# THE LEADERSHIP PRACTICES INVENTORY: THEORY AND EVIDENCE BEHIND THE FIVE PRACTICES OF EXEMPLARY LEADERS

There is considerable empirical support for the Five Practices of Exemplary Leadership framework. Here we provide an overview of the development and validation of the Leadership Practices Inventory (LPI). Comparisons of LPI scores along a number of critical dimensions are summarized, as well as brief insights into findings by other researchers utilizing this leadership framework and instrument. Readers and scholars interested in more academic discussions of the LPI can find several more technical reports<sup>1</sup> as well as other research descriptions on our website (www.theleadershipchallenge.com).

#### INSTRUMENT DEVELOPMENT AND PROCEDURE

The Leadership Practices Inventory was developed through a triangulation of qualitative and quantitative research methods and studies. In-depth interviews and written case studies from personal-best leadership experiences generated the conceptual framework, which consists of five leadership practices:

- Modeling the Way
- Inspiring a Shared Vision
- Challenging the Process

- Enabling Others to Act
- Encouraging the Heart.

The actions that make up these practices were translated into behavioral statements. Following several iterative psychometric processes, the resulting instrument has been administered to over 350,000 managers and non-managers across a variety of organizations, disciplines, and demographic backgrounds. A version of the LPI has also been developed for specific use with high school and college students.<sup>2</sup> Validation studies that we, as well as other researchers, have conducted over a fifteen-year period consistently confirm the reliability and validity of the Leadership Practices Inventory and the Five Practices of Exemplary Leaders model. Overall, the LPI, has been extensively applied in many organizational settings and is highly regarded in both the academic and practitioner world."<sup>3</sup>

The conceptual portion of the Five Practices of Exemplary Leaders framework grew out of the collection and analysis of case studies of personal-best leadership experiences. The Personal-Best Leadership Experience questionnaire is twelve pages long and consists of thirty-eight open-ended questions, such as these: Who initiated the project? What made you believe you could accomplish the results you sought? What special, if any, techniques or strategies did you use to get other people involved in the project? Did you do anything to mark the completion of the project, at the end or along the way? What did you learn most from this experience? What key lessons would you share with another person about leadership from this experience?

Completing the Personal-Best questionnaire generally requires about an hour of reflection and expression. We've collected more than 4,000 of these surveys and over 7,500 additional respondents have completed a short form of this survey. In addition to the case studies, in-depth interviews have been conducted across from managers and individual contributors across a wide variety of public and private-sector companies

around the world. These interviews have generally taken forty-five to sixty minutes; in some cases, they have lasted four to five hours. The total number of interviews now numbers well over 500 respondents. The experience (and the process) has been relatively consistent over the nearly two decades that we have been collecting case studies.

The LPI was created by developing a set of statements describing each of the various leadership actions and behaviors. Each statement was originally cast on a five-point Likert scale, and reformulated in 1999 into a more robust and sensitive ten-point Likert-scale. A higher value represents more frequent use of a leadership behavior. For example: (1) Almost never do what is described in the statement; (2) Rarely; (3) Seldom; (4) Once in a while: (5) Occasionally; (6) Sometimes; (7) Fairly Often; (8) Usually; (9) Very Frequently; and, (10) Almost always do what is described in the statement.

Statements were modified, discarded, or included following lengthy discussions and iterative feedback sessions with respondents and subject matter experts as well as empirical analyses of various sets of behaviorally based statements. Ongoing analysis and refinements in the instrument continue, with a database involving well over 100,000 respondents.

The LPI contains thirty statements — six statements for measuring each of the five key practices of exemplary leaders. Both a Self and Observer form of the LPI have been developed. In addition, subsequent forms of the Leadership Practices Inventory have been developed for use with various populations. For example, there is a version for use with individual contributors or non-managers (LPI-Individual Contributor), another for use with a group of people (LPI-TEAM), and one for use with college students (LPI-Student). These instruments have both a Self and Observer version, and all have been subject to the same psychometric analyses as were applied originally to the LPI.. Participating individuals first complete the LPI-Self and subsequently request five-to-ten

people familiar with their behavior to complete the LPI-Observer. The LPI-Observer is voluntary and generally anonymous (respondents can indicate their relationship to the leader; as in, this individual is my manager, co-worker or peer, direct report, or other). Typically, the instruments are returned directly to the researchers or seminar facilitator. The LPI (self and observer forms) takes approximately eight to ten minutes to complete, and is capable of being either hand or computer scored.

