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A Leadership Development Instrument for Students: Updated

Barry Z. Posner

This paper updates the research literature on the Student Leadership Practices Inventory, which is one of the few leadership development instruments targeted for college students. The psychometric properties of a revised version of the instrument are also provided, along with a discussion of developmental issues pertinent to developing and enhancing leadership capabilities in college students.

Leadership development is now an integral part of the educational program of college students, with courses and activities scattered throughout the co-curricular experience. Komives and her colleagues argue that leadership, like any other skill, needs to be learned and practiced (Komives, Lucas, & McMahon, 1998). Scholars like Wren (1995) assert that leadership is central to the human condition—timeless and current, not a passing fad—and that leadership should be understood and practiced by all. Kouzes and Posner (2002) posit “leadership is everyone’s business” (p. 383). Astin (1993) argues that it is important to develop young men and women during their college years to become future leaders. This is because leadership development encompassing various activities, perspectives, and experiences enhances the ability to make a meaningful difference.

Many of the leadership development programs designed for college students are based upon studies and models that were developed with managers in business and

public-sector organizations (Freeman, Knott, & Schwartz, 1994). Serious questions have been raised about whether such models are applicable to college students and collegiate environments, which differ considerably from the environments in which managers and corporations operate. One way to address this issue has been the development, over the past ten years, of a number of new textbooks aimed at college students (e.g., Bratton, Grint, & Nelson, 2004; Daft, 2005; Komives et al., 1998; Wren, 1995). Still, the typical personal assessment techniques supporting these initiatives continue to be borrowed from settings other than collegiate environments. Brodsky’s (1988) observation of more than 15 years ago is still generally applicable today: “Valid instruments designed specifically for college students to measure their leadership development do not exist” (p. 23). Consider, for example, that while the 8th Edition of *Leadership Resources: A Guide to Training and Development Tools* (Schwartz & Gimbel, 2000) lists 68 instruments “that are supported by technical data” (p. 195) to measure a variety of leadership skills and styles yet only two indicate a direct application to student populations. One of these is the student version of the Leadership Practices Inventory (Kouzes & Posner, 1998).

The Student Leadership Practices Inventory (Student LPI) identifies specific behaviors and actions that students report using when they are at “their personal best as

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leaders.” These behaviors are categorized into five leadership practices: Modeling the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart. Identified as practices common to successful leaders, these leadership practices correspond well to the developmental issues of importance for college students.

This article explains the original development of the Student LPI and updates the research literature relevant to its continuing reliability and validity. In addition, information is provided about a revised version of the Student LPI. Finally, several conclusions are drawn about student leadership development and continuing challenges for both scholars and educators.

DEVELOPMENT OF THE STUDENT LPI

In developing the original version of the Leadership Practices Inventory, Kouzes and Posner (1987) collected case studies from over 1,200 managers about their personal-best experiences as leaders. Content analyses of these case studies suggested a pattern of behaviors used by people when they were most effective as leaders. The development of a *student version* of the instrument followed the same case-study approach to investigate whether the leadership behaviors of college students were comparable with those of managers (Brodsky, 1988; Posner & Brodsky, 1992).

The initial student group consisted of outstanding student leaders at a large urban state university campus, as demonstrated by their nomination for Leadership America, a nationally prominent leadership development experience for college students. Four students were randomly selected by year in

school (junior or senior) and gender (male or female) to participate in this stage of the research project. The students were asked to think about their personal-best leadership experience and to make notes about the behaviors they believed were most critical to the success of their endeavors.

One week later, in a structured-interview format, each student responded to specific questions based on the personal-best survey reported in *The Leadership Challenge* (Kouzes & Posner, 1987). The interviews lasted between thirty and ninety minutes; each was tape-recorded with the respondent's consent. The student interviews were content analyzed for themes (sentences or phrases) about leadership actions and behaviors. These themes were coded and tabulated into the five leadership categories that had been originally proposed from private-sector and public-sector managers. These findings indicated that college student leaders did engage in these leadership practices and that this conceptual framework was relevant to the college students' leadership experiences. A recent study by Arendt (2004) followed a similar process for validating the appropriateness of the personal best leadership case study methodology and Student LPI for use with college students. She conducted in-depth, open-ended interviews with eight students about their personal experiences that might typify the five leadership practices. These interviews, she concluded, “established the existence of leadership behaviors in hospitality management and dietetics undergraduate students as students described leadership behaviors in each practice” (p. 26).

