LSE development (output) while controlling for precollege variables (input). Pre- and post-data were collected from 200 freshmen studying at two Historically Black Institutions and analyzed using the hierarchical multiple regression (HMR). The findings suggested that precollege LSE and college co-curricular leadership experiences significantly influence students' LSE development.

Introduction

Students' leader self-efficacy (LSE) development increases their leadership potential and ability to hold leadership positions. Extant literature reveals that there is limited empirical evidence on the college experiential factors that develop students' LSE in HBIs (Beazley, 2013; Dugan, Komives & Segar, 2008; Martin, Hevel, & Pascarella, 2012). Students' LSE has been linked to their self-efficacy, coping skills, learning abilities, and leadership behaviors and competencies (Astin, 1991; Bean & Easten, 2001; Brown & Posner, 2001; Endress, 2000; Houghton, 2012; Machida-Kosuga, 2017; Sedlacek, 2004; Tracey & Sedlacek, 1987). Students' LSE increase their potential to be productive citizens and their readiness to become effective leaders who can implement positive organizational and societal changes (Astin, 1993; Buschlen & Dvorak, 2011; Machida-Kosuga, 2017). It is important to assess the college experiential variables

that HBI environments provide in developing students' LSE. Although HBIs account for only 3% of all public and not-for-profit private institutions receiving federal student aid, they enroll disproportionately 10% of all African American college students and produced 17% of African American graduates (United Negro College Fund, 2014). Brown and Davis (2001) reported that 75% of African American army officers, 80% of African American federal judges, and 85% of African American doctors are reported to have attended HBIs at the undergraduate level. Hence, student leadership development is central to Historically Black Institutions' (HBIs) because it empowers and increases the leadership capacity and learning outcome of students (Arminio, 2011). The growing demand for effective leaders in our society and the gap in the literature on leadership development among minorities have increased the need to study leadership development in historically Black institutions (Apesin & Gong, 2018; Arminio, Carter, Jones, Kruger, & Lucas, 2000; Beazley,

2013; Dugan, 2011).

Assessing student LSE development will increase the sparse literature in this area and measure the effectiveness of leadership programs implemented in higher-education institutions. There is a growing emphasis on leadership development as a key outcome of student experiential learning (Hynes, 2016). Additionally, students' first year is an important time in their lives that determines and influences their educational path throughout their undergraduate years (Pascarella & Terenzini, 1991, 2005). Hence, it is beneficial to identify the early college experiential variables that develop their leadership skills. Focusing on HBI students in their freshmen year will also provide information on the students that will most likely engage in leadership development activities to increase their LSE (Buschlen & Dvorak, 2011). Consequently, this study investigates the precollege and experiential variables that predict the LSE development of freshmen in two HBIs.

Literature Review on Leader Self-Efficacy (LSE) and the Predictors

Leader Self-Efficacy (LSE)

LSE is based on Bandura's (1986) Social Cognitive Theory (SCT), which provides a basis for studies that analyze the correlation between individual self-efficacy tenets and leader self-efficacy constructs (Howard, 2009; McCormick, 2001; McCormick, Tanguma, & Lopex-Forment, 2002). SCT provides a foundational theory for leader self-efficacy studies because of its utility, validity, and correlation to leader self-efficacy development (Endress 2000; McCormick, 2001; Owen, 2008). Individuals' self-efficacy beliefs have been found to drive leader-efficacy variables, such as self-regulation (self-motivation and self-regulated learning) and goal achievement (Bandura, 1986, 1997; Endress, 2000; Hannah, 2006; Hannah et al., 2012). For instance, the multi-institutional

study of leadership (MSL), conducted on over 50,000 students in over 50 universities across the United States, found that students' self-efficacy beliefs are indications of their leader self-efficacy beliefs (Dugan & Komives, 2010; Owen, 2008). Likewise, Mozhgan et al. (2011) found that students perceive self-efficacy as an important element of their leadership capacity, and Endress' (2000) leadership study found that a student with a higher level of leader self-efficacy exhibited higher self-efficacy.

