Extension Leaders’ Self-Evaluation of Leadership Skill Areas

Lori L. Moore, University of Idaho
Rick D. Rudd, University of Florida

Abstract

The purpose of this study was to determine the importance of and level of proficiency in six leadership skill areas as perceived by current Extension leaders. For the purposes of this study, Extension leaders were defined as the individuals from 1862 and 1890 land-grant institutions who were most responsible for the day-to-day operations of Extension in their state, and generally had the title of state director or administrator. Participants rated the Human, Conceptual, Communication, Emotional Intelligence, and Industry Knowledge skills areas between important to very important and rated the Technical Skills area between somewhat important and important. In terms of their proficiency within each skill area, participants rated themselves between above average to very proficient in the Human, Conceptual, Communication, Emotional Intelligence, and Industry Knowledge skills areas and between average and above average in Technical Skills. The smallest gap between perceived importance and self-perceived proficiency occurred in the area of Industry Knowledge Skills while the largest gap occurred in the Conceptual Skills area.
Leadership skills can be taught and learned, yet skilled leaders continue to be in short supply (Pernick, 2001). Most employers, including those responsible for hiring state Extension directors, would agree that leadership skills are desirable in employees. Although an abundance of information about leadership exists, there is still a lack of consensus surrounding specific aspects of leadership. This is especially true within the Extension system.

Current Extension leaders must play a number of different roles. Competence in each diverse aspect of their job is expected, including leading the organization. In-depth leadership skill development training programs have been recommended for professional staff in Extension (Holder, 1990). However, the organization has made few attempts to define specific leadership skills it is seeking in its leaders, thus making the inclusion of specific competencies addressing such skills in training programs difficult.

Leadership Skills

According to Katz (1955), a skill can be defined as “an ability which can be developed, not necessarily inborn, and which is manifested in performance, not merely in potential” (p. 33-34). Nahavandi (2000) expanded on this definition by including a training dimension. Nahavandi proposed that a skill is an acquired task a person develops and can change with training and experience.

Just as there are a number of different approaches researchers can use to study leadership, there are a number of different classification systems of leadership skills. However, each involves some aspect of getting the work done, some aspect of seeing both the big picture and the small, and dealing with the human aspect of the leadership process either from a self or other perspective.

Katz (1955) identified three categories of skills needed by leaders: technical skills, human skills, and conceptual skills. Although the amount of human, technical, and conceptual skills may vary depending on position within the organizational hierarchy, each is nevertheless important for successful leaders to possess.

Technical skills, according to Katz (1955), are the most concrete type of skills and are associated with understanding and being able to complete specific activities. In other words, these are the “how to do it” skills and involve methods, processes, procedures, or techniques. Leaders engage in technical skills when they perform the technical activities required of them. Technical skills are more important at the lower levels of administration (Goleman, 1998; Hicks & Gullett, 1975; Katz, 1955). As a leader moves up in the organizational hierarchy, he/she relies on the technical skills of followers more than on his/her own technical skills (Hicks & Gullett, 1975).

Human skills can be considered the “people skills.” Katz (1955) defined human skills as “the ability to work effectively as a group member and to build cooperative effort within the team he leads” (p. 34). This skill is demonstrated in how a leader perceives and behaves towards
those around him/her, including superiors, peers, and followers, and most importantly cannot be a “some-time skill,” but rather must be demonstrated in every action of the leader (Katz, 1955). Leaders engage in human relation skills when they motivate individuals and groups. Human skills are essential throughout all management levels (Hicks & Gullet, 1975; Katz, 1955).

Conceptual skills can be thought of as the “thinking skills” needed by leaders. This type of skill involves being able to see both what is going on within an entire organization, and how the various parts of the organization interact and depend on one another (Katz, 1955). Conceptual skills are perhaps most important at top management levels where policy decisions, long-term planning, and broad scale actions are required (Hicks & Gullet, 1975; Katz, 1955).

Strand (1981) conducted a study to determine community leadership competencies, as perceived by community residents. A factor analysis of the 39 competency items contained in the instrument revealed nine broad competency areas. Four of the nine competency areas represented conceptual skills, three represented human skills, and two represented technical skills. Findings of this study suggested that conceptual competencies were the most important, followed closely by human competencies, with technical competencies being least important, supporting the notions of Hicks & Gullet (1975) and Katz (1955).