Each statement on the original LPI was assessed in terms of its congruence with the themes derived from case studies of students' personal-best leadership experiences. The

purpose of this coding was to determine which LPI statements accurately reflected the behavior of *student* leaders, thus facilitating the process of identifying terminology and concepts appropriate for use with a college-student population. Using this data, items were modified as necessary for use in the pilot version of the Student LPI.

The pilot version of the Student LPI consisted of 30 descriptive statements paralleling those found in the original LPI. Each of the five leadership practices was assessed with six statements on the Student LPI and each was measured using a five-point Likert-scale (where 1 meant “rarely” and 5 meant “very frequently”). The statements focused on leadership *behaviors* and on the *frequency* with which the individual engaged in those particular behaviors.

Twenty-three members from a college Student Senate at a small private suburban college campus were asked to serve as the test group for studying the pilot version of the Student LPI. After these students completed the pilot version, they participated in an item-by-item discussion to determine whether any test statements were ambiguous, confusing, or not applicable to their experiences as student leaders. This discussion was tape-recorded. Of the 30 test items, 25 (83 percent) were unanimously determined to be clear and understandable and to consist of terminology and concepts that were within students’ and student leaders’ experiences. Ways to improve the somewhat problematic remaining items were also discussed and determined. Five student leaders who had not been involved with any of the earlier Student LPI efforts were invited to participate in a focus-group discussion of the revised Student LPI, and only very minor editorial changes were suggested.

The Student LPI has two forms: *Self* and

Observer. Each form consists of 30 statements—six statements to measure each of the five leadership practices. The forms differ only in terms of the individuals who complete them. The *Self* form is completed by the student leader himself or herself, and the *Observer* form is completed by a person who has directly observed the leadership behaviors of that student leader.

EMPIRICAL STUDIES USING THE STUDENT LPI

A large number of empirical studies using the Student LPI have been conducted. Posner and his colleagues presented many of the first research reports, validating the Student LPI across multiple student populations and investigating possible demographic variables. For example, fraternity chapter presidents across the United States completed the Student LPI-*Self* and had the members of their executive committees complete the Student LPI-*Observer*. The members of the executive committees also assessed the effectiveness of their chapter presidents along several dimensions: building team spirit, representing the chapter to administrators and alumni, meeting chapter objectives, facilitating volunteers, and so on. The most effective chapter presidents engaged in each of the five leadership practices much more frequently than did their less effective counterparts. Multiple regression analyses showed that these leadership practices accounted for 65 percent of the variance in assessments of chapter presidents’ effectiveness (Posner & Brodsky, 1992).

A study of sorority chapter presidents from across the United States paralleled the previous study of fraternity chapter presidents both in design and in findings (Posner

& Brodsky, 1994). The most effective sorority chapter presidents engaged in each of the five leadership practices much more frequently than did their less effective counterparts. These leadership practices accounted for 80 percent of the variance in assessments of sorority chapter presidents' effectiveness.

Together, these two studies also demonstrated that the practices of effective student leaders did not vary according to the leader's gender. Effective chapter presidents, whether male or female, engaged in the five leadership practices significantly more than did the less effective student leaders. This was true from both the leaders' perspectives and from the perspectives of people in their organizations (Posner & Brodsky, 1994). Few gender differences among college students have been reported, from populations ranging from Greek chapter leaders in the Midwest (Adams & Keim, 2000), first-year undergraduates (Mendez-Grant, 2001), or students enrolled in either hospitality management or dietetics programs (Arendt, 2004).

Sample populations of resident advisors (RAs) from seven diverse collegiate environments were studied (Posner & Brodsky, 1993). RAs completed the Student LPI-*Self* and distributed Student LPI-*Observer* forms to residents and the resident director in their housing facilities. Effectiveness data across several different sources—the RAs, the students living in their residential units, and the resident director of each campus—were collected, and a remarkably consistent pattern was found. RAs who engaged in the five leadership practices most frequently, as compared to those who engaged in the five practices less frequently, viewed themselves as more effective and were also viewed as more effective by their supervisors (resident

directors) and by their constituents. No significant interaction effects between gender and performance were found. This finding is consistent with other studies involving RAs and their residents (e.g., Levy, 1995).

