Leadership Effectiveness Analysis™ Technical Considerations

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Chapter 1: Introduction

This report has been prepared to answer routine technical questions concerning the origins, development, structure, applications, psychometric properties, and normative details of the Leadership Effectiveness Analysis™ (LEA). Selection of topics, content, and conventions for presenting data have been guided by Standards for Educational and Psychological Testing (American Psychological Association, 2014).

Brief Description

Purpose. The LEA provides information to managers/leaders concerning their perceptions of their management and leadership practices, perspectives and behavior. These perceptions are compared with those of significant stakeholders (boss, peers, direct reports) and the expectations of the organization. Feedback is provided on 22 leadership dimensions grouped into six functional areas (see Appendix A).

Target Audience. The LEA was designed to be used with managers and other professionals at all levels within an organization. A ninth grade reading level is required.

Forms of the Questionnaire. There are five versions of the LEA Questionnaire. Each provides feedback, at the individual and organizational level, on the same 22 leadership dimensions through several feedback delivery systems, grouped together under the heading LEA 360™ Full Suite.

The *LEA Self Questionnaire* is designed to be completed by the individual and is used to provide feedback on the individual's self-perceptions of his/her leadership practices, perspectives, and behaviors.

The *LEA Observer Questionnaire* is designed to be completed by an individual's boss, peers, and direct reports, and is used to provide developmental, 360-degree feedback to the individual.

The *LEA Strategic Directions Questionnaire* (LEA-SDQ) focuses on the leadership behaviors an organization will need in the future. Designed to be completed by middle and upper level management teams, the LEA-SDQ provides feedback for a facilitated session. During this session, the management team identifies critical leadership characteristics its leaders must demonstrate for the organization to achieve its business goals and objectives.

The *LEA Role Expectations Questionnaire* (LEA-REQ) focuses on the leadership behavior that would be demonstrated by the ideal incumbent in a specific leadership role. It provides feedback that can be used in a number of applications, such as defining leadership expectations for new or existing roles, or identifying differing performance expectations held by an individual and their boss.

The *LEA Leadership Culture Questionnaire* (LEA-LC) can be completed by individuals at all levels of an organization, and is designed to identify the current leadership behaviors and practices within an organization (or subgroup of an organization). It provides feedback that can be used to assess an organization's leadership culture(s), prepare for a

major organizational change initiative, identify similarities and differences of leadership cultures during a merger or acquisition, and determine the gap between the current leadership culture and the desired one.

Length of the Instruments. The LEA Self Questionnaire consists of 87 questions plus demographic items. The LEA Observer Questionnaire has 97 questions, plus demographic items. Each of these forms can be completed in about 30 minutes. The LEA Strategic Directions, Role Expectations, and Leadership Culture Questionnaires also contain 66 questions plus demographic items. Each of these forms can be completed in about 25 minutes. Demographic items adhere to local laws and individuals may elect to omit demographic items on all forms.

Response Format. Each LEA instrument employs a unique normative/semi-ipsative format for item responses. In addition to items in this format, the LEA Observer Questionnaire also employs anchored rating scales. Response formats are described in Chapter 2.

Translations. LEA Questionnaires and feedback materials are available in several languages. The LEA Self and Observer Questionnaires are available in American English, Brazilian Portuguese, British English, Chinese-Simplified, Chinese-Traditional, Czech, Danish, Dutch, Finnish, French, German, Italian, Japanese, Norwegian, Polish, Spanish, and Swedish. The LEA Leadership Culture and Role Expectations Questionnaires are available in American English, Brazilian Portuguese, British English, Danish, Dutch, French, German, Italian, Spanish, and Swedish. The LEA Strategic Directions Questionnaire is available in American English, Brazilian Portuguese, British English, Danish, Dutch, French, German, Italian, Polish, Spanish, and Swedish.

Reliability and Validity. The LEA questionnaires demonstrate excellent reliability and validity as documented in Chapter 3 and Chapter 4 of this monograph.

Norms. Separate norms are available by country and world region. These normative groups are described more fully in Chapter 5.

Scoring and Feedback Mechanisms. All forms of the LEA questionnaires are computer scored by the vendor. Scoring can be accomplished by completing questionnaires online or by sending the questionnaires to Management Research Group (MRG) for processing. A wide variety of reports and feedback delivery systems are available and are described in Appendix H.

Certification Requirements. To purchase and deliver any form of LEA feedback, individuals must currently be an organizational consultant, human resource professional, or clinical or I/O psychologist, and must attend a LEA 360 facilitator training program offered by MRG or one of its designated Master Trainers. Additional details are provided in Appendix I.

History

Development of the LEA grew out of two decades of clinical and research experience with an earlier assessment instrument named the Management Effectiveness Analysis™

(MEA; Rand, Mahoney, & Mahoney, 1990). The MEA was created by James T. Mahoney, Ph.D. in 1966, out of a sense of frustration with single and two factor instruments that described leadership behaviors from particular theoretical perspectives. These instruments tended to over-simplify the dynamics underlying the role-based behaviors of managers and were consistently inadequate to the task of understanding the richness and complexity of the management role. In addition, new theories of management behavior regularly appeared with great fanfare, only to disappear within a few years. The instruments that they inspired frequently shared a similar fate.

The MEA was constructed by observing managers and attempting to identify a broad range of behaviors and practices that tended to lead to success over a wide variety of management challenges. It was developed from a hierarchical management standpoint and focused on the relationship of the leader/manager to those individuals subject to their authority.

Since the 1970s, organizations have been placing increasingly complex demands upon their members. It has become generally recognized that individuals cannot be successful alone: they must achieve results not just by their own efforts or through direct reports, but through their relationships in the wider organization. They must influence, lead, and coordinate others' efforts, whether they have the formal power or authority to do so. This process often involves managing not only downwards, but laterally and upwards as well. Moreover, many organizational members (i.e., individual contributors) must accomplish things through people over whom they have no formal authority; others (i.e., senior management) may have the formal authority but choose not to use it. Thus, the effective use of personal power and influence has become extremely important. Quality leadership can be seen as an integral part of successful relationships with superiors, peers and direct reports, and developing leaders at all levels has become critically important for organizations.

To address these issues, Dr. Mahoney and colleagues created the LEA in 1986, using a more general leadership model as a foundation. Active research and development with the LEA has continued to the present. The instrument has been designed to measure the complexity and richness of individuals' behavior in organizational relationships through a comprehensive descriptive approach. In addition, attempts have been made to ensure that the LEA will be less vulnerable to changing fashions in management/leadership theory than previous instruments, and easily adapted to a broad spectrum of theoretical perspectives, cultures, and organizational challenges.

Conceptual Foundations

Situational Determinants of Leadership Behavior. All MRG role-based instruments, including the LEA, assume that role incumbents will behave differently depending upon the situation or challenge. These situational challenges will vary according to a variety of underlying conditions, including:

1) The level of the role within the organization.

2) The function within which the role is placed.

3) The philosophy or climate of the organization.

4) Specific stakeholder characteristics (e.g., types of direct reports, peers, costumers)

5) Nature of the task (e.g., turn around versus maintenance, low morale versus high morale, inadequate structure, or competitive conditions)

Consider a simple example. Our own data suggest that sales managers adopt very different leadership behaviors than do accounting managers. Similarly, behaviors and practices used by chief executive officers are often different in kind and degree than those used by first level supervisors. There has also been a great deal of research demonstrating that differences in stakeholders and task settings impact the suitability of management and leadership practices (Fiedler ,1967, 1971; Hersey & Blanchard, 1980; Vroom & Yelton, 1973; Vroom & Jago, 2007).

The lesson seems to be that, although universalistic theories continue to appear, best leadership practices depend on a wide variety of factors, including the interpersonal context, organizational structure, and strategic goals. In order to assist in individual and organizational development, an effective assessment instrument must capture the highly complex, subtle, and often unique aspects of leadership behavior.

The Concept of Leadership Sets. Each LEA dimension is designed to measure a leadership set. The concept of a "set" has a long psychological tradition (Boring, 1950). It refers to a disposition to respond in a particular way and is related to the idea of habit strength propounded by Hull (1943). Leadership "sets" indicate the likelihood that one will behave in consistent ways across a broad range of leadership challenges.

Using a "set" as an explanation of role-generated leadership behavior allows one to avoid the rigidities of personality-based rationales and the narrowness of skill-driven explanations. The use of personality variables implies unchanging traits which are very difficult to modify. The possession of a skill does not necessarily imply its use in a given situation. A "set" implies the relative strength or inclination towards utilizing certain practices. For any given situation, this strength will be affected by numerous factors, including:

1) the experience of the leader in using the specific practices implied by the set;

2) the level of skills available to support the leadership practices within the set;

3) the culture and values of the organization in which the leader is operating;

4) the nature of the leader's motivation – different sets will generally provide different rewards;

5) the total leadership challenge – organization and task demands, competitive situation, strategic considerations, etc.

Leadership behaviors will depend upon the leader, the particular leadership challenge facing them, and the organizational dynamics in which the leadership process occurs. Thus, a "leadership set" may refer to both internal elements in the leader and external elements of the leader's environment. The concept encompasses leadership skills and styles, and the motivational and cognitive components of the leadership role.

Self-reported LEA scores reflect an individual's self-perception of their general tendencies to use the 22 leadership sets described in Appendix A. A score given by a rater implies the strength of the sets in the ratee as perceived by the rater.

Implications for Effectiveness. Because MRG's role-based taxonomies are highly sensitive to situational factors, which in turn determine the nature of the leadership challenge, the probability of using specific leadership sets is also dramatically affected by the nature of the leadership challenge. We assume that leadership effectiveness is directly related to the appropriateness of the leadership sets applied to these specific situations or challenges, and the skillful vs. unskillful application of these sets through actual leadership behavior.