Paglis and Green (2002) defined LSE as "a person's judgment that he or she can successfully exert leadership by setting a direction for the work group, building relationships with followers to gain commitment to change goals, and working with them to overcome obstacles to change" (p. 217). They described LSE as a three-part construct consisting of the dimensions: setting direction, gaining commitment, and overcoming obstacles. However, this study provided a limited test on the construct validity (Hannah et al., 2012) and was limited to self-efficacy for executing only change-related behaviors and not applicable to a wider range of leadership activities and attributes (Anderson, Krajewski, Goffin, & Jackson, 2008). Hannah and colleagues' (Hannah, Avolio, Walumbwa, & Chan, 2012; Hannah, Avolio, Luthans, & Hams, 2008) LSE provided a broader construct than the latter and demonstrates discriminant validity. The construct is a component of the leader self and mean efficacy (LSME; Hannah et al., 2012) that was developed to capture the influence external factors have on a leader's perceived capability.

LSME was introduced by Hannah and colleagues (Hannah, Avolio, Walumbwa, & Chan, 2012; Hannah, Avolio, Luthans, & Hams, 2008) in 2008 and renamed leader self and mean (LSME) in 2012. It is defined as "leaders' (followers') beliefs in their perceived capabilities to organize the positive psychological capabilities, motivation, means, collective resources, and courses of action required to attain effective,

sustainable performance across their various leadership roles, demands, and contexts” (Hannah et al., 2008, p. 670). Although the leader efficacy model consists of two components, LSE and means efficacy, this study focuses on only LSE. Hannah and Avolio (2013) proposed that an intervention to increase leader efficacy may target only the leader self-efficacy (LSE) component and exclude the leader means efficacy. LSE consists of two domains: leader action self-efficacy and leader self-regulation efficacy.

Leader action self-efficacy is the key variable that affects leaders’ actions and leaders’ perceptions of their capabilities to enact leadership and be effective (Hannah et al., 2012). It includes leaders’ beliefs in their abilities to self-motivate and in turn motivate others to act. Leader self-regulation efficacy describes leaders’ abilities to regulate their thinking and self-motivation (Hannah et al., 2012). It is a core interpersonal aspect of leading that includes learning and performance efficacy (Hannah, 2006; Hannah et al., 2012; Yukl, 2006). Although LSE was not specifically designed for the student population, it is a critical component in some leadership model and encompasses the key variables that are most predictive of student success in college (Allen, Robbins, & Sawyer, 2010; Anderson, et al., 2008; Dugan & Komives, 2010; Gomez, 2006; Lotkowski, Robbins, & Noeth, 2004; Sandberg & Bradley, 2011; Sedlacek, 2004). It is central to student leadership development and plays an important role in dealing with stressful or demanding situations, such as students’ transition into college in their freshman year (Hoyt, 2005; Komives, Longersbeam, Owen, Mainella, & Osteen, 2006). Thus, making LSE an appropriate model for assessing students’ leadership growth in their first year.

Predictors of Leader Self-Efficacy

Precollege leader variables. In this study, the factors that influence student leader self-efficacy development can be categorized into precollege and college experiential factors. Precollege factors include fixed or invariant characteristics, such as gender, race, and citizenship, and variant characteristics, such as cognitive functioning, self-rating, and behavioral

patterns (Astin, 1991, 1993; Astin & Antonio, 2012). Self-rating and behavioral patterns are changeable characteristics that are most predictive of students’ LSE development. Self-rating is students’ perceptions of their precollege-leadership experiences and efficacies, while behavioral pattern is students’ assessments of their leadership experiences before enrolling in college (Astin, 1993; Astin & Antonio, 2012). Student precollege-leadership efficacy is assessed through Hannah and colleagues’ (Hannah et al., 2008; Hannah et al., 2012) LSE that includes leader action self-efficacy and leader self-regulation efficacy. In this study, LSE is used to estimate students’ levels of confidence in their abilities to exhibit effective leadership behaviors that facilitate the development of their leader efficacy. McCormick et al. (2002) analyzed the factors that influence the leader efficacy of 233 undergraduates and discovered that the students’ leadership self-efficacy predispositions correlated highly with their efforts to seek experiences that further increase their leader efficacy. Likewise, Wilson’s (2009) leadership development study of 1,413 military students indicated that precollege leader efficacy explained 22% of their leader efficacy outcomes, thus indicating that precollege leadership variables significantly influence college leader efficacy. Furthermore, Astin and Antonio’s (2012) assessment of a freshmen cohort showed a significant correlation in students’ perceptions of their leadership ability between 2004 and 2007.