Newer approaches to leadership skills have been built upon the technical, human, and conceptual skill classification, but are slightly different. Goleman (1998) outlined three domains of leadership skills: purely technical skills, cognitive abilities, and competencies that demonstrated emotional intelligence. There are five components to emotional intelligence: self-awareness, self-regulation, motivation, empathy, and social skill.

Goleman (1998) included emotional intelligence as a set of leadership skills because he saw it as the distinguishing competence of senior leaders. In fact, he reported emotional intelligence to be twice as important as the others when applied to all levels of jobs within the organizational hierarchy, and found emotional intelligence, rather than conceptual skills, to explain 90% of the difference in the effectiveness of star performers and average senior level leaders.

In a study in which they designed a leadership competency instrument for healthcare administration, Robbins, Bradley, & Spicer (2001) identified four leadership skill domains. Their assessment instrument contained 52 items that were classified as technical skills, industry knowledge, analytic and conceptual reasoning, or interpersonal and emotional intelligence. They identified industry knowledge as a domain of skills due to the complex nature of the healthcare industry.

The CES is a unique organization in that its leaders are promoted almost exclusively from within based on their performance in previous positions (Patterson, 1997; Pittman & Bruny, 1986). Yet, few studies have been conducted that focus on the skills of leaders in senior leadership positions within the Extension system. Moore & Rudd (2003) identified six leadership skill areas as important for senior Extension leaders: Human Skills, Conceptual Skills, Technical Skills, Communication Skills, Emotional Intelligence Skills, and Industry Knowledge Skills.
However, it must be noted that these six skill areas were identified as important by administrative heads of current Extension leaders, and not by the leaders themselves.

Several questions thus arise. Do current senior leaders within Extension perceive these leadership skills as important? How proficient do these current leaders perceive themselves to be in each area? Answering these questions would offer great insight for those involved in the training and development of current Extension leaders, as well as those involved in the hiring of future Extension leaders.

Purpose and Objective

This study was part of a larger study conducted to identify and describe the leadership styles and skills of Extension leaders as well as to explain the influence of demographics on their leadership styles and skills. The specific objectives of the present quantitative study were to:

1. Determine the importance of leadership skills areas as perceived by current Extension leaders.
2. Determine the self-perceived proficiency level of current Extension leaders in each of the leadership skills areas.
3. Assess the relationship between perceived importance and perceived proficiency in each leadership skill area.

Research Methods and Procedures

Population and Sample

For the purposes of this study, current Extension leaders were defined as the individuals that are responsible for the day-to-day operation of the Cooperative Extension System within their state. Therefore, the population of interest was all of the state Extension directors and administrators at 1862 and 1890 land-grant institutions.

Due to overlaps in the CSREES Directors and Administrators Directory (April, 2002) and the National Association of State Universities and Land-Grant Colleges (NASULGC) list of Administrative Heads of Agriculture, each individual in the CSREES Directory was contacted via e-mail about the nature and purposes of this study and asked to identify the individual in their state most responsible for the day-to-day operation of Extension. Based on the responses to these e-mails, a list of 80 current Leaders was compiled and served as the population frame for this study.

A total of 49 responses were received for a response rate of 61.25%. Two responses did not contain usable data and were removed from the database leaving 47 respondents for data analysis.

Instrumentation

One instrument was used to collect data in this study. The instrument was developed by the researchers based on the findings of Moore & Rudd (2003) and consisted of 80 specific

To assess the perceived importance of each leadership skill area, participants responded to each competency included in that skill area on a Likert scale ranging from 1 (Not Important) to 5 (Very Important). Raw scores were calculated for the perceived importance of each of the six skill areas by summing the responses within each area. Raw scores were then converted to a 100-point scale by dividing the sum of the responses by the total possible response score for each skill area. Scores were converted to a 100-point scale for ease of interpretation and allowed all skill areas, regardless of the number of items within the skill area, to be represented on the same scale. Scores on this 100-point scale served as the scale score for importance in each of the six areas. Raw scores were also calculated for perceived importance of all 80 competencies by summing all of the importance responses. These raw scores were also converted to a 100-point scale by dividing the sum of responses by the maximum possible score, 400, which served as the total score for importance.