#### PSYCHOMETRIC PROPERTIES OF THE LPI

#### **Means and Standard Deviations**

Means and standard deviations for each LPI scale for leaders (self) and their constituents (i.e., all observers, managers, direct reports, coworker or peers, and others) are presented in Table 1.<sup>4</sup> Based upon mean scores, Enabling is the leadership practice most frequently reported being used. This is closed followed by Modeling; with the average scores for Challenging and Encouraging being fairly similar. Inspiring is perceived (both by respondents and their constituents) as the leadership practice least frequently engaged in.

Table 1

LPI Means and Standard Deviations
by Respondent Category

Practice						
-	Leaders	Observers	Manager	Direct	Co-Worker	Others
	(Self)	(All)		•	or Peer	
	47.0	47.5	4.7. 6	47.2		47.6
Std Deviation	6.0	8.5	7.4	9.5	7.8	8.3
Inspire Mean	40.6	42.0	40.4	42.4	41.6	42.7
Std Deviation	8.8	10.6	10.1	11.4	9.9	10.2
Challenge Mean	43.9	44.4	44.0	44.3	44.5	44.4
Std Deviation	6.8	9.1	8.5	9.9	8.5	9.0
Enable Mean	48.7	47.8	48.0	48.2	47.6	47.5
Std Deviation	5.4	8.4	6.9	9.3	7.8	8.5
Encourage Mean	43.8	44.9	45.4	44.5	45.0	45.0
Std Deviation	8.0	10.2	8.3	11.5	9.4	10.2

# **Internal Reliability**

Reliability refers to the extent to which an instrument contains "measurement errors" that cause scores to differ for reasons unrelated to the individual respondent. The fewer errors contained, the more reliable the instrument, and instrument reliabilities above .60 are considered good.<sup>5</sup> The reliabilities for the LPI are consistently above this criteria (see

Table 2). There is a tendency for the reliability coefficients from the LPI-Self (between .75 and .87) to be somewhat lower than those for the LPI-Observer (ranging between .88 and .92); however, this is not problematic.

Table 2

Reliability (Cronbach Alpha) Coefficients for the LPI

by Respondent Category

Leadership	Respondent Category									
Practice	Leader (Self)	Observers (All)	Manager Direct Report		Co-Worker or Peer	Others				
Model	.77	.88	.86	.90	.87	.87				
Inspire	.87	.92	.92	.92	.91	.91				
Challenge	.80	.89	.89	.90	.88	.88				
Enable	.75	.88	.86	.89	.87	.88				
Encourage	.87	.92	.92	.93	.92	.93				

Other researcher have reported similar levels of internal reliability in their studies. For example, reliabilities ranged from .80 to .92 in a study of engineering managers and their constituents, and between .71 to .82 in a study of women in executive positions in banking and higher education. With college presidents, internal reliability for the LPI-Self ranged between .71 to .84, the range for the LPI-Observer was .85 to .93, and combining Self and Observer responses produced reliabilities ranging between .84 to .92.8 Reliabilities ranged between .61 and .80 for correctional institution leaders,9 between .79 and .90 for Agricultural Education Department Executive Officers, <sup>10</sup> between .80 and .90 for frontline supervisors in a large telecommunications firm, <sup>11</sup> between .78 and .90 for a cross-section of mid-level managers, <sup>12</sup> between .70 and .88 for home health care agency directors, <sup>13</sup> between .82 and .84 for adults enrolled in a community leadership development program, <sup>14</sup> above .70 for female college student affairs officers, 15 between .93 and .97 for nursing managers, 16 between .73 and .90 for healthcare managers, <sup>17</sup> and between .82 and .94 for hotel managers, <sup>18</sup> Reliabilities for non-Caucasians ranged between .68 and .80, while for their white counterparts in this study the range was between .60 and .78.<sup>19</sup>