Hypothesis 1: Precollege leader self-efficacy as observed in leader action self-efficacy and leader self-regulation efficacy significantly influence the college leader self-efficacy (LSE) development of the freshmen in HBIs.

Student leadership experiences before enrolling in college represent the curricular and co-curricular leadership experiences they were exposed to in their high school. Some high-schools have included leadership programs in their curriculum because they believe that such programs develop their students’ leadership skills (Hynes, 2016). High-school (HS)

curricular leadership experiences include attending credit-based leadership courses and non-credit leadership training, while HS co-curricular leadership experiences include holding leadership positions, hours spent in holding leadership positions, participation in student organization/association, exposure to mentoring opportunities, participating in collegiate sport and volunteering. Dugan and Komives's (2007) study indicated that students' high-school leadership variables (e.g. leadership training experiences, high school organization, volunteering, and leadership positions) accounted for 13% of their college-leadership efficacy.

Hypothesis 2: HS co-curricular leadership experiences significantly influence the leader self-efficacy (LSE) development of the freshmen in HBLs.

Hypothesis 3: HS curricular leadership experiences significantly influence the leader self-efficacy (LSE) development of the freshmen in HBLs.

Student precollege leader self-efficacy and HS leadership experiences represent the input students bring to college. They serve as the basis and control for measuring the change in student leader efficacy as a result of their college-leadership experiences. Student precollege leader self-efficacy and high school leadership experiences influence the student's leader efficacy development directly or indirectly by interacting with their college-leadership experiences (Astin, 1970, 1991; Astin & Antonio, 2012; McCormick et al., 2002).

College-leadership experiences. College-leadership experiences, which are referred to as student leadership involvement, or curricular- and co-curricular leadership experiences represent the experiences that result from students' exposure to various leadership opportunities during college. Astin used the Input-Environment-Outcome (I-E-O) to introduce the "theory of involvement", in which a student's involvement in college results in certain talent development inherent in both the student and the system. The environmental variable in

the I-E-O model represents student involvement (Astin, 1991). Astin (1985) stated, "Students learn by becoming involved" (p. 133), and emphasized the importance of involvement on student leadership development. The theory of involvement originated from the longitudinal study conducted by Astin (1975, 1999) on college dropouts; which identifies student college involvement as the environmental factor that influences student persistence. This finding motivated Astin (1999) to investigate over 200,000 students' college-involvement experiences on different learning outcomes; and discovered leader efficacy as a key outcome of their college-involvement.

Although Astin's I-E-O and involvement models provide important conceptual and analytical bases for several empirical studies, they fail to identify the specific variables that constitute college-leadership experiences. To benchmark their leadership program against others, higher institutions employ experiential variables that are commonly used to assess students' leadership development (Hynes, 2016). These variables, which influence students' LSE include curricular leadership activities such as leadership courses and training, and co-curricular leadership activities such as holding leadership positions, active involvement in the student association, exposure to leadership mentoring, participation in collegiate sports, and active participation in campus community services (Astin, 1993; Dugan & Komives, 2007; Hynes, 2016; Mozhgan et al., 2011).