To measure participants’ self-perceived proficiency in each skill area, participants responded to the same competencies included in each skill area on a Likert scale ranging from 1 (None) to 5 (Very Proficient). Raw scores were calculated for proficiency in each of the six skill areas by summing the responses within each area. Raw scores were converted to a 100-point scale by dividing the sum of the responses by the total possible response score for each skill area. Scores on this 100-point scale served as the scale score for proficiency in each of the six skill areas. Raw scores were also calculated for the self-perceived proficiency in all 80 competencies by summing all of the proficiency responses. These raw scores were also converted to a 100-point scale by dividing the sum of responses by the maximum possible score, 400, which served as the total score for proficiency.

The instrument was evaluated by a panel of experts for content and face validity prior to data collection. The nation-wide panel consisted of university faculty members familiar with leadership and/or Extension. The instrument was also pilot-tested to establish reliability. The pilot study group consisted of 29 associate and assistant deans and directors of Extension not included in the study. Fifteen of the 29 individuals invited to participate in the pilot study completed the instrument for a response rate of 51.7%. Cronbach's alpha was calculated for importance and proficiency within each skill category. Cronbach's alpha is appropriate for estimating internal-consistency reliability within a scale in Likert format (Isaac & Michael, 1995). In terms of how important pilot study participants perceived the competencies within each skill area to be, Cronbach's alpha for each skill area were: \( \alpha = .91 \) for Human Skills, \( \alpha = .92 \) for Conceptual Skills, \( \alpha = .74 \) for Technical Skills, \( \alpha = .91 \) for Communication Skills, \( \alpha = .86 \) for Emotional Intelligence Skills, and \( \alpha = .92 \) for Industry Knowledge Skills. In terms of how proficient pilot study participants perceived they were in each skill area, Cronbach's alpha for each skill area were: \( \alpha = .93 \) for Human Skills, \( \alpha = .94 \) for Conceptual Skills, \( \alpha = .91 \) for Technical Skills, \( \alpha = .91 \) for Communication Skills, \( \alpha = .91 \) for Emotional Intelligence Skills, and \( \alpha = .88 \) for Industry Knowledge Skills. No leadership competencies could have been removed so as to cause an increase in Cronbach's alpha for both perceived importance and self-perceived level of proficiency.
Data Collection and Analysis

The instrument was administered to current Extension leaders following the Tailored Design Method of Dillman (2000). This method included a system of up to five compatible contacts with each individual selected for participation in the study.

Data were analyzed using the SPSS® statistical package for Windows™. Missing values was replaced with the item mean during analysis in cases where participants did not respond to a particular item (George & Mallery, 2001). Measures of central tendency were used to describe current Extension leaders in terms how important they perceived each leadership skill area to be and how proficient the perceived themselves to be in each of the leadership skill areas.

Results

The first objective was to determine the importance of each leadership skill area as perceived by current Extension leaders. The mean scores for each skill area are presented in Table 1. All scores were above 75 for the possible range of 20 to 100. The highest mean score was for the importance of Emotional Intelligence Skills (M=93.14, SD=6.14), followed by Conceptual Skills (M=92.27, SD=5.28), Human Skills (M=92.04, SD=5.62), Industry Knowledge Skills (M=91.04, SD=7.52), Communication Skills (M=89.06, SD=7.86), and Technical Skills (M=79.53, SD=11.13), respectively. The Technical Skills area was the only skill area that had a mean score for perceived importance below 80. Scores for the importance of Human Skills ranged from a low of 80.00 to a high of 100, the highest possible score. For the importance of Conceptual Skills, scores ranged from a low of 82.27 to a high of 100. Scores for the importance of Technical Skills ranged from a low of 56.00 to a high of 100. For the importance of Communications Skills, scores ranged from a low of 65.71 to a high of 100. Scores for the importance of Emotional Intelligence Skills ranged from a low of 77.14 to a high of 100. For the importance of Industry Knowledge Skills, scores ranged from a low score of 73.85 to a high score of 100. Total Importance Scores were calculated for the all 80 competencies and ranged from a low of 76.00 to a high of 99.75.