In several studies, involving non-U.S. populations, reliabilities have also been more than acceptable. For example, in a study involving Australian bank managers, reliabilities on the LPI-Self ranged from .70 to .82 and for the LPI-Observer ranged from .81 to .94.<sup>20</sup> Reliabilities ranged between .82 and .93 for a sample of therapeutic radiographers from Hong Kong.<sup>21</sup> Internal reliability for a Spanish-language version of the LPI, with Mexican respondents, ranged between .81 to .89.<sup>22</sup> Another study reported good to very good internal reliability for a Chinese-language version of the LPI.<sup>23</sup> As one researcher, who translated the LPI into Mongolian for use in a study of the leadership practices of higher education leaders, concluded: "The response options on the LPI are

fairly straightforward...and there are no statements that directly reflect American cultural values that could potentially confuse respondents from other nations."<sup>24</sup>

Test-retest reliability for the five leadership practices has been consistently strong, generally at the .90 level and above. In a study involving school administrators, test-retest reliabilities were reported to be .86 for superintendents and .79 for school principals.<sup>25</sup> Test-retest reliabilities for the Student LPI, over a ten-week interval, were statistically significant.<sup>26</sup> In general, scores on the LPI have been relatively stable over time. Comparing LPI scores every two years, for example, from participants in The Leadership Challenge Workshop<sup>tm</sup> since 1987 reveals considerable consistency across the five leadership practices for each time-period comparison.

### **Comparisons Based Upon Individual Differences**

LPI scores have been found, in general, to be unrelated with various demographic characteristics (e.g., age, marital status, years of experience, educational level) or organizational features (e.g., size, functional area, line versus staff position). This finding extends across a wide variety of non-business settings as well, as suggested by research with school superintendents, principals and administrators, <sup>27</sup> health care administrators, <sup>28</sup> female executives in banking and higher education, <sup>29</sup> church pastors of large congregations, <sup>30</sup> higher education administrators, <sup>31</sup> U.S. Air Force Nurse Corps Captains, <sup>32</sup> law enforcement officers, <sup>33</sup> hotel managers, <sup>34</sup> Hong Kong staff nurses, <sup>35</sup> and with family support center directors. <sup>36</sup> Multiple regression analyses revealed that age, educational level, or work experience had no significant influence on the leadership practices of either male or female Thai managers. <sup>37</sup> With a population of college students, leadership practices (using the student version of the LPI) were not related to gender, race, age, gender role orientation, work experience, or year in school. <sup>38</sup>

### **Comparisons Between Self and Observer Perspectives**

As the sample size increases, the chance of finding statistically significant differences between groups also increases, even if these differences are not, for any one individual respondent, particularly meaningful, practical or "significant." This has generally been true for the Leadership Practices Inventory (see Table 2). Empirical tests of differences between leaders (using the LPI-Self form) and their constituents (using the LPI-Observer form) reveal no statistically significant differences (at the .001 level of probability) between these two groups on Modeling and Challenging. While statistically significant, the mean differences between these two groups on Inspiring, Enabling, and Encouraging have little practical significance, except to note that leaders view themselves as engaging somewhat less in Inspiring and Encouraging, and slightly more in Enabling, than do their constituents. It has not been unusual to find Self scores higher than Observer scores in specific workshop or research settings, <sup>39</sup> although the rank order of the practices has been generally consistent across sample populations. Some researchers have reported no significant differences between Self and Observer responses. <sup>40</sup>

Comparisons across leaders (LPI-Self) and their specific constituencies reveal no statistically significant differences (p < .001) for the leadership practices of Modeling and Challenging. Direct Reports, Coworkers/Peers and Others report their leaders engaging more on Inspiring than do the Leaders themselves. For Enabling there are no differences between the Leaders' views and those from their Managers or Direct Reports. Coworkers/Peers and Others report less Enabling than do Leaders. On Encouraging, the scores from Leaders and their Direct Reports are not statistically different, while Manager, Coworker/Peers and Others report more Encouraging than do Leaders.