Different situations will cause an individual to adopt different leadership sets from their total repertoire. These leadership sets will have a certain degree of continuity within the leader across situations, but more able leaders will choose differentially among the sets available to them to deal with different task demands, expectations of different stakeholders, and so on.

Some leaders, with little versatility across sets, will apply the same practices regardless of the nature of the situation. These people will pound square pegs into round holes without regard for the apparent ineffectiveness of the behavior. Other leaders may have a great deal more versatility and may apply different leadership sets in a very finely tuned way.

Ideally, the perfect leader would be one who had developed themselves across the entire range of leadership sets, was a perfect diagnostician regarding their utilization, and had a philosophy and range of skills supportive of each. From a practical standpoint, this rarely happens. It would be unusual, for example, for an experienced leader to have sets that were equally appropriate for low level supervision and the activities of a chief executive officer, or who could deal with the challenges of a leadership role in the controller's department and the sales department equally well.

There will be many different influences upon the frequency of set utilization by leaders. For example, if an organization is moving strongly towards empowering lower-level people, its leaders may need to develop the behaviors and practices associated with the Consensual and Delegation sets. Even if a company or agency is moving in this direction, however, there may be occasions when the skillful use of the Dominant set is essential. If no one within the organization is capable of using this set, the organization may be immobilized in its capacity to respond.

To continue the example, leaders who have used the Dominant set for years may have difficulty giving it up. There is no theoretical reason, however, for such a person not to be able to substitute alternative sets or become more selective in the use of the Dominant set. This is because the personality trait of dominance is not necessarily controlling in the set, even though it may have predisposed the leader to develop leadership practices consistent with a dominant personality. Even leaders who are high on the Dominant set would be unlikely to try to "push around" the chief executive officer. Thus, a leader's use of such a set is clearly situational. The challenge for this leader in an organization moving to an empowering philosophy will also be situational, but well within the understanding and capacity for development of a person who wants to expand their behavioral repertoire and keep their job.

Utilization of sets, through their manifest leadership practices, can lead to success or failure with a particular leadership challenge. Failure is most likely if:

1) the leader misdiagnoses the challenge and chooses an inappropriate set with resulting inappropriate practices; or

2) the leader does not have the skills, courage, perspectives and other psychological accompaniments to function at the level required by the challenge.

For example, a leader may choose the Innovative set when the Strategic set is more likely to lead to success. Conversely, the leader may choose the right set, but not have the ideas or skills to accompany it.

We believe that organizations are reaching the point where they are recognizing the complexity of the leadership/management roles that they are asking their people to fill. They are less inclined to adopt easy, universalistic panaceas. The reason is quite clear— they don't work. The evidence against simplistic, universalistic, one-size-fits-all leadership/management models is overwhelming. The LEA represents an attempt to ameliorate many of these problems through a comprehensive, descriptive approach.

Finally, we have attempted to create a development process that is customizable. Some sets are frequently identified as more important than others by senior management for the purposes of achieving larger organizational goals. Using MRG's Strategic Directions process, many organizations have been able to set their own leadership priorities based upon their own unique strengths and strategic business and organizational objectives.

Interpreting Observer Variability. It is often a significant revelation to a leader/manager undergoing a 360-degree evaluation that not everyone sees them in the same way. In essence, leaders must satisfy different audiences or stakeholders. These stakeholders bring their own perceptions, needs, and distortions to the rating process. It can be useful for leaders to recognize that these differences in ratings are expected and can provide an opportunity to increase their understanding of their work relationships. The decision to modify one's behavior will depend on the importance of the observer and the behavior to the leader being rated. For example, it may be extremely important to be seen as strategic by one's boss. It may be much less important to be seen as strategic by one's direct reports. Conversely, it may be important to be seen as empathic by one's peers, but not one's boss.

Finally, it should be recognized that in some situations, appropriate leadership will not be popular. The leadership role, especially at more senior levels, may require decisions and actions that are not universally applauded (for example, during staff reductions). Even on a forced-choice, distortion-resistant questionnaire like the LEA, such actions can affect the way raters see a leader. Even in troubled times, however, the wise leader may gain insight into sets they may employ to minimize the disruptions their actions have on their stakeholders.

Additional Information

A detailed description of theoretical underpinnings of the 22 LEA dimensions and their developmental implications is available in Mahoney (1993). Additional interpretive information is supplied in the LEA Facilitator's Guide.

Chapter 2: Scale Development

Objectives

In constructing a role taxonomy, our major objective was to adequately survey the critical variables underlying leadership success over a wide range of circumstances. The variables should be broad enough to encompass a wide range of behavior, yet independent enough to minimize variable redundancy.

In addition, the taxonomy should represent behavior in non-evaluative terms. The behavior itself could be effective or ineffective, but that valuation required an outside observer. One leader's attempt to develop a democratic regime with direct reports might be looked upon by one direct report as highly effective, while another would see the same behavior as indicative of indecisiveness. It was important, therefore, that we have neutral terms to describe such behavior. The Consensual set, for example, was conceived as a way of describing a variety of behaviors that would tend to be effective or ineffective, depending upon a particular leadership challenge.

The following criteria were used to guide scale construction:

1) Scales should adequately cover a wide range of critical leadership behaviors, while at the same time being relatively independent of each other.

2) Items should be positively worded (i.e., a leader should not have to rate themselves or others as exhibiting negative behavior). Additionally, the social desirability of the items should be balanced across scales.

3) The scales should have adequate variability in order to differentiate among individuals.

4) The scales should have adequate reliability.

5) The scales should have the potential to predict behavior in a variety of settings (i.e., they should be precise enough to differentiate between effective versus less effective leaders in a variety of settings).

6) The scales should have adequate conceptual foundations in order to be helpful in individual and organizational development (i.e., they should be meaningful to the people using them, and they should flow easily into models of behavioral change).

7) The scales should not be skill focused (a leadership set is presumed to include skills) and should not directly measure personality dimensions (although personality factors undoubtedly influence the development of certain sets within an individual).

8) The resulting profile of the scales should be highly idiosyncratic for the individual (i.e., they should maximize the opportunity for the individual to put their own leadership stamp on the results).

Scale Construction

LEA Self Questionnaire. The LEA was originally constructed as a self-report instrument. Later versions were adapted to increase its usefulness with raters. A rational-empirical approach to scale construction was employed. As an initial step, Dr. Mahoney identified 35 behavioral sets descriptive of leadership styles, motivations, and practices. The sets were based on a distillation and synthesis of his 30 years of experience providing leadership assessment to a wide variety of organizations. A group of organizational psychologists and senior organization consultants at two consulting firms then reviewed these sets. The review led to a reduction in the number of sets to 22, based upon agreement concerning redundancy, conceptual precision, and utility.

An item pool was then developed to assess each of the 22 leadership sets and an exaggeration scale. A normative, semi-ipsative, forced-choice item format was chosen to maximize the objectives mentioned previously. A normative scale allows for comparison of the individual to other individuals. An ipsative scale is an idiographic approach which allows for comparison of the individual to themselves. The normative semi-ipsative approach appears to capitalize on the advantages of both methodologies, while minimizing their disadvantages (Mahoney & Mahoney, 1996).

In the LEA version of this response format, each question consists of a stem and three alternative options (see Figure 1). Each option is an item loading on a different set. The respondent first chooses the option which seems MOST characteristic of them and rates it as either a *5* or a *4*. Then the respondent selects the option that is NEXT most characteristic of them and rates it as either a *3* or a *2*. The respondent is instructed to leave the third option blank, and this option receives a score of *0* by default. This format reveals not only the order of the respondent's preference among the three sets offered in each question, but also the strength of their preference for each set. Over the course of the questionnaire, each set is compared to each of the other sets being measured.

Under the MOST column, you would circle:

- 5 if the statement is especially characteristic of you, OR
- 4 if the statement is the most like you of the three choices but you do not feel strongly about it.

Under the NEXT column, you would circle:

- 3 if the statement is a reasonably accurate description of your approach, OR
- 2 if the statement is simply the better of the two less appealing choices.

	MOST		NEXT	
In supervising people, I am				
a. tactful	(5)	4	3	2
b. demanding	5	4	3	2
c. easy to please	5	4	3	(2)

Figure 1. Sample LEA Self Item

A total of 84 triads (questions) were constructed which sampled each of the 22 sets eleven times. In addition, 10 options were added to assess the Exaggerate Scale. Each of the sets was compared with each of the other 21 sets and the Exaggerate scale approximately once.

In the empirical phase, an initial sample of 200 leaders were administered the questionnaire. This formed the basis for the first item analysis. Items in a triad were replaced if they did not meet one of the following criteria:

1) An option must correlate with its target set in the range of 0.30 to 0.60, and be essentially uncorrelated with any other set.

2) An option must have a probability of response between 0.20 and 0.50.

3) Each of the options in a triad must have a roughly equal probability of response with the other options in the triad.

These criteria were used to maximize internal consistency and variance of the scales, while keeping the conceptual underpinnings of the scale complex enough to have explanatory and meaningful practical power. A total of five item analyses were conducted to achieve maximum efficacy in the scales. Minor modifications were completed based on an item analysis completed in 1992 as part of MRG's periodic updating of its questionnaires.

LEA Observer Questionnaire. The LEA Observer Questionnaire was adapted from the LEA Self Questionnaire by modifying the cueing to represent ratings of an associate, rather than the self. For example, the stem ―In a leadership role, I would...‖ was changed to ―In a leadership role, he/she...‖ In addition, questions with exaggeration options were deleted, and the number of triads was reduced from 84 to 66. Each of the 22 leadership sets are sampled nine times in the final version.