<table>
<thead>
<tr>
<th>Table 1 Mean Scores for Perceived Importance of the Leadership Skills</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Skills (Importance)</td>
<td>47</td>
<td>92.04</td>
<td>5.63</td>
</tr>
<tr>
<td>Conceptual Skills (Importance)</td>
<td>47</td>
<td>92.27</td>
<td>5.28</td>
</tr>
<tr>
<td>Technical Skills (Importance)</td>
<td>46</td>
<td>79.52</td>
<td>11.13</td>
</tr>
<tr>
<td>Communication Skills (Importance)</td>
<td>46</td>
<td>89.06</td>
<td>7.86</td>
</tr>
<tr>
<td>Emotional Intelligence Skills (Importance)</td>
<td>46</td>
<td>93.14</td>
<td>6.14</td>
</tr>
<tr>
<td>Industry Knowledge Skills (Importance)</td>
<td>46</td>
<td>91.04</td>
<td>7.52</td>
</tr>
<tr>
<td>Total Importance Score</td>
<td>44</td>
<td>90.24</td>
<td>5.83</td>
</tr>
</tbody>
</table>

Note: If more than 15% of the data for a particular scale was missing, that respondent’s data was not included in the analysis for that scale or for the Total Importance Score.

One respondent had more than 15 percent missing data for the importance of Technical Skills. One respondent had more than 15 percent missing data for the importance of
Communication Skills. One respondent had more than 15 percent missing data in the importance of Emotional Intelligence Skills and the importance of Industry Knowledge Skills. Data for these respondents was not included in the analysis for the scale in which they were missing more than 15 percent of the data, or in the analysis for the Total Importance Score so as not to artificially lower the total score (George & Mallery, 2001).

Objective 2 was to determine the self-perceived proficiency level of current Extension leaders in each leadership skill area. Mean scores for each of the leadership skill areas and total proficiency are reported in Table 2. Scores for the self-perceived proficiency of respondents in Human Skills ranged from a low of 66.67 to a high of 97.33 on a possible scale of 20 to 100. For the self-perceived proficiency level in Conceptual Skills, scores ranged from a low of 58.57 to a high of 98.57. Scores for self-perceived proficiency in Technical Skills ranged from a low of 46.00 to a high of 98.00. For the self-perceived proficiency level in Communication Skills, scores ranged from a low score of 58.57 to a high score of 100. Scores for self-perceived proficiency in Emotional Intelligence Skills ranged from a low of 68.57 to a high of 100. For the self-perceived proficiency level in Industry Knowledge Skills, scores ranged from a low of 50.77 to a high of 100. Total Proficiency Scores ranged from a low of 64.00 to a high of 96.50.

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Skills (Proficiency)</td>
<td>47</td>
<td>84.28</td>
<td>8.31</td>
</tr>
<tr>
<td>Conceptual Skills (Proficiency)</td>
<td>47</td>
<td>82.49</td>
<td>9.42</td>
</tr>
<tr>
<td>Technical Skills (Proficiency)</td>
<td>46</td>
<td>71.50</td>
<td>12.20</td>
</tr>
<tr>
<td>Communication Skills (Proficiency)</td>
<td>47</td>
<td>81.51</td>
<td>9.95</td>
</tr>
<tr>
<td>Emotional Intelligence Skills (Proficiency)</td>
<td>47</td>
<td>85.46</td>
<td>8.10</td>
</tr>
<tr>
<td>Industry Knowledge Skills (Proficiency)</td>
<td>47</td>
<td>84.31</td>
<td>10.80</td>
</tr>
<tr>
<td>Total Proficiency Score</td>
<td>46</td>
<td>82.11</td>
<td>8.12</td>
</tr>
</tbody>
</table>

Note: If more than 15% of the data for a particular scale was missing, that respondent’s data was not included in the analysis for that scale or for the Total Proficiency Score.