Endress (2000) studied two groups of students based on their college-leadership experiences: those who participated in both curricular and co-curricular leadership experiences and those who participated in only curricular leadership experience. Findings indicated that curricular leadership experiences (i.e., formal leadership programs) accounted for 33% to 50.8% ($p < .001$) of the variance in student leadership self-efficacy, while co-curricular experience (i.e., holding leadership positions and involvement in student associations) accounted for 38% to 67.9% of the variance in students' LSE. Likewise, the multi-institutional study (MSL) for leadership conducted

on over 50,000 students from 52 higher-education institutions across the United States indicated that curricular leadership experiences (i.e., short-term, mid-term, and long-term formal leadership training) have a significant effect on student-leadership efficacy with long-term training programs demonstrating the largest overall effect (Dugan & Komives, 2007, 2010). Co-curricular leadership experiences, such as positional leadership, community services, and faculty mentoring, also emerged as key predictors of student-leader efficacy. Since LSE is a subset of leader efficacy (Hannah et al., 2008; Hannah et al., 2012) it can be argued that students' college experiences significantly predict their college LSE.

Furthermore, Wilson's (2009) leadership development study of 1,413 military students indicated that precollege LSE explained 22% of their LSE and significantly influenced their predisposition to leadership education ($\beta=0.45$, $p<.001$) and leadership training ($\beta=0.45$, $p<.001$). The study also indicated that leadership education and training accounted for 4.5% of the variance in LSE while controlling the student input characteristics. The college experiential factors that influence students' LSE include curricular leadership activities, such as formal leadership education, and co-curricular leadership activities, such as holding leadership positions, active involvement in student associations, exposure to leadership mentoring, participation in collegiate sports, and active participation in campus community services (Astin, 1993; Dugan & Komives, 2007; Mozghan et al., 2011). Some researchers describe these as high-impact experiences that develop college-student leadership (Dugan, Kodama, Correia, & Associates, 2013).

Hypothesis 4: College co-curricular leadership experiences significantly influence the leader self-efficacy (LSE) development of the freshmen in HBIs.

Hypothesis 5: College curricular leadership experiences significantly influence the leader self-efficacy development (LSE) of the freshmen in HBIs.

Method

As recommended by previous studies (Astin, 1991, Astin & Antonio, 2012), a longitudinal design was employed in this study to determine the change in students' LSE during their first semester in college. A longitudinal study provides a robust design to examine the impact of students' college-leadership experiences on the development of their LSE (Hynes, 2016).

Data Collection

Data are collected in two phases within a 16-week semester. In phase one, we collected data on the freshmen HS leadership experiences and precollege leader self-efficacy (i.e., input), and demographic information. In phase two, we collected data on their college-leadership experiences and subsequently leader self-efficacy (LSE) development after a semester (i.e., environment and outcome). A total of 200 freshmen from two Mid-Atlantic HBIs voluntarily completed the two phases. These freshmen included 113 (56.5 percent) females and 87 (43.5 percent) males. The average age of the study subjects was 18.9 years, of which 93% are African Americans.

Students' precollege and college self-efficacies are measured with the 15-item leader self-efficacy subscale (used for precollege LSE and college LSE) from Hannah and Avolio's (2013) Leader Efficacy Questionnaire (LEQ). The subscale that was reworded with the approval of the authors to suit the study subjects and context, measures leader action self-efficacy (7 items) and leader self-regulation efficacy (8 items). Using only the leader self-efficacy subscale is appropriate because the LEQ instruction indicates that an intervention to increase leaders' efficacy might use only the self-efficacy subscale (Hannah & Avolio, 2013). The Cronbach's alphas are 0.90 and 0.92 for precollege leader self-efficacy and college leader self-efficacy, respectively (Table 1). The 8-item leadership experience questionnaire was developed based on existing leadership questionnaires in similar studies such as the multi-institutional study

for leadership (MSL) conducted by Dugan and Komives (2007, 2010) on 50,000 students from 52 United States' higher-education institutions and the leadership development study conducted by Endress (2000) on 171 undergraduate students. The questionnaire measures students' responses to the following college-leadership experiential variables: formal credit and non-credit leadership training, holding leadership position(s), hours invested in the leadership position(s), participation in student associations, experiencing mentoring, participation in collegiate sport, and volunteering.