The impact of leadership was also investigated for students serving as orientation advisors (Posner & Rosenberger, 1997). In this study, incoming college students completed both the Student LPI-*Observer* and a second evaluation of their orientation advisors' effectiveness. Although together for just a few days, and in an arbitrary relationship in the sense that the members of the groups did not select one another nor did they select (or elect) their leaders (i.e., the orientation advisors), the effectiveness of orientation advisors, consistent with previous studies, was directly related to the extent to which the leaders engaged in the five key leadership practices. Self-reports by the orientation advisors themselves showed a strong positive relationship between perceptions of effectiveness and the frequency that they reported engaging in these leadership practices.

How leadership practices might be affected by various characteristics of the group or setting that students are involved with has been the focus of additional studies. For instance, Posner and Rosenberger (1998) reported that students who were being compensated for being leaders did not systematically engage in a different pattern of leadership practices when compared with those who were uncompensated for their leadership responsibilities. They also found that student leaders working with peers in a non-hierarchical relationship did not engage in these leadership practices more or less significantly than those students who were elected by their peers into official positions

of leadership, or hold a hierarchical position such as president of a student organization. Edington (1995) found that the leadership practices were not related to a student's gender, race, age, work outside the home, full or part-time student status, or semester in school.

In addition, it was revealed that students did not vary their leadership practices when involved in a one-time leadership project versus a project or program lasting for an entire academic year. However, students who returned for a second year in a leadership position significantly engaged in each of the five leadership practices more often than those who were just starting in the same position (Levy, 1995; Posner & Rosenberger, 1998). Baxter (2001) found that students stationed as ROTC unit instructors (typically in their fifth year of studies) had higher leadership practices scores than did other students on the campus. Arendt (2004), in comparing students, found that those who had held official leadership positions and/or taken courses in leadership reported higher leadership practices scores.

Mendez-Grant (2001) investigated the possible impact of leadership development on the retention rates of first-year undergraduates. While she found differences in the hypothesized direction, they were not statistically significant. However, she did find that pre- and post-test scores on the Student LPI were significant for those students who went through a leadership education program (treatment) versus those who did not (control group). Pugh (2000) reported that participation in a leadership program resulted in higher leadership practices scores at time two than at time one. These findings, he said, "were not explained by demographic variables: year in school, family cluster affiliation, gender, GPA,

Greek affiliation, or race" (p. 58).

Walker (2001) found no significant differences in the pre- and post-test administrations of the Student LPI following a leadership development intervention. She cited conversations with researchers at the Center for Creative Leadership who explain

that leadership development is not linear, rather leadership development will regress and progress. In the process of implementing leadership programs, the researchers at The Center found that the immediate post test often showed negative development as opposed to the pretest. This may be a result of participants increased awareness of the multiple facets of leadership as they move through leadership training. (pp. 110-111)

Using a modified version of the Student LPI to reflect "self-efficacy" (i.e., I can or cannot do this), Endress (2000) reported higher scores at the conclusion of a leadership development program than at the program's start. Completion of the leadership class enhanced students' beliefs in their abilities to engage in leadership behaviors. This finding was independent of the students' levels of co-curricular involvement. Another study reported that students in leadership positions, without any particular participation in leadership development programs, had high self-efficacy for leadership practices (Bardou, Byrne, Pasternak, Perez, & Rainey, 2003). In these cases, gender did not account for any differences in leadership practices, although females tended to feel more supported and encouraged to develop as leaders by their advisors than did their male counterparts. One intriguing finding was that the type of organization with which a student was involved seemed to influence leadership self-efficacy. For example, those

in activist organizations tended to have higher leadership self-efficacies in Modeling, Inspiring and Challenging while those in cultural organizations scored higher on Encouraging. Additionally, students in professional organizations tended to have higher scores for Enabling and Encouraging, while those in service-related organizations demonstrated higher levels of leadership self-efficacy in Modeling, Inspiring, and Enabling.

Only a few studies have explored relationships between student leadership as measured by the Student LPI and various personality dimensions. For example, several researchers have focused on the possible impact of learning and personality styles on leadership practices. Preferences for andragogical versus pedagogical learning have not generally resulted in any statistically significant leadership differences, although the findings were in the predicted (andragogical) direction (Walker, 2001). Studies involving managerial populations have generally shown a positive relationship between more active learning styles and use of the five leadership practices (Brown & Posner, 2001). However, few significant relationships have been found between the Achieving Styles Inventory (Lipman-Blumen, 1996) and the Student LPI (Snyder, 1992; Schroggs, 1994). In one study, using a sample of female student leaders, there was some correlation between the dimension of introversion-extroversion on the Myers-Briggs Type Indicator and use of the five practices, but no significant relationships between any of the additional personality dimensions and the leadership practices (Reeves, 2001).