One respondent had more than 15 percent missing data for self-perceived proficiency in Technical Skills. Data for this respondent was not included in the analysis for the Technical Skills scale, or in the analysis for the Total Proficiency Score.

The third objective was to assess the relationship between perceived importance and perceived proficiency in each of the leadership skill areas. Table 3 shows the difference between mean scores for the importance of each skill area and the self-perceived proficiency level of respondents in each skill area. Mean scores were higher for perceived importance than for self-perceived level of proficiency in all six skill areas. The difference between perceived importance and self-perceived proficiency was greatest for Conceptual Skills (Mean Difference=9.78), followed by Technical Skills (Mean Difference=8.02), Human Skills (Mean Difference=7.76), Emotional Intelligence Skills (Mean Difference=7.68), Communication Skills (Mean Difference=7.55), and Industry Knowledge Skills (Mean Difference=6.73).
Table 3  Difference Between Mean for Importance and Mean for Proficiency

<table>
<thead>
<tr>
<th></th>
<th>M (Importance)</th>
<th>M (Proficiency)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Skills</td>
<td>92.04</td>
<td>84.28</td>
<td>7.76</td>
</tr>
<tr>
<td>Conceptual Skills</td>
<td>92.27</td>
<td>82.49</td>
<td>9.78</td>
</tr>
<tr>
<td>Technical Skills</td>
<td>79.52</td>
<td>71.50</td>
<td>8.02</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>89.06</td>
<td>81.51</td>
<td>7.55</td>
</tr>
<tr>
<td>Emotional Intelligence Skills</td>
<td>93.14</td>
<td>85.46</td>
<td>7.68</td>
</tr>
<tr>
<td>Industry Knowledge Skills</td>
<td>91.04</td>
<td>84.31</td>
<td>6.73</td>
</tr>
<tr>
<td>Total Score</td>
<td>90.24</td>
<td>82.11</td>
<td>8.13</td>
</tr>
</tbody>
</table>

Conclusions, Implications and Recommendations

Current Extension leaders rated five of the six leadership skill areas (Human Skills, Conceptual Skills, Communication Skills, Emotional Intelligence Skills, and Industry Knowledge Skills) between important and very important. Technical skills were rated between somewhat important and important. Participants perceived Emotional Intelligence Skills ($M=93.14, SD=6.14$) to be the most important of the six leadership skills areas. In such difficult budget times, demands on faculty time continue to increase. The Emotional Intelligence Skills area, which included competencies such as time management and balancing personal and professional lives, was perceived as the most important.

Although not unexpected, it is interesting to find Emotional Intelligence Skills rated most important. Many of the specific competencies within this skill area are the same skill areas and competencies often left out of leadership training and development. It is not so rare to find leadership development in competencies such as conflict resolution and negotiation, but many competencies within this skill area, such as demonstrating personal integrity, a high level of motivation, and high levels of energy and enthusiasm are rarely included in leadership courses, workshops, or seminars. For example, it may not be hard to find development activities that emphasize strategies to motivate followers, but strategies for motivating oneself as the leader are rarely included in leadership training and development programs for Extension leaders. Perhaps the fact these competencies are so rarely taught contributes to the perceived importance of them by Extension leaders. Based on the findings of the present study, it is recommended that leadership training and development programs offered to current and future Extension leaders emphasize the development of Emotional Intelligence Skills in an effort to provide leaders with the skills they perceive to be most important.

Participants perceived Technical Skills ($M=79.52, SD=11.13$) to be the least important of the six leadership skill areas. This finding is consistent with the literature (Hicks & Gullett, 1975) that reported the amount of technical skills required by leaders decreased the higher in the organizational hierarchy leaders were. Since the leaders in this study were in the most senior leadership positions within the organization, it is to be expected that the amount of technical skills they require would be less than that of other skill areas and therefore perceived as less important. Although the Technical Skills area was rated as least important, overall, the competencies were still rated between somewhat important and important and in reality, were rated closer to the important end of that scale. In essence, this finding supports the finding of
Moore & Rudd (2003) that found technical skills to be the area of the most disagreement. In other words, some of the current Extension leaders perceived technical skills competencies to be closer to very important while others perceived them to be closer to somewhat important.