Data Analysis

An exploratory factor analysis (EFA) with oblique rotation was conducted to uncover the underlying relationship among the set of college-leadership experience variables. The EFA results indicated that 61.44 percent of the variance was shared among the eight variables with loadings greater than 0.4, signifying that the variables are substantially important to the underlying factors (Field, 2013). However, two observed variables, which are credit leadership courses and volunteering were removed because they did not load significantly on the latent construct of college-leadership experiences. The reliabilities of the HS and college-leadership experiences questionnaires are above the acceptable threshold at 0.70 and 0.71, respectively. The confirmatory factor analysis (CFA) was conducted to confirm that a relationship exists between the observed variables and their underlying latent construct, i.e., HS and college-leadership experiences. The CFA results indicate that the scale fits the data well, $\chi^2 = 16.597$, $df = 13$, $p = .218$, $RMSEA = .037$, $CFI = .988$, $TLI = .973$, and $SRMR = .045$.

To determine the effects of the predictors on the college LSE and its two subscales, the hierarchical multiple regression analysis was conducted. The predictors were in the sequence that represents Astin's (1993) I-E-O model. The inputs, precollege LSE and HS leadership experiences, and the environment, college-leadership experiences are imputed sequentially in the following five blocks:

Block 1: Precollege leader self-efficacy as a summation of the scores from leader action self-efficacy and leader self-regulation efficacy before college.

Block 2: HS co-curricular leadership experiences that include holding leadership positions, hours spent in holding leadership positions, participation in the student association, experiencing mentoring, and participating in collegiate sport in high school.

Block 3: HS curricular leadership experiences that include attending non-credit leadership training in high school.

Block 4: College co-curricular leadership experiences that include holding leadership positions, hours spent in holding leadership positions, participation in the student association, experiencing mentoring opportunities, and participating in collegiate sport in college.

Block 5: College curricular leadership experiences that include attending non-credit leadership training in college.

Two other analyses were conducted in which each domain of the precollege LSE (i.e., action self-efficacy and self-regulation efficacy) were analyzed individually against their corresponding college LSE (i.e., action self-efficacy and self-regulation efficacy) as shown in Table 2.

Findings

Correlation Analysis

The means and standard deviations of the variables used in the analysis and their zero-order correlation coefficients are reported in Table 1. As indicated in the table, the means of college leader self-efficacy and its two domains were higher than the corresponding means of the precollege leader self-efficacy, 109.39 vs. 92.57 for overall leader self-efficacy, 51.77 vs. 46.49 for action efficacy, and 57.62 vs. 46.08 for self-regulation efficacy. To examine whether the mean difference between precollege and college leader self-efficacy beliefs are significant, a one-way analysis

of variance (ANOVA) was conducted. The objective of ANOVA was to determine if these leader self-efficacy beliefs have improved from high school to college. The analyses showed that all three differences between

precollege and college are significant: overall leader self-efficacy, $F(1,199) = 2.242, p = .00$, action efficacy $F(1,199) = 2.071, p = .00$, and self-efficacy, $F(1,199) = 2.262, p = .00$.

Table 1:
Correlation Matrix

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Precollege leader self efficacy	92.57	26.55	0.899											
2 Precollege action self-efficacy	46.49	13.65	0.912***											
3 Precollege self-regulatory efficacy	46.08	15.16	0.930***	0.698***										
4 College leader self-efficacy	109.39	21.81	0.479***	0.461***	0.423***	0.920								
5 College action self-efficacy	51.77	10.72	0.429***	0.453***	0.343***	0.922***								
6 College self-regulatory efficacy	57.62	12.62	0.463***	0.411***	0.440***	0.944***	0.744***							
7 HS leadership Experiences	8.33	5.14	0.373***	0.393***	0.299***	0.176*	0.152*	0.176*	0.705					
8 Curricular HS leadership experience	0.94	1.28	0.216**	0.277**	0.130	0.181*	0.179*	0.161*	0.570***					
9 Co-curricular HS leadership experiences	7.39	4.54	0.361***	0.368***	0.302***	0.149*	0.122	0.154*	0.973***	0.364***				
10 College leadership experiences	2.79	3.17	0.135	0.166*	0.087	0.201**	0.182**	0.192**	0.312***	0.224**	0.290***	0.700		
11 Curricular college leadership experience	0.36	0.75	0.122	0.147*	0.082	0.067	0.053	0.071	0.147*	0.155*	0.123	0.584***		
12 Co-curricular college leadership experiences	2.43	2.8	0.120	0.148*	0.076	0.209**	0.192**	0.198**	0.313***	0.212**	0.296***	0.976***	0.395***	

Notes: Reliability α is reported on the diagonal. * $p < .05$, ** $p < .01$, *** $p < .001$.