Finally, within these many studies involving the Student LPI, researchers have reported on the internal reliability of the

scale. Table 1 summarizes a number of these internal reliability scores across a variety of student populations. For example, internal reliabilities (Cronbach's alpha coefficients) on the Student LPI-*Self* ranged between $\alpha = .63$ and $\alpha = .75$ for fraternity chapter presidents and between $\alpha = .66$ and $\alpha = .75$ for sorority chapter presidents, while internal reliabilities on the Student LPI-*Observer* ranged between $\alpha = .75$ and $\alpha = .84$ for fraternity (executive committee) officers and $\alpha = .85$ and $\alpha = .90$ for sorority (executive committee) officers (Posner & Brodsky, 1994). When these two samples were combined internal reliabilities ranged between $\alpha = .80$ and $\alpha = .87$ for males and between $\alpha = .73$ and $\alpha = .89$ for females. Internal reliability coefficients for RAs on the Student LPI-*Self* were between $\alpha = .65$ and $\alpha = .83$, while for students in general (Student LPI-*Observer*) the range was between $\alpha = .81$ and $\alpha = .89$ (Posner & Brodsky, 1993). The internal reliabilities on the Student LPI-*Self* for Orientation Advisors ranged between $\alpha = .56$ and $\alpha = .66$, while their constituents' scores on the Student LPI-*Observer* ranged between $\alpha = .80$ and $\alpha = .85$ (Posner & Rosenberger, 1997). For students majoring in dietetics (across eight college campuses) internal reliability scores on the Student LPI-*Self* ranged from $\alpha = .55$ for Challenging to $\alpha = .76$ for Inspiring (Arendt, 2004). For students majoring in hospitality management (across eight college campuses) the range of internal reliability coefficients on the Student LPI-*Self* was $\alpha = .65$ for Challenging to $\alpha = .78$ for Encouraging (Arendt, 2004). Other published studies not listed in Table 1 have reported internal reliabilities for the five leadership practices between $\alpha = .63$ for Challenging and Enabling and $\alpha = .83$ for Inspiring for a sample of fraternity and

sorority chapter presidents and their executive council members (Snyder, 1992); between $\alpha = .55$ on Challenging and $\alpha = .70$ on Enabling for a study comparing the campuses' African-American sorority chapter presidents with their Caucasian sorority chapter presidents counterparts (Williams, 2002); and between $\alpha = .83$ for Challenging and $\alpha = .92$ for Encouraging in a study involving RAs and the students in their residence hall (Levy, 1995).

Walker (2001) reports that analyses of Student LPI scores with the Social Desirability Index (Crown & Marlowe, 1960) "confirms previous findings that indicated tests of social desirability bias were not statistically significant" (p. 58). Test-retest

reliability of the Student LPI over a ten-week period was statistically significant, with correlations exceeding $r = .51$ (Pugh, 2000).

One observation from these various published reports on internal reliability is that coefficient scores on the Student LPI-*Self* tend to be *lower* than those from the Student LPI-*Observer*. This discrepancy may be a result of measurement bias (in the form of smaller samples sizes for self scores versus observer scores) or simply that there is more variation within individuals (self scores) than across individuals (the perspectives of observers). The sample sizes in Table 1 suggest that the internal reliabilities showed some sensitivity to sample size because as the sample size increased, the

TABLE 1.

Internal Reliability Coefficients for the Student Leadership Practices Inventory by Leadership Practice and Sample Characteristic

Sample Characteristic	Modeling	Inspiring	Challenging	Enabling	Encouraging
Males (304) ^{1c}	.80	.86	.80	.87	.86
Females (485) ^{1c}	.73	.82	.83	.89	.88
Male (Fraternity) Presidents (65) ^{1a}	.63	.75	.60	.70	.73
Female (Sorority) Presidents (96) ^{1a}	.66	.75	.74	.67	.69
Fraternity Officers (239) ^{1b}	.75	.84	.76	.84	.83
Sorority Officers (389) ^{1b}	.85	.90	.85	.90	.90
Resident Assistants (333) ^{2a}	.69	.81	.65	.69	.83
RA Observers (1304) ^{2b}	.81	.89	.84	.82	.89
Orientation Advisors (78) ^{3a}	.61	.61	.56	.61	.66
OA Observers (683) ^{3b}	.80	.82	.80	.82	.85
Dietetics Students (283) ^{4a}	.67	.76	.55	.62	.73
Hospitality Students (345) ^{4a}	.68	.75	.65	.68	.78

Numbers in parenthesis refer to sample sizes.