In the Moore & Rudd (2003) study, the perceived importance of technical skills appeared to be a function of the size of the institution. In this study, no data were collected on the size of the institution participants were from and the availability of technical support. Additional research is needed in this area to determine if perceived importance is actually a function of such factors or simply that many professionals are becoming more computer literate.

Participants ranked themselves between above average and very proficient in terms of their proficiency in Human Skills, Conceptual Skills, Communication Skills, Emotional Intelligence Skills, and Industry Knowledge Skills. Participants ranked themselves between average and above average in proficiency in technical skills. Participants perceived themselves to be most proficient in Emotional Intelligence leadership skills ($M=85.46$, $SD=8.10$) and least proficient in the Technical skills area ($M=71.50$, $SD=12.20$).

After finding that participants ranked Emotional Intelligence skills as most important, it was not unexpected to find that they perceived themselves to be most proficient in the same skill area. It is to be expected that participants in a study involving self-reported data are not likely to perceive themselves to be poor in a skill area they believe is very important. Perhaps because participants perceived the Emotional Intelligence Skills area to be most important, they have sought opportunities to develop such skills and therefore perceive themselves to be more proficient than in other skill areas in which they have not sought development opportunities.

Participants also believed Technical Skills were the least important of the six skills. This is not surprising based on the self-reported nature of the data. It may be possible that the reason Technical Skills are rated as least important is because participants see them as an area of weakness. It is also quite possible that because Technical Skills are seen as least important, participants have chosen to develop their skills in areas they consider to be more important and not sought opportunities to develop their technical skills.

Previous research has offered conflicting findings related to whether leaders tend to rate themselves higher on self-reported leadership measures than do people who are familiar with their styles and abilities. Holder (1990) reported that Extension faculty members rated their middle managers lower on leadership practices and skills than the managers rated themselves. In contrast, Cobb (1989) reported no significant differences in the leadership effectiveness ratings of the County Extension Directors (CEDs) who rated themselves and the county Extension agents who rated their CEDs. A study by Rudd (2000) offered conflicting finding based on gender. In his study, male CEDs ranked themselves higher on all five leadership practices measured by the LPI than did there observers whereas female CEDs ranked themselves lower in four of the five leadership areas than did their observers. It is recommended that future research involving superiors and subordinates of the participants in the present study be conducted to determine if participants have an inaccurate perception about their own level of proficiency in each competency, or if they in fact actually view their abilities as they are.
The largest gap between perceived importance and self-perceived proficiency occurred in the area of Conceptual Skills. As noted earlier, as compared to other leadership skill areas, conceptual skills are most important at the higher levels of administration within an organization (Hicks & Gullet, 1975; Katz 1955). This notion is supported in the present study given the fact that participants ranked this skill area second in terms of importance. However, participants were not as confident in their proficiency within this area as they were in other skills areas. Such a gap clearly indicates an area for professional development. Extension leaders are faced with the ongoing challenge of continuing to move the organization forward with limited and dwindling resources. Given such a challenge, effective leaders must be able to support organizational change and think strategically. It is recommended that competencies in this area, such as strategic thinking and creating a long-term vision, be included in leadership development programs for Extension leaders in an effort to better equip leaders with the kinds of conceptual skills they need to move Extension forward.

The smallest gap between perceived importance and self-perceived proficiency occurred in the area of Industry Knowledge Skills. This finding is not surprising given the high number of Extension leaders that have been promoted from within the organization. Less emphasis should be place on providing professional development in this area as compared to the other areas included in the present study. However, in instances in which new Extension leaders are hired from outside the organization, additional emphasis in Industry Knowledge Skills would be warranted.

Findings of this study suggest that the individuals who hire Extension leaders are looking for leadership skills that are also important to individuals in the positions for which they are hiring. Therefore, leadership training and development programs for Extension leaders should focus on developing competence within each of the six leadership skill areas. However, this study only addressed the perceived leadership styles and self-perceived proficiency in leadership skill areas of current leaders. Future research should be conducted to determine the perceptions of both leaders and those around them with respect to the effectiveness of leadership.

References