#### **Comparisons Between Males and Females**

The possible impact of gender on LPI scores was analyzed by looking at differences

between male and female respondents. Generally, the leadership practices are not significantly different for males and females on the LPI-Self. Both groups report engaging in Modeling the Way, Inspiring a Shared Vision, Challenging the Process, and Enabling Others to Act with about the same approximate frequency. Female managers report engaging in the leadership practice of Encouraging the Heart significantly more often than do their male colleagues.

Other researchers have reported similar results in regards to gender and leadership practices within specific sample populations. For instance, no gender differences were reported for studies involving public health agency directors, <sup>41</sup> public sector managers, <sup>42</sup> fraternity and sorority chapter presidents, <sup>43</sup> school principals <sup>44</sup> or superintendents, <sup>45</sup> college presidents, <sup>46</sup> or collegiate coaches. <sup>47</sup> Gender made no difference in the leadership practices of Mexican, <sup>48</sup> Australian, <sup>49</sup> or Swiss managers. <sup>50</sup> The LPI scores of female elementary school principals were reported as higher than their male counterparts, although gender made no difference in the outcome variables. <sup>51</sup> Female university professors reported engaging in Encouraging more than their male counterparts, while the two groups did not differ on the remaining four leadership practices. <sup>52</sup> Gender differences were found for Thai managers, with males reporting significantly higher scores than females on Modeling, Inspiring, and Enabling. <sup>53</sup>

Looking further into possible gender differences, we examined the extent to which the constituents' gender interacted with the leaders' gender. This study took place within a nationwide retail organization. No differences were found for Inspiring, Enabling, or Encouraging. However, female constituents reported their managers, whether male or female, to engage in more Modeling and Challenging behaviors than did male constituents. Female constituents also reported their male managers engaging in Modeling and Challenging more than did male constituents of female managers. Samegender dyads were compared with mixed-gender dyads and statistically significant

differences were found for only one leadership practice: Constituents of the same gender as their manager reported more Inspiring behavior than did mixed-gender dyads. A study involving government managers revealed no significant differences across all possible gender-based dyads of managers and direct reports.<sup>54</sup>

# Comparisons Between Public/Non-Profit and Private/Business Respondents

Scores on the LPI for government managers were matched with a comparable group of business managers. Overall, there were no statistically significant differences between the two groups of managers. LPI-Self scores did not differ between these two groups of managers, nor did the scores differ as reported by their constituents (LPI-Observer). A study involving leaders employed in public or private sector health positions found no differences between the two groups, 55 as was also the case for a study comparing the top staff of human service organizations (non-profit) with a random selection of business managers. 56

# **Comparisons Across Functional Disciplines**

LPI scores across functional areas (customer service, finance, information systems, manufacturing, and marketing) were compared. Functional field or discipline made no statistically significant difference for three leadership practices: Modeling, Challenging, and, Enabling. *Post hoc* comparison tests revealed that the differences for Inspiring and Encouraging were due primarily to respondents in the Finance area being substantially different (lower) in these two practices than their counterparts in other fields.<sup>57</sup> Overall, there are few significant differences based upon the respondent's functional area.

# **Comparisons Across Ethnic Background**

Possible LPI (leadership practices) differences due to ethnic background were

investigated in a study involving executive directors of community development organizations. <sup>58</sup> LPI scores for Caucasians directors were compared with those directors of color (Black, Hispanic, and Asian). The two groups did not differ on Challenging, Enabling, or Encouraging. Directors of color reported significantly higher Modeling and Inspiring scores than their Caucasian counterparts. However, assessments provided by their constituents revealed no systematic differences between the leadership practices of managers based upon their ethnic background. Re-examination of the data by respondent gender also made no difference in the pattern of results.

LPI scores were not found to be statistically different in an investigation of Native American and non-Native American secondary school administrators. A comparison of African-American and Caucasian female leaders in college student personnel administrator positions revealed no significant main or interaction effects by leader ethnicity.