Sources: ¹Posner & Brodsky, 1994; ²Posner & Brodsky, 1993; ³Posner & Rosenberger, 1997; ⁴Arendt, 2004

^a = Student LPI-*Self*; ^b = Student LPI-*Observer*; ^c = Combined Student LPI-*Self* and Student LPI-*Observer*

scores (Cronbach's alpha coefficients) generally increased as well.

Overall, the Student LPI shows consistent relationships with various measures of effectiveness, as reported across multiple constituencies. Moreover, the Student LPI is robust across different collegiate student populations (e.g., fraternities, sororities, residence halls, orientation programs, academic majors, and the like). It appears to be relatively independent of various demographic variables (e.g., gender, age, ethnicity, etc.) and possibly affected by level of experience and/or education (e.g., previous leadership experiences and course work).

REVISING THE STUDENT LPI

With the third edition of *The Leadership Challenge*, Kouzes and Posner (2002) updated and restructured a modest amount of their conceptual materials within the five practices of exemplary leadership framework. For example, a new chapter was added (focused on "Finding Your Voice") in Modeling the Way. The "small wins" idea was moved from the Modeling leadership practice to Challenging the Process. The order in which the five practices were discussed was changed. In the third edition of the Leadership Practices Inventory (non-student version), the authors subsequently either revised and/or replaced four items. These changes, along with regular psychometric updating, provided the impetus for proposing a review of the Student LPI instrument.

Revising the Instrument

A number of new statements were written to assess the selected leadership behaviors. These new statements, along with the

original statements, were presented to 31 students in five focus group sessions in order to determine item face validity; that is, the extent to which Student LPI statements reflected the actual behaviors of student leaders and the extent to which the statements were expressed in language and terminology appropriate for use with college students. A student from each of the focus groups volunteered to be part of a final focus group session in which agreement was reached for each of the statements and from which the revised version of the Student LPI emerged.

In the end, two-thirds of the statements in the revised version were identical with those from the original version. In terms of revisions, four statements were edited for clarification or terminology and six statements were completely changed, primarily for conceptual reasons and/or perceived redundancies. Revisions were made by leadership practice as follows: Modeling (three new statements), Inspiring (one edited statement and one new statement), Challenging (one edited statement and one new statement), Enabling (one new statement), and Encouraging (two edited statements).

Methodology

The psychometric properties of the revised Student LPI-*Self* were tested using data collected from fraternity chapter officers (N = 604) on over 200 college campuses across the United States. The same national fraternity was selected that had been involved in the initial empirical study of college student leaders (Posner & Brodsky, 1992). A single college fraternity organization was selected in order to minimize the potential effects of varying national policies and procedures on local organizations. Presumably all of the local chapters were

structured and organized in roughly similar fashions, following nearly identical standard operating procedures and having available the same set of support services to the chapters and their officers.

The rationale for selecting multiple chapters was to minimize the potential effects of any local campus policies and procedures and varying quality of student support services across multiple campuses. Both of these sample characteristics increased the ability to generalize the findings. This particular national fraternity is one of the top five national organizations in terms of number of chapters and membership size. In addition, its chapter services operations,

at a centralized level, seemed fairly typical of the largest national fraternity organizations in both scale and scope.