In addition, 22 anchored rating scales measuring leadership impact were added to the Observer Questionnaire to support validation research. Eleven scales assess business-oriented skills and 11 scales measure people-oriented skills. Although Part B scales were developed on rational rather than psychometric grounds, they demonstrate excellent reliability, and content and factorial validity.

LEA Strategic Directions Questionnaire. The LEA Strategic Directions Questionnaire was adapted from the LEA Observer Questionnaire by modifying the cueing to represent ratings of ideal future leadership practices for an organization, rather than ratings of a particular individual. For example, the stem "In a leadership role, he/she..." was changed to "Within this organization, leaders will need to..." The result is an instrument with 66 questions which sample each of the 22 leadership sets nine times.

LEA Role Expectations Questionnaire. The LEA Role Expectations Questionnaire was adapted from the LEA Observer Questionnaire by modifying the cueing to represent ratings of leadership practices desired for a specific position, rather than ratings of a particular individual. For example, the stem ―" a leadership role, he/she..." was changed to "In this role, the ideal leader would..." The result is an instrument with 66 questions which sample each of the 22 leadership sets nine times.

LEA Leadership Culture Questionnaire. The LEA Leadership Culture Questionnaire was adapted from the LEA Observer Questionnaire by modifying the cueing to represent ratings of leadership practices generally descriptive of the organizational culture, rather than ratings of a particular individual. For example, the stem "In a leadership role, he/she..." was changed to "In this organization, leaders..." The result is an instrument with 66 questions which sample each of the 22 leadership sets nine times.

Scale Characteristics

LEA Self Questionnaire. The scale characteristics of the LEA-Self Questionnaire were evaluated in a sample of 146,635 assessments completed between January 2009 and July 2018. A detailed description of this sample's demographics is provided in Appendix B. Raw score means, standard deviations, and ranges for each of the 22 scales are provided in Table 1. Each scale demonstrated adequate variability as evidenced by large standard deviations. Coefficients of variation[1] ranged from .23 to .46 (mean = 0.32). Scale intercorrelations are provided in Table 2. Scale intercorrelations were quite low, with a mean absolute correlation of 0.14 (SD = 0.10). The largest correlations were between Cooperation and Dominant (-0.41) and Excitement and Restraint (-0.41).

LEA Observer Questionnaire. The scale characteristics of the LEA-Observer Questionnaire were evaluated in a sample of 485,846 individuals completing assessments on co-workers between January 2009 and July 2018. This included 67,927 bosses, 217,685 peers, and 200,234 direct reports. Demographic information is provided in Appendix C. Raw score means, standard deviations, and ranges for each scale are provided in Table 3. Again, each scale demonstrated adequate variability as evidenced by large standard deviations. Coefficients of variation ranged from .25 to .55 (mean = 0.40). Scale intercorrelations were again quite low, with a mean absolute correlation of 0.17 (SD = 0.13). Scale intercorrelations are provided in Table 4. The largest correlations were between Cooperation and Dominant (-0.63), between Management Focus and Dominant (+0.55), between Consensual and Dominant (-0.52), between Cooperation and Management Focus (-0.51), and between Empathy and Cooperation (+0.50).

Since the number of items in the Self and Observer questionnaires differ, the raw scale means and standard deviations in Table 1 and 3 are not directly comparable. The correlations among scales for the Observer questionnaire were slightly larger than for the Self version.

LEA Strategic Directions Questionnaire. The scale characteristics of the LEA-SDQ were evaluated in a sample of 3,871 members of senior management teams selected from 418 organizations. The sample was very heterogeneous, with selected organizations representing a wide range of industries and company sizes. The LEA-SDQs were used to aid managers in describing the leadership characteristics they felt were essential for future organizational success. Each was completed prior to a facilitated discussion session.

Raw score means, standard deviations, and ranges for each scale are provided in Table 5. Results were similar to those found for the LEA-Self and LEA-Observer questionnaires. Each scale demonstrated adequate variability as evidenced by large standard

[1] The coefficient of variation is equal to the standard deviation divided by the arithmetic mean.

deviations. Coefficients of variation ranged from .16 to .62 (mean = 0.32). Scale intercorrelations are provided in Table 6. Scale intercorrelations were very low, with a mean absolute correlation of 0.10 (SD = 0.07). The largest correlations were between Innovative and Structuring (-0.35) and between Cooperation and Dominant (-0.31).

Since the number of items on the Self and SDQ questionnaires differ, the raw scale means and standard deviations in Table 1 and 5 are not directly comparable. Differences in means between LEA-Observer scales (Table 3) and LEA-SDQ scales (Table 5) are comparable and reflect the differing tasks involved. In the former, raters are describing co-workers. In the latter, raters are describing desired leadership behaviors for the organization. LEA-SDQ standard deviations are smaller than corresponding LEA-Observer scales. This which may reflect greater agreement in rating ideal vs. actual behavior. LEA-SDQ correlations are also lower, which may reflect the impact of these smaller standard deviations.

LEA Role Expectations Questionnaire. The scale characteristics of the LEA-REQ were evaluated in a sample of 2,594 leaders describing the characteristics desired for specific positions. Three hundred sixty eight companies were represented. In addition, a wide range of position types were rated.

Raw score means, standard deviations, and ranges for each scale are provided in Table 7. Results were similar to those found for the LEA-Self and LEA-Observer questionnaires. Each scale demonstrated adequate variability as evidenced by large standard deviations. Coefficients of variation ranged from .20 to .67 (mean = 0.34). Scale intercorrelations are provided in Table 8. Scale intercorrelations were very low, with a mean absolute correlation of 0.12 (SD = 0.09). The largest correlations were between Cooperation and Dominant (-0.41) and between Structuring and Excitement (-0.36).

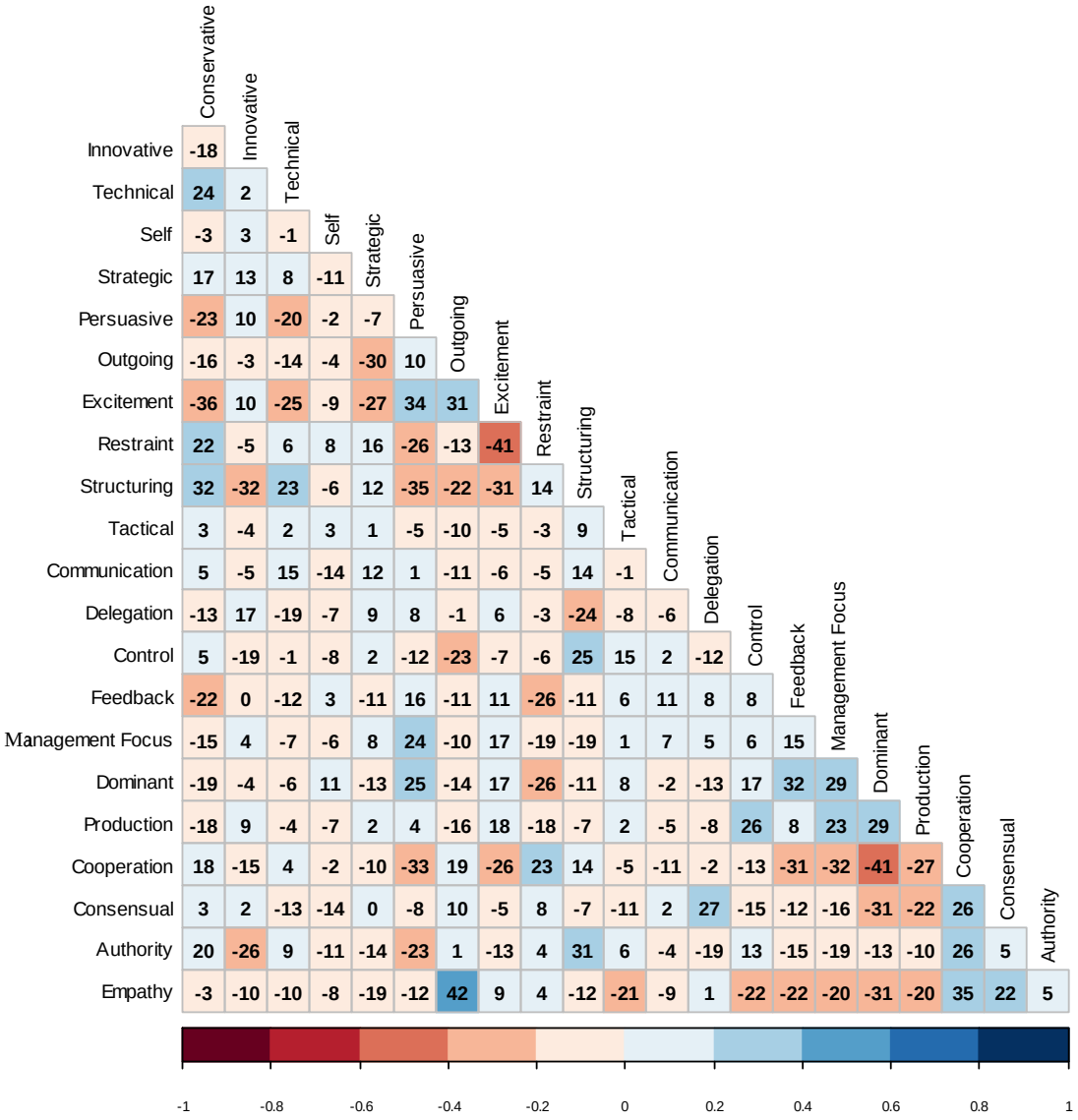
LEA Leadership Culture Questionnaire. The scale characteristics of the LEA-REQ were evaluated in a sample of 5,454 employees describing the leadership characteristics of 56 organizations. Organizations were primarily sampled from the information services, insurance, general manufacturing and utility industries. Raters came from all levels within organizations – from individual contributors to CEOs.