Hierarchical Multiple Linear Regression Analysis

A hierarchical multiple linear regression (MLR) analysis was conducted to measure the effect of the predictors in the five blocks indicated in the Methods section (Table 2). Block 5 on Table 2 that includes all the predictors (i.e., precollege LSE, HS co-curricular and curricular leadership experiences, and college co-curricular and curricular leadership experiences) account for 26.7% of variability in college LSE ($R^2 = 0.267, F(5, 194) = 14.099, p = 0.000$). However, only the precollege variables and college co-curricular leadership experiences significantly predict college LSE at $b = 0.484, p = 0.000$ and $b = 0.191, p = 0.007$, respectively. The second and third phases (i.e. Models 2 and 3) of hierarchical MLR analyzed the effect of each domain of the precollege LSE on its corresponding college LSE as indicated in Table 2.

College-leader self-regulation efficacy is regressed on the predictors, precollege-leader self-regulation efficacy, HS co-curricular and curricular leadership experiences and college co-curricular and curricular leadership experiences in Model 2. The predictors account for 23% of the variability in college-leader self-regulation efficacy ($R^2 = 0.230, F(5, 194) =$

$11.596, p = 0.000$). However, only precollege-leader self-regulation efficacy and college co-curricular leadership significantly predict college-leader self-regulation efficacy at $b = .436, p = 0.000$ and $b = .179, p = 0.013$, respectively. College-leader action self-efficacy was regressed on the predictors, precollege-leader action self-efficacy, HS co-curricular and curricular leadership experiences, and college co-curricular and curricular leadership experiences in Model 3. The predictors account for 23.7% of the variability in college-leader action self-efficacy ($R^2 = 0.237, F(5, 194) = 12.047, p = 0.000$). However, only precollege-leader action self-efficacy and co-curricular leadership experiences significantly predict college-leader action self-efficacy at $b = 0.462, p = 0.000$ and $b = 0.175, p = 0.15$, respectively. A summary of the hypotheses tested in this study and the findings is presented in Table 3.

Table 2:
Hierarchical Multiple Regression Results

Blocks		Model 1 College LSE	Model 2 College LSRE	Model 3 College LASE
1	Precollege LSE	.479***		
	Precollege LSRE		.440***	
	Precollege LASE			.453***
2	Precollege LSE	.489***		
	Precollege LSRE		.433***	
	Precollege LASE			.472***
	HS Co-curricular Leadership Experiences	-.027	.023	-.051
3	Precollege LSE	.479***		
	Precollege LSRE		.431***	
	Precollege LASE			.459***
	HS Co-curricular Leadership Experiences	-.060	-.017	-.076
	HS Curricular Leadership Experiences	.099	.111	.080
4	Precollege LSE	.478***		
	Precollege LSRE		.433***	
	Precollege LASE			.455***
	HS Co-curricular Leadership Experiences	-.102	-.058	-.111
	HS Curricular Leadership Experiences	.080	.091	.063
	College co-curricular Leadership Exp.	.165*	.163*	.144*
5	Precollege LSE	.484***		
	Precollege LSRE		.436***	
	Precollege LASE			.462***
	HS Co-curricular Leadership Experiences	-.105	-.060	-.114
	HS Curricular Leadership Experiences	.085	.095	.068
	College Co-curricular Leadership Exp.	.191**	.179*	.175*
	College Curricular Leadership Exp.	-.067	-.043	-.080

Notes: Standardized coefficients are reported. * $p < .05$, ** $p < .01$, *** $p < .001$. Dependent variables are Leader Self-efficacy (LSE) in Model 1, Leader Self-Regulation Efficacy (LSRE) in Model 2, and Leader Action Self-Efficacy (LASE) in Model 3, respectively.