The Student LPI-*Self* was distributed to all chapter officers attending one of six regional leadership academies held over the academic year. These officers represented over 75 percent of the chapter officers in this national fraternity organization. Each officer attending the academy completed the survey in a group setting conducted by a fraternity staff member or alumni volunteer. Upon completing the survey, each officer transferred his responses, but not his name, onto a separate page, provided some demographic characteristics and placed all of this informa-

TABLE 2.
Demographic Characteristics of Chapter Presidents and Executive Committee Officers

Demographic Characteristic	Percentage of Chapter Presidents (n = 113)	Percentage of Executive Committee Officers (n = 491)
<i>School Year</i>		
Freshman	0.0	8.8
Sophomore	14.4	43.6
Junior	58.6	37.2
Senior	27.0	10.3
<i>Grade Point Average</i>		
Less than or equal to 2.5	4.4	8.2
2.51 – 2.99	22.1	25.2
3.00 – 3.49	43.4	40.5
Greater than or equal to 3.5	30.1	26.2
<i>Academic Major</i>		
Business	41.0	44.0
Engineering	12.4	15.0
Physical Sciences	26.6	29.2
Social Sciences / Humanities	20.0	11.8
<i>Ethnic Background</i>		
Caucasian	93.0	91.6
Hispanic/Latino	4.0	4.9
Asian-American	1.0	3.0
African-American	2.0	0.5

tion into a sealed envelope that was returned to the staff member. Following the conclusion of the academies, all surveys were sent to the researcher for tabulation and scoring. In this way, all responses were confidential and anonymous. Respondent demographics are summarized in Table 2.

A self-report scale that had been used in the early studies of Greek chapter president effectiveness was used to assess chapter effectiveness (Posner & Brodsky, 1992, 1994; Adams & Keim, 2000). This scale had also been successfully used to assess the performance of resident advisors (Posner & Brodsky, 1993) and orientation advisors (Posner & Rosenberger, 1997). The scale consisted of eight criteria of effectiveness on which each chapter officer rated himself:

1. The brothers view me as effective in meeting the chapter's objectives.
2. I am successful at representing our fraternity to faculty and administrators.
3. I have developed a strong sense of cohesion and team spirit within the chapter.
4. I am able to get others in this chapter to volunteer for responsibilities.
5. When this school year is over, the brothers will be able to talk about the difference I made.
6. I am successful at representing our fraternity to alumni.
7. I am effective at getting the brothers to care about this fraternity and its objectives.
8. I am a positive role model as a chapter officer.

Respondents indicated how descriptive each statement was about them by using a seven-point Likert scale, with 1 representing

“seldom” and 7 indicating “all the time.” Internal reliabilities (Cronbach's alpha) for this scale in previous studies had ranged between $\alpha = .77$ and $\alpha = .94$. In this particular study $\alpha = .79$.

Findings

Chapter presidents reported engaging in each of the five leadership practices more frequently than did the various other officers in their fraternity chapters. Using paired *t* tests this difference was found to be statistically significant, as reported in Table 3, for the leadership practices of Modeling, Enabling and Encouraging but not for Inspiring and Challenging. The rank order, in terms of frequency, of the five leadership practices was the same for the group of presidents and group of all other officers. Enabling was most frequently engaged in followed by Encouraging, Inspiring, Modeling, and Challenging.

In order to determine whether engagement in the various leadership practices was related to effectiveness, respondents were categorized into more effective and less effective categories by splitting the sample by average score on the effectiveness scale. A *t* test comparing the more effective and less effective chapter officer groups revealed that those chapter officers who viewed themselves as more effective also consistently reported more frequent engagement in each of the five leadership practices than did their counterparts who viewed themselves as less effective.

Also shown in Table 3 are comparisons on the five leadership practices by ethnicity. *T* tests comparing Caucasian students and students of color (combining the responses of the Hispanic/Latino, Asian-American and African-American students) revealed no statistically significant differences between

how frequently students of color and Caucasian students reported engaging in these leadership practices. ANOVAs for the three other demographic variables (year in school, GPA, and academic major) were not statistically significant (results not shown). Internal reliability coefficients (Cronbach's alpha) are shown in Table 3 for each leadership practice. Modeling had the lowest reliability for the chapter presidents group and the chapter officers group, and Encouraging had the highest reliability for both groups.

These results from the revised Student LPI are compatible with those found in previous studies involving the original Student LPI. This is particularly the case when comparing these results with Posner and Brodsky's (1992) prior study with the same target population (i.e., fraternity chapter presidents). In both studies, scores on the Student LPI differentiated between

self-reports of effectiveness by respondents. Likewise, individual respondent characteristics did not account for significant differences in leadership practices in either study. Furthermore, the internal reliabilities of the Student LPI for these two samples were relatively consistent.