Raw score means, standard deviations, and ranges for each scale are provided in Table 9. Results were similar to those found for the LEA-Self and LEA-Observer questionnaires. Each scale demonstrated adequate variability as evidenced by large standard deviations. Coefficients of variation ranged from .23 to .49 (mean = 0.35). Scale intercorrelations are provided in Table 10. Scale intercorrelations were very low, with a mean absolute correlation of 0.13 (SD = 0.11). The largest correlations were between Dominant and Consensual (-0.50), between Dominant and Empathy (-0.45), between Consensual and Empathy (+0.44), between Dominant and Cooperation (-0.43) and between Innovative and Authority (-0.42).

Table 1
LEA Self Raw Score Means Standard Deviations and Ranges (n = 146,635)

Scale	***Mean***	***Standard Deviation***	***Range***	
Conservative	28.12	6.92	0	55
Innovative	26.79	9.40	0	55
Technical	35.39	9.19	0	55
Self	18.31	7.56	0	55
Strategic	34.36	8.81	0	55
Persuasive	21.73	9.98	0	55
Outgoing	23.55	8.89	0	55
Excitement	22.46	10.19	0	55
Restraint	26.10	9.02	0	55
Structuring	29.42	9.26	0	55
Tactical	26.57	6.15	0	53
Communication	31.16	7.41	0	55
Delegation	28.61	7.72	0	55
Control	30.17	7.16	0	55
Feedback	23.83	8.61	0	55
Management Focus	32.98	8.03	0	55
Dominant	21.08	8.50	0	55
Production	26.09	8.80	0	55
Cooperation	30.82	7.74	0	55
Consensual	29.66	7.47	0	55
Authority	29.09	8.90	0	55
Empathy	25.84	10.29	0	55

Table 2
LEA Self Raw Scale Intercorrelations (n = 146,635)



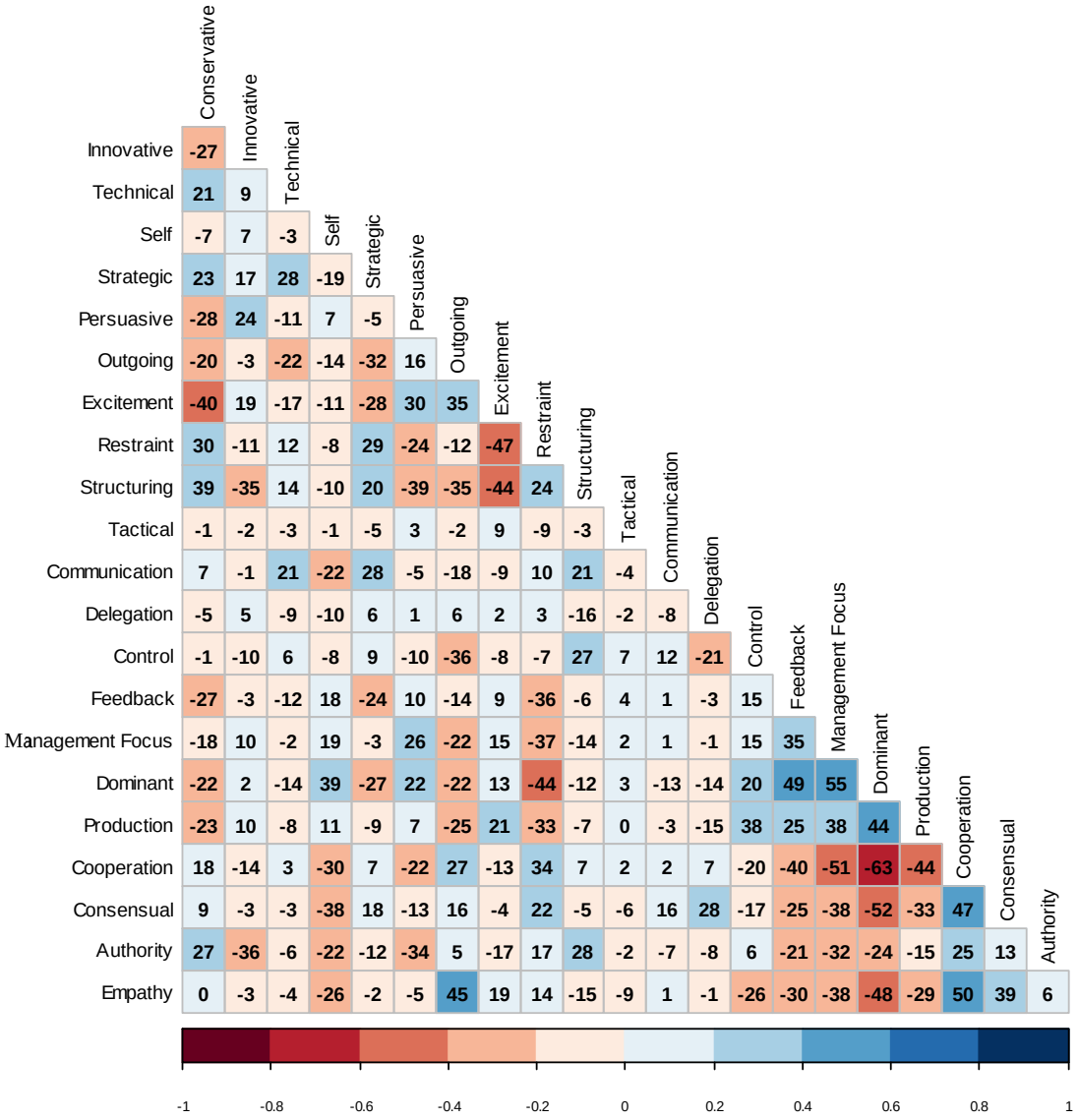
Key: Numbers represent the correlations between row and column variables. Correlations range from +1.00 (perfect positive correlation) to -1.00 (perfect negative correlation). Decimal points have been omitted by multiplying each correlation by 100. Darker blue shading indicates larger positive relationships. Darker red shading indicates larger negative (inverse) relationships.

Table 3

LEA Observer Raw Score Means Standard Deviations and Ranges (n = 485,846)

Scale	***Mean***	***Standard Deviation***	***Range***	
Conservative	22.45	7.25	0	45
Innovative	17.56	9.14	0	45
Technical	30.43	8.73	0	45
Self	20.22	8.03	0	45
Strategic	25.95	8.52	0	45
Persuasive	19.50	8.24	0	45
Outgoing	19.42	9.26	0	45
Excitement	17.68	9.76	0	45
Restraint	21.98	9.38	0	45
Structuring	23.80	9.20	0	45
Tactical	21.85	5.51	0	45
Communication	25.60	7.09	0	45
Delegation	22.68	7.71	0	45
Control	25.80	7.25	0	45
Feedback	20.94	8.50	0	45
Management Focus	23.42	9.42	0	45
Dominant	19.30	9.56	0	45
Production	20.50	8.23	0	45
Cooperation	21.98	8.28	0	45
Consensual	23.19	8.02	0	45
Authority	21.58	9.45	0	45
Empathy	18.72	10.22	0	45

Table 4
LEA Observer Raw Scale Intercorrelations (n = 485,846)



Key: Numbers represent the correlations between row and column variables. Correlations range from +1.00 (perfect positive correlation) to -1.00 (perfect negative correlation). Decimal points have been omitted by multiplying each correlation by 100. Darker blue shading indicates larger positive relationships. Darker red shading indicates larger negative (inverse) relationships.