# **Cross-Cultural Comparisons**

Several cross-cultural comparisons of LPI scores have been made. For example: U.S. and European managers, U.S. and Pacific Rim managers, U.S. and Australian managers, and, U.S. and Mexican managers. Few differences were found between U.S. and United Kingdom managers working for the same multinational chemical company. Enabling was rated most frequently by managers as well as their constituents from both countries. The same consistent pattern was observed for Inspiring and Challenging. Within one large high technology firm, no significant differences were found between U.S. managers and their counterparts in either England, the Netherlands, or Germany. This was true for both LPI-Self and LPI-Observer scores. A study involving American and Swiss managers found no differences on the leadership practices of Modeling and Enabling; and American managers reported more frequent use of Inspiring, Challenging, and

Encouraging than their Swiss counterparts.<sup>61</sup>

Managers from small-sized factories in four Pacific Rim countries (Korea, Philippines, Taiwan, and Malaysia) completed the LPI as part of a multinational semiconductor company's management development program. LPI-Self scores were significantly higher than those reported by their constituents for all leadership practices, with the exception of Encouraging. The rank order for the LPI-Self scores were the same for the Pacific Rim managers as had been found for their U.S. counterparts. This same pattern was true for LPI-Observer scores.

Middle-level Australian managers were matched with comparable U.S. managers, and no statistically significant differences between the two groups were found for any of the five leadership practices. While the LPI scores of Mexican managers were, on average, lower than their U.S. counterparts, there were no differences between the two groups in the rank (relative) order of the leadership practices. Comparisons between U.S. and Israeli managers indicated that nationality was not significantly related with any leadership practice, nor did nationality mediate the relationship between leadership practices and employee commitment levels. Researchers comparing the impact of managers' leadership practices on staff nurses in the U.S. and China reported that the LPI was "easily used across boundaries."

# VALIDATION OF THE LPI

Validity addresses the question of whether or not an instrument truly measures what it purports to measure and, accordingly, whether its scores have meaning or utility for a respondent. Like reliability, validity is determined in a number of ways. The most common assessment of validity is called *face validity*, which considers whether, on the basis of subjective evaluation, an instrument appears to measure what it intends to be measuring. Given that the items on the LPI are related to the statements that workshop

participants generally make about their own or others' personal-best leadership experiences, respondents have found the LPI to have excellent face validity.

Validity is also determined empirically (objectively). Factor analysis is used to determine the extent to which the instrument items measure common or different content areas. The results from various analyses reveal that the LPI contains five factors, the items within each factor corresponding more among themselves than they do with the other factors. For example, responses to the thirty leadership behavior items were subjected to a principle factoring method with iteration and varimax rotation. Five factors were extracted with eigenvalues greater than 1.0 and accounting for 60.5 percent of the variance. Five interpreterable factors were obtained – consistent with the five subscales of the LPI – although a few item-factor loadings share some common variance across more than one factor. The stability of the five factor solution was tested by factor-analyzing the data from different subsamples. In each case, the factor structure was essentially similar to the one involving the entire sample.

Other researchers have reported achieving comparable factor structures within a variety of organizational settings. Georgia Tech Professor David Herold and his colleagues, with their own LPI data, performed a confirmatory factor analysis using LISREL VII, analyzing a covariance matrix prepared from the raw data by PRELIS. Their conclusion:

Estimating a correlated factors model corresponding to the oblique factor rotation, modified to reflect the intercorrelations among the error items for the LPI items that had correlations with other items exceeding .50, resulted in a confirmatory model with acceptable fit (Chi-Square = 399.9, d.f. = 363,  $\underline{p} < .09$ ). In addition, all of the hypothesized structural coefficients linking the observed variables to the five factors were highly significant with all  $\underline{t}$  values exceeding 7.0, suggesting that when modeled appropriately, the

LISREL estimates confirm the LPI factor Model.<sup>66</sup>

Applying a similar methodological approach (LISREL), with a sample of U.S. and Canadian community activists, the analysis confirmed the structural integrity of the LPI framework.<sup>67</sup> A structured interview protocol within a school setting reported that participants validated 81 percent of the salient principal scores as actual patterns of behavior in their experience.<sup>68</sup>

The question of whether the LPI scores are significantly related to other critical behavioral (individual and organizational) performance measures is probably the most important *practical* matter to participants (leaders and their organizations). Overall, the LPI has excellent concurrent validity, and leadership scores are consistently associated with important aspects of managerial and organizational effectiveness such as workgroup performance, team cohesiveness, commitment, satisfaction, and credibility.