Table 3:
Summary of Hypotheses and Findings

	Hypotheses	Findings
H1	Precollege leader self-efficacy as observed in leader action self-efficacy and leader self-regulation efficacy significantly influence the college leader self-efficacy (LSE) development of the freshmen in HBIs.	Supported
H2	HS co-curricular leadership experiences significantly influence the leader self-efficacy development (LSE) of the freshmen in HBIs.	Not supported
H3	HS curricular leadership experiences significantly influence the leader self-efficacy (LSE) development of the freshmen in HBIs.	Not supported
H4	College co-curricular leadership experiences significantly influence the leader self-efficacy (LSE) development of the freshmen in HBIs.	Supported
H5	College curricular leadership experiences significantly influence the leader self-efficacy development (LSE) of the freshmen in HBIs.	Not supported

Discussion of Major Findings

The major purpose of this study was to analyze the effects of the precollege and college-leadership variables on the college LSE. The hierarchical multiple regression was employed to mirror Astin's I-E-O (Input – Environment – Outcome) model and measure the change in the predictability of the college-leadership experiences (which represent the environment) over and above the HS leadership experiences and precollege LSE (which represent the input; Petrocelli, 2003). As indicated in Table 3, the input variable, precollege LSE, significantly predicted the college LSE and supported hypothesis 1. It infers that students' confidence in their leadership abilities before college facilitates the increase in their leadership abilities during college. The finding supported the existing literature that precollege leadership training experiences and precollege leadership deposition significantly influenced student leadership development (Astin & Antonio, 2012; Dugan & Komives, 2007; Wilson, 2009). For instance, Astin and Antonio's (2012) assessment of freshmen cohorts in 2004 and a follow-up in 2007 showed a moderate correlation of 0.57 in student perception of their leadership ability between 2004 and 2007 and a correlation of 0.41 in their intellectual self-confidence within the same period. It also supported Wilson's (2009) leadership development study of 1,413 military students, which indicated that precollege-leader efficacy explained 22% of the variance in their leader-efficacy. Similarly, McCormick et al.'s (2002) study on the factors that influence the leader efficacy of 233 undergraduates found that students' leadership self-efficacy predispositions correlated highly with their efforts to seek experiences that further increase their leader efficacy ($r = .60$; $p < .01$).

The findings failed to support the second and third hypotheses, which stated that both HS co-curricular and curricular leadership experiences significantly influence the leader self-efficacy development of the freshmen in HBIs. A plausible reason may be that most high-school students are minors who do not fully understand or appreciate the importance of leadership. So they may not seek

leadership experiences in high-school or high-school administrators may not see the need to provide such opportunities. The findings are inconsistent with the study by Dugan and Komives (2007), which showed that both HS co-curricular and curricular leadership experiences significantly influenced students' leadership development.

College co-curricular leadership experiences significantly predicted college LSE, which supported Hypothesis 4. However, the relative predictability is not as large as the precollege LSE, which may be due to the short duration of the co-curricular college-leadership experiences (16-week semester). This may suggest that the longer students are exposed to co-curricular leadership experiences the more confident they are in their leadership ability. The findings supported Endress' (2000) study that the co-curricular leadership experiences accounted for 38% to 67.9% of the variability in students' LSE. McCormick et al. (2002) found that the number of previous leadership-role experiences significantly increased the students' reported leader self-efficacy ($r = 0.41$; $p < 0.01$). It also partially supported a multi-institutional study for leadership (MSL) conducted by Dugan and Komives (2007, 2010) on over 50,000 students from 52 higher-education institutions across the United States, which showed that the students' college-leadership experiences (curricular and co-curricular) mediated the relationship between their HS-leadership experiences and leadership efficacy.

Interestingly, college curricular leadership experience did not significantly predict the leader efficacy development of the freshmen. The findings failed to support Hypothesis 5, which stated that the college curricular leadership experiences significantly influenced the leader self-efficacy development of the freshmen in HBIs. The reason may be that these students did not attend long-term full-fledged leadership training programs or workshops. Some workshops only had leaders from different works of life as guest-speakers to discuss their perceptions of leadership. Dugan and Komives (2007, 2010) demonstrated that long-term leadership training had a greater overall effect on student leader efficacy

than short- or moderate-term training.