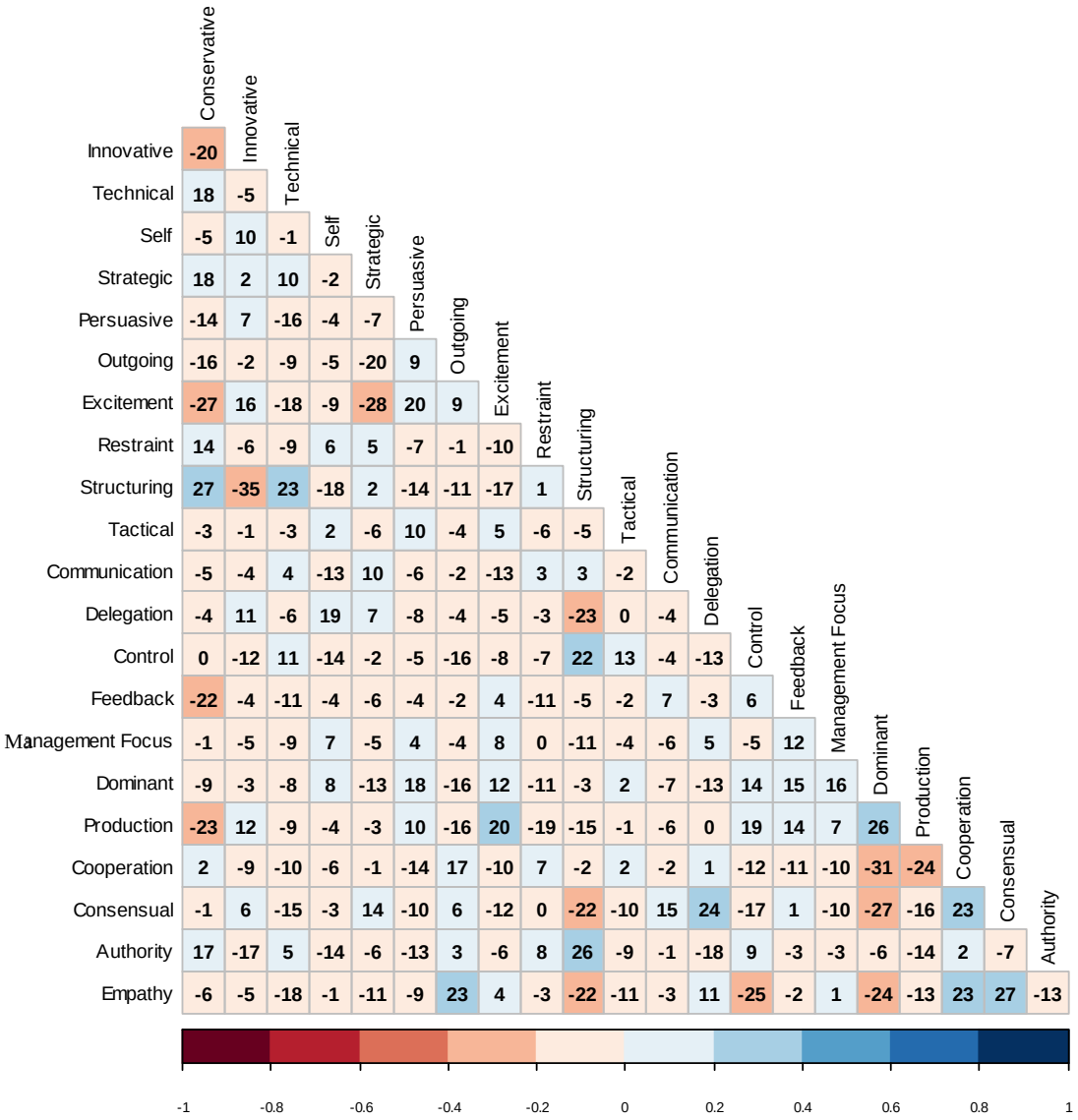
Table 5

LEA Strategic Directions Raw Score Means Standard Deviations and Ranges (n = 3,871)

Scale	***Mean***	***Standard Deviation***	***Range***	
Conservative	19.15	6.33	0	43
Innovative	23.38	7.79	0	45
Technical	25.18	7.70	2	45
Self	17.49	6.23	0	37
Strategic	34.24	5.64	10	45
Persuasive	20.73	7.15	0	45
Outgoing	10.14	5.80	0	44
Excitement	25.03	7.94	3	45
Restraint	21.38	6.54	0	42
Structuring	16.24	7.70	0	45
Tactical	24.71	5.32	8	40
Communication	28.15	5.97	0	45
Delegation	29.04	6.00	5	45
Control	23.60	6.54	0	45
Feedback	21.08	6.17	2	43
Management Focus	25.99	5.74	5	44
Dominant	15.84	6.70	0	41
Production	22.53	7.26	0	43
Cooperation	21.51	6.26	0	42
Consensual	29.72	6.36	2	45
Authority	11.25	7.01	0	41
Empathy	23.47	8.04	2	45

Table 6

LEA Strategic Directions Raw Scale Intercorrelations (n = 3,871)



Key: Numbers represent the correlations between row and column variables. Correlations range from +1.00 (perfect positive correlation) to -1.00 (perfect negative correlation). Decimal points have been omitted by multiplying each correlation by 100. Darker blue shading indicates larger positive relationships. Darker red shading indicates larger negative (inverse) relationships.

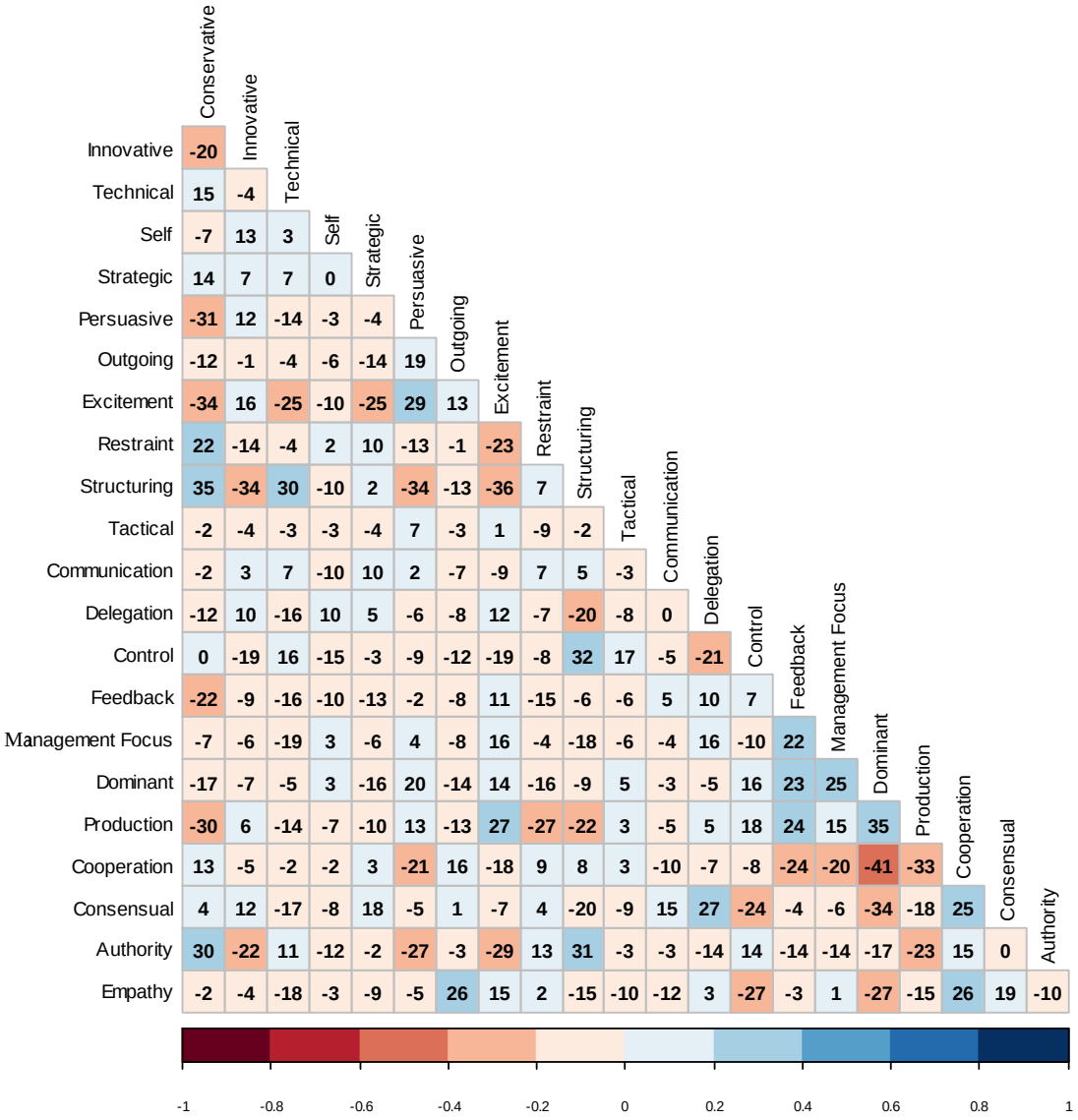
Table 7

LEA Role Expectations Raw Score Means Standard Deviations and Ranges (n = 2,594)

Scale	***Mean***	***Standard Deviation***	***Range***	
Conservative	21.16	6.77	2	40
Innovative	19.33	8.11	0	45
Technical	26.68	8.41	0	45
Self	15.73	6.44	0	38
Strategic	34.33	6.10	0	45
Persuasive	23.55	8.33	2	45
Outgoing	12.95	6.27	0	43
Excitement	22.37	8.63	0	45
Restraint	23.56	6.91	2	45
Structuring	19.59	8.65	0	43
Tactical	23.62	5.45	7	40
Communication	29.15	5.83	10	45
Delegation	26.74	6.45	6	45
Control	25.28	7.04	3	45
Feedback	19.05	6.82	0	42
Management Focus	26.24	6.50	2	45
Dominant	16.83	7.15	0	43
Production	21.54	7.73	0	43
Cooperation	19.99	6.95	0	41
Consensual	28.48	6.76	4	45
Authority	12.02	8.01	0	45
Empathy	23.20	7.71	2	45

Table 8

LEA Role Expectations Raw Scale Intercorrelations (n = 2,594)



Key: Numbers represent the correlations between row and column variables. Correlations range from +1.00 (perfect positive correlation) to -1.00 (perfect negative correlation). Decimal points have been omitted by multiplying each correlation by 100. Darker blue shading indicates larger positive relationships. Darker red shading indicates larger negative (inverse) relationships.