For example, utilizing only the responses from the LPI-Observer we examined the relationship between leaders' effectiveness and their leadership practices (as measured by the LPI).<sup>69</sup> By including only the responses from "other people" about their managers, we were using relatively independent assessments, thereby minimizing potential self-report bias. Regression analysis was performed, with leader effectiveness as the dependent variable and the five leadership practices as the independent variables. The regression equation was highly significant ( $\underline{F} = 318.88$ ,  $\underline{p} < .0001$ ). The leadership practices explained over 55 percent (adjusted  $R^2 = .756$ ) of the variance around constituents' assessments of their managers' effectiveness.

Another method for examining the discriminant validity of the LPI is to determine how well LPI scores differentiate between high- and low-performing managers. This issue was examined using discriminant analysis as a classification technique. We wanted to determine how well LPI scores could group managers into various performance-based categories. The lowest third and highest third of the managers on the LPI-Observer

leader effectiveness scale formed the low- and high-performing categories.

Approximately 85 percent of the sample of LPI-Observer respondents was used to create the canonical discriminant function, with the remaining 15 percent used to create a holdout sample for classification purposes. One discriminant function was derived and it correctly classified 92.6 percent of the known cases and 77.8 percent of the cases in the holdout sample. Including the middle third of the sample in this analysis, resulted in correct classification of 71.1 percent of the known cases and 67.9 percent of the holdout sample. All four of these results are beyond the .001 level of chance probability.

#### FURTHER VALIDATION OF THE LPI

Several meta-reviews of leadership development instruments have been conducted. The LPI is consistently rated among the best, regardless of the criteria. For example, in one assessment of 18 different leadership instruments, the LPI was the only one to receive the top score in psychometric soundness and ease of use. There is good evidence to support the reliability and validity of the LPI, concluded one reviewer of the LPI. Another explained: The conceptual scheme on which the LPI is based is elegant and the test items on the LPI have excellent face validity as well as psychometric validity. Factor analyses and multiple regressions provide strong support for both the structural and concurrent validity of the LPI.

A large number of researchers have utilized the Leadership Practices Inventory in their investigations of various leadership issues. Such independent efforts substantiate the utility and robustness of the LPI. Correlations with other sociological and psychological instruments further enhances confidence that the LPI measures what it is purported to measure and not some other phenomenon (construct validity). The LPI has been applied in studies investigating leadership practices and:

- Motivation and commitment.<sup>72</sup>
- Work group performance.<sup>73</sup>
- Professional burnout.<sup>74</sup>
- Spirituality. 75
- Effectiveness of bank managers and their work groups. <sup>76</sup>
- Commitment, satisfaction and productivity of hospital employees.<sup>77</sup>
- Recruitment and retention of nursing managers and quality of patient care. 78
- Satisfaction, commitment and productivity of nurses.<sup>79</sup>
- Public health leaders.<sup>80</sup>
- Effectiveness and credibility of school principals and superintendents.<sup>81</sup>
- High and low-performing schools. 82
- Principals of Christian schools. 83
- Principals in effective and ineffective schools.<sup>84</sup>
- Ethical philosophy of middle-school administrators.<sup>85</sup>
- Levels of parental involvement by elementary school principals.<sup>86</sup>
- College presidents.<sup>87</sup>
- Academic dean's impact on department chairperson satisfaction.<sup>88</sup>
- College coaches.<sup>89</sup>
- The impact of an academic collegiate leadership development program. 90
- Organizational identification and commitment among non-profit employees. 91
- Church leaders. 92
- Pastors involved in establishing new churches<sup>93</sup> and congregational growth.<sup>94</sup>
- Myers-Briggs Type Indicators.<sup>95</sup>
- Thinking styles, 96 conflict styles, 97 learning styles, 98
- Optimism, <sup>99</sup> and proactive personality <sup>100</sup>
- Self-esteem.<sup>101</sup>