It is also interesting that when analyzed individually, both precollege-leader self-regulation efficacy and college co-curricular experiences had significant impacts on college-leader self-regulation efficacy. Likewise, precollege-leader action self-efficacy and college co-curricular experiences were significantly related to the college-leader action self-efficacy. Thus, it helps emphasize the importance of leading through learning, thought regulation, and self-motivation (Bandura, 1989; Hannah et al., 2012).

Implication of the Study

One of the drawbacks in many student leadership studies is the failure to bridge the gap between theory and practice (Dugan & Komives, 2007; 2010). The study bridges this gap by linking some college-leadership experiences to the experiential factors that enhance student LSE. It provides empirical evidence on the practicable HS leadership experiences, precollege LSE, and leadership experiences in HBIs that predict college LSE development. The input variable, precollege LSE, significantly predicts the college LSE development of these students. Likewise, co-curricular college-leadership experiences and activities significantly predict the students' college LSE. However, HS co-curricular and curricular leadership experiences and college curricular experiences were not significant.

The study also shows that students who seek leadership experiences that include holding leadership positions, participating in associations and collegiate sport, and experiencing mentoring will increase their leadership abilities. Since empirical findings regarding the effectiveness of HBI in ensuring its students' leadership development are largely unexplored (Beazley, 2013; Dugan & Komives, 2010; Wilson, 2008), this research provides a basis for further studies on the students' leadership development in HBIs. Likewise, the study provides HBIs' stakeholders with the knowledge of some predictors of students' LSE development and the importance of structured

leadership programs. For instance, stakeholders in student life services that focus on increasing student involvement in different college activities (such as collegiate sport, professional development, etc.) can use this study as a guide in developing the structured programs that enhance students' LSE.

Furthermore, the study underscores the importance of exploring the factors that increase the students' precollege LSE that significantly influences the college LSE. Generally, the shortage of empirical studies on leader efficacy development in higher-education institutions especially HBIs makes this study important in increasing the literature on leader efficacy in higher education.

Limitations

The use of self-reported survey questionnaires to investigate students' perceptions of their LSE development makes this study susceptible to socially desirable responses, which is the tendency to provide socially desirable responses (i.e., faking good) that can cause artificial inflation of data. Likewise, panel conditioning can occur when the study subjects' responses to survey questions are influenced by their previous exposure to the same questions. This study is also susceptible to panel tracking difficulty associated with tracking the study subjects throughout the research. This resulted in the survey responses dropping from 364 in phase one to 251 in phase two with only 200 completed and usable surveys. Finally, focusing on only four-year HBIs freshmen limits this study's generalizability to other student populations in terms of their academic level and race. It will also be difficult to generalize to other institutions that are not four-year HBIs.

Recommendation for Future Research

Since the findings indicate that students' involvement in college (i.e. holding leadership positions, participating in student association and collegiate sports, and experiencing mentoring) is significantly related to the students' LSE development, educators

should encourage students to get involved in college association and sports and be ready to mentor their students. Students should have the opportunities to view themselves as potential leaders and be motivated to hold leadership positions and participate in the college-leadership experiences highlighted in this study. High school administrators and educators should develop and provide their students with leadership opportunities that will enhance the students' precollege leader efficacy and increase their likelihood to capitalize on college-leadership experiences.

Future studies should expand the scope of this study by conducting research on larger sample sizes that focuses on students from different academic levels, Researching two- and four-higher education institutions with student populations that are not predominantly African-Americans will increase the body of knowledge in this phenomenon. Extending the study to non-HBIs will provide a means of comparison on the college experiences that influence student LSE development in different higher-education institutions. It is also important to extend the time-span for this study to give the students enough time (probably two semesters instead of one semester) to experience college life and capitalize on the leadership experience opportunities provided by their respective institutions. Future research should also focus on assessing the effectiveness of more structured and longer leadership training and workshops (i.e., curricular college-leadership experiences).

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