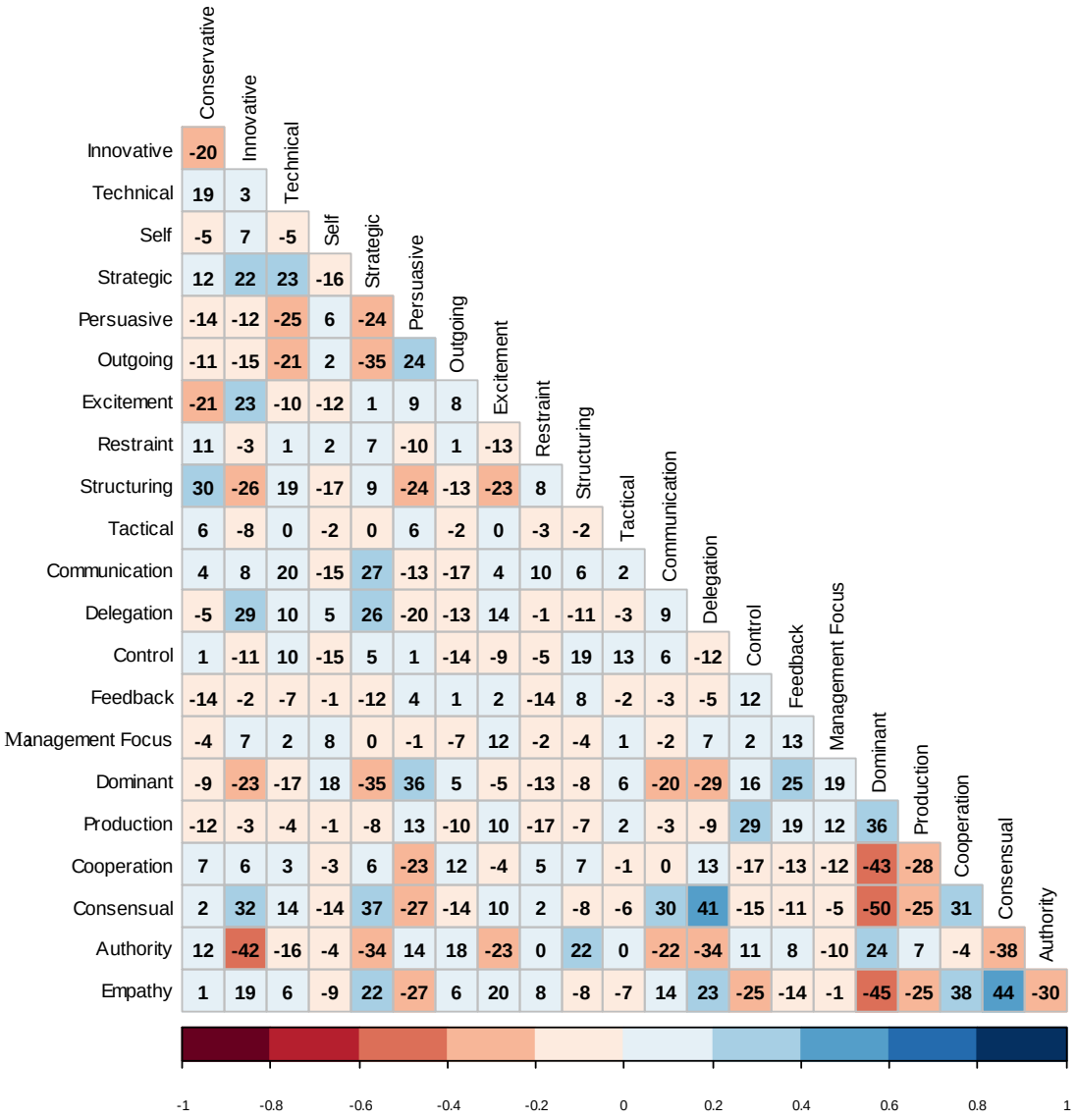
Table 9

LEA Leadership Culture Raw Score Means Standard Deviations and Ranges (n = 5,454)

Scale	***Mean***	***Standard Deviation***	***Range***	
Conservative	23.28	6.69	2	43
Innovative	16.05	7.93	0	43
Technical	27.33	8.12	0	45
Self	19.47	6.97	0	44
Strategic	25.05	8.05	0	45
Persuasive	20.45	7.89	0	44
Outgoing	15.58	7.55	0	42
Excitement	21.03	8.36	0	45
Restraint	18.86	6.94	0	44
Structuring	21.70	7.57	0	43
Tactical	24.04	5.45	5	43
Communication	24.54	6.32	4	43
Delegation	23.05	6.83	2	44
Control	23.77	6.25	3	45
Feedback	18.67	6.26	0	40
Management Focus	21.68	6.09	0	43
Dominant	19.68	8.68	0	45
Production	22.75	7.19	0	43
Cooperation	20.56	7.06	0	45
Consensual	23.51	8.21	0	45
Authority	22.34	9.97	0	45
Empathy	19.35	8.41	0	45

Table 10

LEA Leadership Culture Raw Scale Intercorrelations (n = 5,454)



Key: Numbers represent the correlations between row and column variables. Correlations range from +1.00 (perfect positive correlation) to -1.00 (perfect negative correlation). Decimal points have been omitted by multiplying each correlation by 100. Darker blue shading indicates larger positive relationships. Darker red shading indicates larger negative (inverse) relationships.

Translation Process

Each translated questionnaire is derived from its US English counterpart. Translation to a target language is completed by a professional translation firm working in tandem with a target language native speaking business professional trained in the LEA. The resulting translated questionnaire is then back-translated into US English and the original version and back-translated versions are evaluated by MRG subject matter experts for comparability. Questionable items are re-translated.

Once a translation has been finalized, it is fielded for a period and statistical item analyses are performed to assure that each item is operating as expected (i.e., congruent with the US version). Suspect items are candidates for retranslation.

Chapter 3: Reliability

Reliability refers to the stability or consistency of measurement over a variety of conditions. This section outlines evidence for the reliability of the LEA questionnaires.

LEA Self Questionnaire

Two separate studies were conducted to assess the reliability of the LEA Self Diagnostic Questionnaire. The test-retest method of assessing reliability was employed[2]. "Retest reliability shows the extent to which scores on a test can be generalized over different occasions; the higher the reliability the less susceptible the scores are to random daily changes in the condition of the examinee or the testing environment" (Anastasi, 1982, p.109).

In October 1991, the LEA questionnaire was administered twice to a sample of 44 people. A 14-day interval separated the first and second test administrations. The individuals were not provided with test feedback until both administrations were completed. The two-week interval was chosen because: (1) it was long enough to minimize memory or practice effects; (2) it was short enough to minimize the effects of real change in leadership orientation and approach on the part of subjects. In November 1997, the study was repeated with a different sample of 35 people. Again, a two-week inter-trial interval was selected.

To test for consistency and stability in scores from the first to the second administration, Pearson Product-Moment Correlations were calculated for each of the 22 variables measured by the questionnaire. Correlations were calculated separately for each study, and the results were then combined. The results are reported in Table 11.

In the first study, the test-retest reliability coefficients range from 0.63 to 0.90. The average test-retest coefficient was 0.77. In the second study, the test-retest reliability coefficients range from 0.53 to 0.91, with an average test-retest coefficient of 0.80. Finally, the combined results produced test-retest reliability coefficients ranging from 0.59 to 0.86, with an average test-retest coefficient of 0.78.

A third reliability study with variable intervals between test administrations was conducted in 2018 using data collected between 2001 and 2018. A total of 68 individuals who completed the LEA Self questionnaire twice were sampled from the MRG database. The inter-trial interval ranged from 14 to 28 days with a median interval of 21 days. The test-retest coefficients ranged from 0.61 to 0.92, with a mean of 0.82 (see Table 12 for full set of results).

In order for the LEA Self Questionnaire to be reliable, high positive correlations should be evident. Based on the results of these two studies, the LEA-Self questionnaire appears to demonstrate excellent reliability. These results are also highly favorable when compared with other popular multi-scale psychological instruments.

[2] Other methods of assessing reliability exist. Internal reliability statistics (e.g., split half, coefficient alpha) are based on the average correlation among items. Given the semi-ipsative nature of the test format and the subsequent partial linear dependencies among items, these methods were deemed inappropriate for assessing reliability with LEA questionnaires. Parallel forms reliability, another method of estimating reliability, involves the creation of two separate but equivalent versions of the questionnaire. We deemed this impractical for our purposes.

Table 11
LEA Self Test-Retest Reliability Coefficients with 2 Week Inter-Trial Intervals

Scale	***Study 1 (1991) N=44***	***Study2 (1997) N=35***
Conservative	0.74	0.82
Innovative	0.81	0.86
Technical	0.78	0.69
Self	0.67	0.80
Strategic	0.90	0.76
Persuasive	0.82	0.83
Outgoing	0.74	0.89
Excitement	0.83	0.90
Restraint	0.71	0.87
Structuring	0.80	0.91
Tactical	0.70	0.55
Communication	0.77	0.63
Delegation	0.87	0.81
Control	0.78	0.87
Feedback	0.64	0.88
Management Focus	0.87	0.84
Dominant	0.77	0.85
Production	0.87	0.73
Cooperation	0.78	0.77
Consensual	0.63	0.53
Authority	0.65	0.86
Empathy	0.76	0.84

Table 12
LEA Self Test-Retest Reliability Coefficients with 2 to 4 Week Inter-Trial Intervals

Scale	***Study 3 (2018) N=68***
Conservative	0.82
Innovative	0.83
Technical	0.70
Self	0.87
Strategic	0.89
Persuasive	0.88
Outgoing	0.82
Excitement	0.86
Restraint	0.92
Structuring	0.85
Tactical	0.72
Communication	0.61
Delegation	0.82
Control	0.77
Feedback	0.78
Management Focus	0.77
Dominant	0.84
Production	0.82
Cooperation	0.83
Consensual	0.87
Authority	0.84
Empathy	0.83

LEA Observer Questionnaire

When an instrument provides observer ratings, consistency across raters, or inter-rater reliability[3] is important (Dunn, 1989). For 360-degree data, the issue of consistency can become quite complex (Tornow, 1993). A leader may display different qualities with different individuals. This may be due to the role-specific characteristics of the behavior and/or qualities of the relationship with the observer. In addition, observers may have different opportunities to observe behaviors based on their positions and functions within an organization. For example, a direct report may have more of an opportunity to observe the empathy and feedback behavior of a boss, when compared to that boss's superior. An individual may display more empathy with a friend than an acquaintance.

To further complicate matters, individuals may differ in the degree to which they behave consistently across situations and relationships. Some individuals may display a high degree of behavioral consistency. In this case, one would expect a fairly high consistency among observer ratings. The efficacy of such behavioral consistency will depend on the particular behaviors displayed. Other individuals may display behaviors differentially across rater constituencies. The latter individuals may actually be more or less effective because of this specificity. However, we would expect lower consistency in the ratings of observers. Finally, low inter-rater consistency may reflect a situation where observers have perceived a lack of predictability in the actions of the person being rated. This may have negative consequences for the person being rated and represent a developmental opportunity.