#### **CONCLUSIONS**

The Leadership Practices Inventory has sound psychometric properties. Internal reliabilities for the five leadership practices (both Self and Observer versions) are very good and are consistent over time. The underlying factor structure has been sustained across a variety of studies and settings, and support continues to be generated for the instrument's construct and concurrent validity. For the most part, findings are relatively consistent across people, gender, ethnicity and cultural backgrounds, as well as across various organizational characteristics. An independent assessment of the LPI reached similar conclusions:

The LPI is one of the most extensively researched management development tools I have encountered. It is a model of sound research design from its initial development and refinement through subsequent concurrent validity studies. The instrument and instructions are easy to read and follow and the trainer's guide is logical and clear. I highly recommend it as a developmental tool for new and experienced managers. <sup>102</sup>

Our own studies, along with those of other researchers, and comparisons with other leadership instruments have all shown the LPI to quite powerful in assessing individuals' leadership capabilities, and demonstrating that the five practices of exemplary leaders do make a difference at the personal, interpersonal, small group, and organizational level. The LPI has proven quite robust in assessing individuals' leadership behaviors and in providing feedback useful for developing and enhancing leadership capabilities. Overall, the five practices of exemplary leadership framework and the LPI contribute richly to our understanding of the leadership process and in the

development and unleashing of leadership capabilities.

<sup>1</sup>See, for example: Posner, B. Z., and Kouzes, J. M. Development and Validation of the Leadership Practices Inventory. *Educational and Psychological Measurement*, 1988, 48(2), pp. 483-496; Leadership Practices: An Alternative to the Psychological Perspective. In Clark, K. and Clark, M. (eds.), *Measures of Leadership*. W. Orange, NJ: Leadership Library of America, 1990; Psychometric Properties of the Leadership Practices Inventory--Updated. *Educational and Psychological Measurement*, 1993, 53(1), pp. 191-199; and, An Extension of the Leadership Practices Inventory to Individual Contributors. *Educational and Psychological Measurement*, 1995, 54(4), pp. 959-966.

A review of the LPI by the National Academic Advising Association concluded: "presents a valid, practical model of leadership. The 'self' and 'observer' forms of the LPI provide valuable information that students can use to examine their prior leadership experiences and compare their self-assessments with reliable feedback from others. This package provides everything a facilitator needs for a successful leadership development program in which students discover and value their own leadership opportunities and make action plans for their future leadership development." NACADA Journal (Fall 1999):59.

<sup>&</sup>lt;sup>2</sup> See, for example: Posner, B. Z., and Brodsky, B. A Leadership Development Instrument for College Students. *Journal of College Student Development*, 1992, 33, pp. 231-237; The Leadership Practices of Effective RAs. *Journal of College Student Development*, 1993, 34(4), pp. 300-304; and, Leadership Practices of Effective Student Leaders: Gender Makes No Difference. *NASPA Journal*, 1994, 31(2), pp. 113-120.

<sup>&</sup>lt;sup>3</sup>Sashkin, M. and Rosenbach, W. "A new vision of leadership," in Taylor, R. (ed), Contemporary Issues of Leadership (Boulder: Westview Press, 1998):79.

<sup>&</sup>lt;sup>4</sup> Unless otherwise noted, all analyses reported have been conducted by the authors on all or appropriate portions of the normative database.

<sup>&</sup>lt;sup>5</sup> Aiken, L. R. Psychological Testing and Assessment (Boston: Allyn & Bacon), 1997.

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<sup>15</sup> Brightharp, C. Y. Real and Ideal Leadership Practices of Women in Mid-Level Administrative Positions in Student Affairs. Unpublished doctoral dissertation. Bowling Green State University, December 1999.

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