While numerous studies have used the Student LPI, this is the first study to make use of the newly revised Student LPI. As such, there are several limitations that should be acknowledged at this stage in the development and implementation of the revised Student LPI. First, this particular sample is limited to male respondents, and the findings may not generalize to female respondents. Second, only one type of student leader was studied, which too may limit the generalizability of these findings. Third, other demographic, institutional, and organizational characteristics beyond those addressed in this study might account for differences

TABLE 3.

Comparisons for Leadership Practices by Position, Effectiveness, and Ethnicity; and Internal Reliability Coefficients (Cronbach's alpha)

Sample Characteristic	Modeling	Inspiring	Challenging	Enabling	Encouraging
Chapter Presidents (113)	22.75*	22.89	22.09	23.99**	23.37**
Other Officers (491)	22.09	22.33	21.47	23.03	22.50
More Effective (287)	23.53***	23.87***	22.82***	23.79***	24.09***
Less Effective (317)	21.02	21.13	20.46	22.68	21.37
Caucasian (485)	22.18	22.31	21.46	23.11	22.49
Non-Caucasian (43)	21.91	22.74	21.42	22.96	23.02
Chapter Presidents (113)	0.55	0.75	0.61	0.63	0.77
Other Officers (491)	0.59	0.67	0.64	0.61	0.77

Numbers in parentheses refer to sample sizes.

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

in leadership practices. For example, cultural diversity, leadership experience levels, socioeconomic status, chapter size, institutional size and type, and other variables may impact leadership practices. Fourth and finally, while Cronbach's alpha coefficients across leadership practices are adequate, stronger internal reliability coefficients would help bolster this psychometric property of the instrument.

THE STUDENT LPI AND STUDENT LEADERSHIP DEVELOPMENT

Reviewing studies of college student leaders involving the Student Leadership Practices Inventory, including the revised version, suggest several working conclusions, thoughts about future research, and areas for further student leadership development efforts. First, leadership matters. Student leaders representing a variety of campus leadership positions who practice leadership behaviors measured in the Student LPI regard themselves as more effective and are regarded by observers as more effective than those who do not engage as frequently in leadership behaviors. Limitations of the most recent investigation notwithstanding, analysis of revised Student LPI data also revealed that those who viewed themselves as more effective leaders than their peers consistently reported engaging more in each leadership practice. Second, this finding from previous studies, and confirmed by the most recent investigation, is robust and relatively unaffected by a range of demographic variables (e.g., gender, ethnicity, year in school, age, GPA, academic major). Third, the revised Student LPI meets acceptable psychometric standards of reliability and validity (Hair, Anderson, Tatham, & Black, 1998). However, somewhat higher internal reliability

coefficients for some of the individual practices are desirable.

Fourth, future studies of more increasingly diverse college student populations would help to further our understanding of both leadership and student development. It would be useful, for example, to look at more diverse populations, such as student body officers, officers in professional clubs, sports teams, peer educators, and even graduate students. Equally revealing would be studies investigating various socio-cultural differences, such as socioeconomic status, sexual identity, disability, and the like. Expanding the investigation of collegiate leadership education outside the United States would also be of interest (some studies are currently underway with college students in the West Indies and Japan). Further instructive would be studies investigating the relationship between leadership and such factors as cognitive complexity, personality typology, thinking and learning styles.

Fifth, studies examining the impact of various leadership development programs and classes, especially over time, would assist greatly in understanding just how leadership is developed. For example, in one study the use of a conceptual leadership framework and feedback was shown to enhance the effectiveness of the fraternity's pledge education program and to significantly increase leadership practice scores in a pre- and post-test condition (Matsos, 1997). Leadership development, as a visible component of new member development, was postulated to serve as a path for better aligning the fraternity experience with the aspirations of the academic community. Studies investigating just how leadership development occurs would be invaluable not just for those involved and responsible for student leadership development, but also for

people who provide leadership education for corporate, civic and community organizations.

Finally, leadership educators and other student affairs professionals can take comfort and even pride in knowing that leadership education programs and leadership classes are apparently influencing the leadership behaviors of students (at least in comparison with these students' undergraduate non-participating peers). It would be enlightening to know how long after graduation this influence might continue. More frequent

engagement in leadership behaviors seem related to opportunities that students have to reflect on their leadership experience, and themselves, as leaders. These opportunities can be further facilitated through case studies, leadership shadowing programs, journaling, guest speakers (role models), and advanced or follow-up experiences.

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