In sum, differences in observer ratings may reflect real differences in behavior in addition to error variance. In such circumstances, perfect inter-rater reliability would not be possible or desirable. At the same time, a complete lack of inter-rater reliability would imply raters could not agree on anything about the person being rated. This would be very undesirable in a measurement device that purported to measure significant aspects of the individual.

Given the preceding discussion, our hopes and expectations are that inter-rater reliabilities for LEA observer ratings will be moderate. We expect differences among raters, based on differences in both their perceptions and experiences. At the same time, there should be sufficient consistency in ratings to uncover trends in the behavior of the individual being rated.

Extensive inter-rater reliability studies of the LEA Observer Questionnaire were completed in the winter of 1997. Cases were sampled from existing MRG databases and represent a wide range of companies, management levels, business functions, and geographic locations[4]. Intra-class correlation coefficients (Shrout & Fleiss, 1979; McGraw & Wong, 1996) were used to assess inter-rater reliability.

There are many forms of the intra-class correlation coefficient. Using the notation of Shrout & Fleiss (1979), the ICC(1,k) coefficients were employed. This coefficient provides the reliability for the mean of k ratings, where k is the number of raters. It can be used when each subject is rated by the same number of raters and raters are sampled from a larger

[3] The term ―inter-rater agreement usually refers to cases where raters make categorical judgments (e.g., high vs. low). Since LEA scales are continuous measures, the term is not used in this section.
[4] Although results are reported separately for Boss, Peer, and Direct Report ratings, there is a significant degree of overlap in the companies sampled for each.

population of possible raters. A coefficient of 1 would represent perfect reliability (consistency), while a coefficient of 0 would represent zero reliability (consistency).

It is important to understand that the ICC(1,K) measures the inter-rater reliability of averaged ratings, rather than individual ratings. Thus an ICC(1,3) would represent the degree of consistency between the averaged ratings of one set of three raters and the averaged ratings of a second set of three raters. The larger the number of raters, the higher the reliability is likely to be.

Boss Ratings. One thousand four hundred fifty eight individuals, from 1,458 organizations, were each rated by two bosses. No boss rated more than one individual. This yielded a total of 2,916 Boss LEA Observer Questionnaires. Reliability coefficients for the average of two raters were calculated for each of the 22 LEA sets (see Table 13). The Spearman-Brown formula was then used to estimate the expected inter-rater reliabilities for four raters and six raters. Inter-rater reliabilities ranged from 0.31 to 0.68 (mean = 0.54) for 2 raters. Inter-rater reliabilities ranged from 0.47 to 0.81 (mean = 0.70) for four raters, and from 0.57 to 0.86 (mean = 0.77) for six raters.

Peer Ratings. One thousand four hundred seventy nine individuals, from 1,479 organizations, were each rated by four peers. No peer rated more than one individual. This yielded a total of 5,916 Peer LEA Observer Questionnaires. Reliability coefficients for the average of four raters were calculated for each of the 22 LEA sets (see Table 14). The Spearman-Brown formula was then used to estimate the expected inter-rater reliabilities for six raters and eight raters. Inter-rater reliabilities ranged from 0.34 to 0.87 (mean = 0.64) for four raters. Inter-rater reliabilities ranged from 0.44 to 0.84 (mean = 0.72) for six raters, and from 0.51 to 0.88 (mean = 0.77) for eight raters.

Direct Report Ratings. One thousand four hundred eighteen individuals, from 1,418 organizations, were each rated by four direct reports. No direct report rated more than one individual. This yielded a total of 5,672 Direct Report LEA Observer Questionnaires. Reliability coefficients for the average of four raters were calculated for each of the 22 LEA sets (see Table 14). The Spearman-Brown formula was then used to estimate the expected inter-rater reliabilities for six raters and eight raters. Inter-rater reliabilities ranged from 0.34 to 0.77 (mean = 0.62) for four raters. Inter-rater reliabilities ranged from 0.44 to 0.83 (mean = 0.71) for 6 raters, and from 0.51 to 0.87 (mean = 0.76) for eight raters.

Conclusions. Given the complexities of the 360-degree data described above, the inter-rater reliabilities for boss, peer, and direct report LEA questionnaires appear to be excellent. As expected, as the number of raters combining their ratings increases, the reliability of these combined ratings increases. With the number of raters used in these studies (two bosses, four peers, four direct reports), acceptable levels of reliability can be achieved.

Table 13
Inter-Rater Reliability for Boss LEA Observer Ratings

	Number of Raters		
Scale	***2***	***4***	***6***
Authority	0.58	0.73	0.81
Communication	0.34	0.51	0.61
Consensual	0.50	0.67	0.75
Conservative	0.54	0.70	0.78
Control	0.54	0.70	0.78
Cooperation	0.56	0.72	0.79
Delegation	0.39	0.56	0.66
Dominant	0.66	0.80	0.85
Empathy	0.64	0.78	0.84
Excitement	0.68	0.81	0.86
Feedback	0.58	0.73	0.81
Innovative	0.59	0.74	0.81
Management Focus	0.60	0.75	0.82
Outgoing	0.59	0.74	0.81
Persuasive	0.48	0.65	0.73
Production	0.58	0.73	0.81
Restraint	0.68	0.81	0.86
Self	0.39	0.56	0.66
Strategic	0.53	0.69	0.77
Structuring	0.63	0.77	0.84
Tactical	0.31	0.47	0.57
Technical	0.49	0.66	0.74
Mean	0.54	0.70	0.77
Standard deviation	0.10	0.09	0.08

Entries are intra-class correlation coefficients (ICCs). ICCs for 2 raters are based on the ratings of 1,458 individuals by 2,916 bosses. ICCs for 4 raters and 6 raters are derived from the 2 rater results using the Spearman-Brown prophesy formula.

Table 14
Inter-Rater Reliability for Peer LEA Observer Ratings

	Number of Raters		
Scale	***4***	***6***	***8***
Authority	0.68	0.76	0.81
Communication	0.43	0.53	0.60
Consensual	0.60	0.69	0.75
Conservative	0.60	0.69	0.75
Control	0.58	0.67	0.73
Cooperation	0.67	0.75	0.80
Delegation	0.49	0.59	0.66
Dominant	0.76	0.83	0.86
Empathy	0.73	0.80	0.84
Excitement	0.77	0.83	0.87
Feedback	0.69	0.77	0.82
Innovative	0.65	0.74	0.79
Management Focus	0.71	0.79	0.83
Outgoing	0.71	0.79	0.83
Persuasive	0.59	0.68	0.74
Production	0.69	0.77	0.82
Restraint	0.78	0.84	0.88
Self	0.52	0.62	0.68
Strategic	0.62	0.71	0.77
Structuring	0.71	0.79	0.83
Tactical	0.34	0.44	0.51
Technical	0.65	0.74	0.79
Mean	0.64	0.72	0.77
Standard deviation	0.11	0.10	0.09

Entries are intra-class correlation coefficients (ICCs). ICCs for 4 raters are based on the ratings of 1,479 individuals by 5,916 peers. ICCs for 4 raters and 6 raters are derived from the 4 rater results using the Spearman-Brown prophesy formula.

Table 15
Inter-Rater Reliability for Direct Report LEA Observer Ratings

	Number of Raters		
Scale	***4***	***6***	***8***
Authority	0.67	0.75	0.80
Communication	0.50	0.60	0.67
Consensual	0.55	0.65	0.71
Conservative	0.58	0.67	0.73
Control	0.51	0.61	0.68
Cooperation	0.62	0.71	0.77
Delegation	0.48	0.58	0.65
Dominant	0.76	0.83	0.86
Empathy	0.69	0.77	0.82
Excitement	0.77	0.83	0.87
Feedback	0.66	0.74	0.80
Innovative	0.65	0.74	0.79
Management Focus	0.67	0.75	0.80
Outgoing	0.71	0.79	0.83
Persuasive	0.59	0.68	0.74
Production	0.66	0.74	0.80
Restraint	0.73	0.80	0.84
Self	0.48	0.58	0.65
Strategic	0.62	0.71	0.77
Structuring	0.73	0.80	0.84
Tactical	0.34	0.44	0.51
Technical	0.66	0.74	0.80
Mean	0.62	0.71	0.76
Standard deviation	0.11	0.10	0.09

Entries are intra-class correlation coefficients (ICCs). ICCs for 4 raters are based on the ratings of 1,418 individuals by 5,672 peers. ICCs for 4 raters and 6 raters are derived from the 4 rater results using the Spearman-Brown prophesy formula.

Chapter 4: Validity

Validity refers to the degree to which an instrument measures what it purports to measure. Evidence for the validity of the LEA questionnaires is described in this section.

Construct Validity

The LEA and organizational level. Theoretically, one would expect to find differences in an individual's leadership style and behavior as a function of their level of responsibility within an organization. From a validity standpoint, such differences should be reflected in the measurement of LEA leadership sets. To examine this, the LEA Self Diagnostic Questionnaire responses of 25,142 individuals representing seven management levels were compared.

With seven management levels and 22 leadership sets, there are 462 possible comparisons between groups. Since this number of comparisons would be difficult to present and synthesize using univariate approaches (e.g. ANOVA), a multivariate summarization technique called descriptive discriminant analysis (Huberty, 1994; Thompson, Diamond, McWilliam, Snyder, & Snyder, 2005) was employed.

In this approach, linear combinations of predictor variables are created that maximize the discrimination among groups. One interprets these linear combinations (called canonical variates) by examining their correlations with the original predictor variables. The means of the groups on the new canonical variates can be plotted to provide a summary of group differences.

For this analysis, the 22 LEA set raw scores represented the predictor variables and the management level classification represented the predicted variable. Sample sizes for each management level are given in Table 16.

Table 16
Management Level Sample Sizes

Group	***Frequency***	***Percent***
President/CEO	788	3.2
Senior or Executive VP	1,619	6.6
Division Head/Vice Pres.	3,514	14.4
Department/Unit Manager	11,623	47.5
Supervisor/Foreman	2,538	10.4
Professional/Technical	3,810	15.6
Non-management	562	2.3

The first and second canonical variates accounted for 75% and 15% of the variance between groups respectively. Correlations of the original 22 LEA variables with the two canonical variates are provided in Table 17.

An examination of these correlations suggests that individuals scoring higher on the first canonical variate (CAN1) tended to score higher on Management Focus, Persuasive, Delegation, Production, and score lower on Cooperation, Structuring, and Technical. Similarly, higher scores on the second canonical variate (CAN2) were associated with higher scores on Strategic and Self, and lower scores on Authority.

Table 17
Pooled Within Groups Canonical Structure for Management Level (n = 24,545)

Scale	***Can1***	***Can2***
Conservative	-0.20	-0.11
Innovative	0.24	0.21
Technical	-0.40	0.13
Self	-0.10	0.34
Strategic	0.24	0.41
Persuasive	0.52	0.19
Outgoing	-0.29	0.18
Excitement	0.25	0.05
Restraint	-0.16	-0.03
Structuring	-0.41	-0.29
Tactical	-0.10	0.03
Communication	-0.03	0.00
Delegation	0.46	-0.21
Control	0.03	-0.09
Feedback	0.15	-0.15
Management Focus	0.51	0.05
Dominant	0.22	-0.00
Production	0.33	-0.08
Cooperation	-0.45	-0.15
Consensual	0.01	-0.08
Authority	-0.33	-0.72
Empathy	-0.24	-0.17

Group means for the first two canonical variables are presented in Table 18 and plotted in Figure 2.

Table 18
Group Means for Management Level (n = 24,454)

Group	*Can1*	*Can2*
President/CEO	0.80	0.17
Senior or Executive VP	0.71	0.18
Division Head/Vice Pres.	0.46	0.03
Department/Unit Manager	0.05	-0.09
Supervisor/Foreman	-0.49	-0.29
Professional/Technical	-0.56	0.36
Non-management	-1.08	-0.16

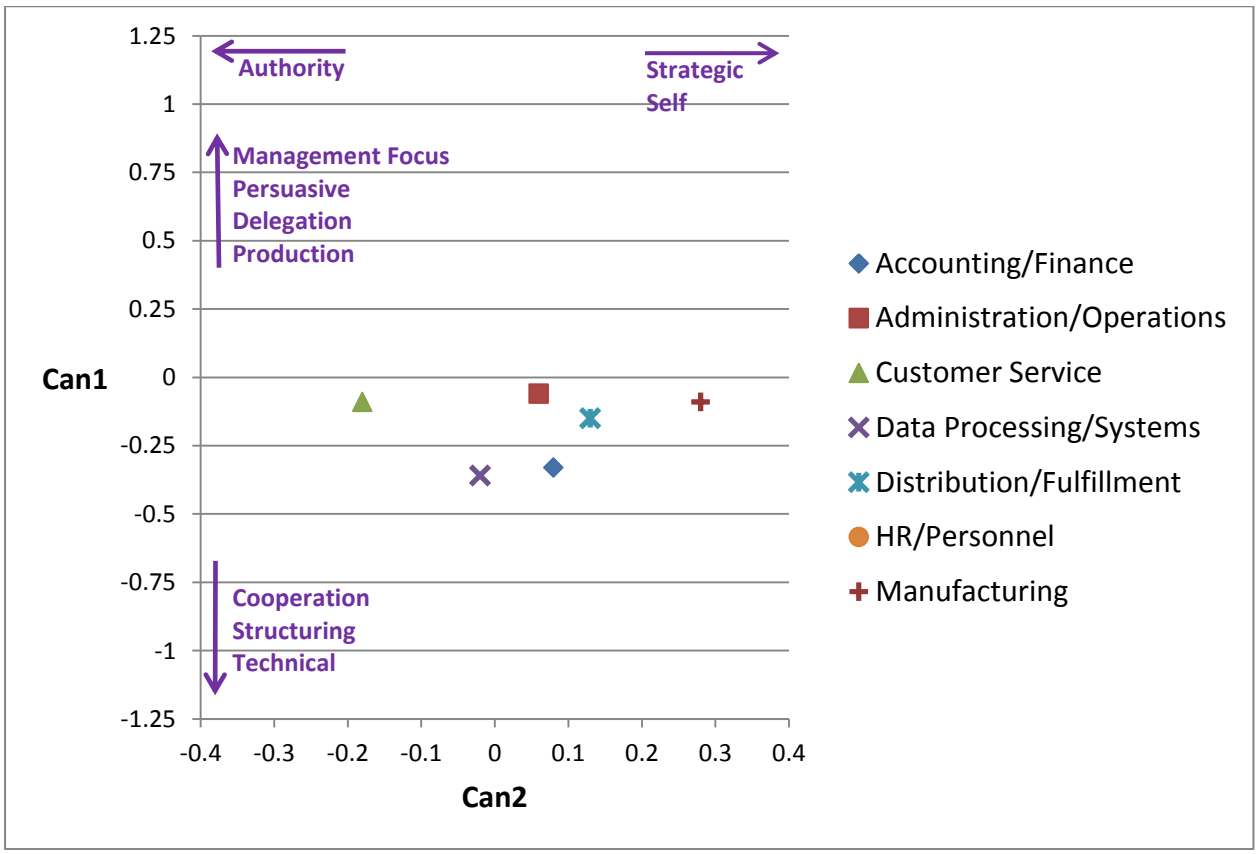


Figure 2. Management Level Group Means on LEA-Self Canonical Variates (n = 24,454)

Higher scores on CAN1 are associated with higher Management Focus, Persuasive, Delegation, and Production scores, and lower Cooperation, Structuring, and Technical scores. Higher scores on CAN2 are associated with higher Strategic and Self scores, and lower Authority scores.

As can be seen from Figure 2, very clear and interpretable group differences were obtained. As one moves from lower to higher organizational levels, one tends to demonstrate greater Management Focus, Persuasive, Delegation, and Production (CAN1). At the same

time, one tends to demonstrate less Cooperation, Structuring and Technical. As one moves from higher to lower levels, the reverse occurs.

The supervisor/foreman group tends to have higher Authority scores and lower Strategic and Self scores than other groups (CAN2). Conversely, the Professional /Technical group tends to have higher scores on Strategic and Self, and lower scores on Authority when compared with other groups. Other groups fall between these two poles, again lined up by organizational level.

The ability of the LEA Self Diagnostic Questionnaire (which does not ask questions about management level) to correctly position groups by organizational level is very strong evidence of construct validity.

The LEA and job function. We would expect that an individual's leadership behavior would not only differ by management level, but also by job function. Again, these differences should be reflected in the measurement of LEA sets. Differences in LEA Self Diagnostic Questionnaires by job function were analyzed using the methodology described in the previous section. The same 24,454 individuals were employed.

The 22 LEA set raw scores were used as predictor variables, and a nine-level job function classification was used as the predicted variable in a descriptive discriminant analysis. Sample sizes for job functions are given in Table 19.

Table 19
Job Function Sample Sizes

Group	*Frequency*	*Percent*
Accounting/Finance	2624	10.7
Administration/Operations	6262	25.6
Customer Service	1787	7.3
Data Processing/Systems	1510	6.2
Distribution/Fulfillment	545	2.2
HR/Personnel	2305	9.4
Manufacturing	1159	4.7
Marketing/Sales	4781	19.6
Technical/Engineering/Research	3481	14.2

The first and second canonical variates accounted for 55% and 18% of the variance between groups respectively. Both percentages were significantly different from zero at the 0.0001 level. Correlations of the original 22 LEA variables with the two canonical variates are provided in Table 20.

An examination of these correlations suggests that individuals that scored higher on the first canonical variate (CAN1) tended to score higher on Persuasive and Excitement and score lower on Structuring. Similarly, higher scores on the second canonical variate (CAN2) were associated with higher scores on Dominant and Structuring, and lower scores on Empathy and Outgoing.

Table 20
Pooled Within Groups Canonical Structure for Job Function (n = 24,545)

Scale	***Can1***	***Can2***
Conservative	-0.20	0.30
Innovative	0.05	-0.10
Technical	-0.33	-0.14
Self	-0.06	-0.18
Strategic	-0.36	-0.13
Persuasive	0.83	-0.01
Outgoing	0.24	-0.45
Excitement	0.54	-0.11
Restraint	-0.32	0.07
Structuring	-0.47	0.42
Tactical	-0.04	0.14
Communication	0.04	0.06
Delegation	0.00	-0.10
Control	0.05	0.23
Feedback	0.22	0.17
Management Focus	0.28	-0.02
Dominant	0.32	0.43
Production	0.25	0.18
Cooperation	-0.30	-0.17
Consensual	-0.09	-0.17
Authority	-0.14	0.16
Empathy	-0.01	-0.69

Group means for the first two canonical variates are presented in Table 21 and plotted in Figure 3.

Table 21
Group Means for Job Function (n = 24,454)

Group	***Can1***	***Can2***
Accounting/Finance	-0.33	0.08
Administration/Operations	-0.06	0.06
Customer Service	-0.09	-0.18
Data Processing/Systems	-0.36	-0.02
Distribution/Fulfillment	-0.15	0.13
HR/Personnel	0.12	-0.68
Manufacturing	-0.09	0.28
Marketing/Sales	0.68	0.11
Technical/Engineering/Research	-0.40	0.07

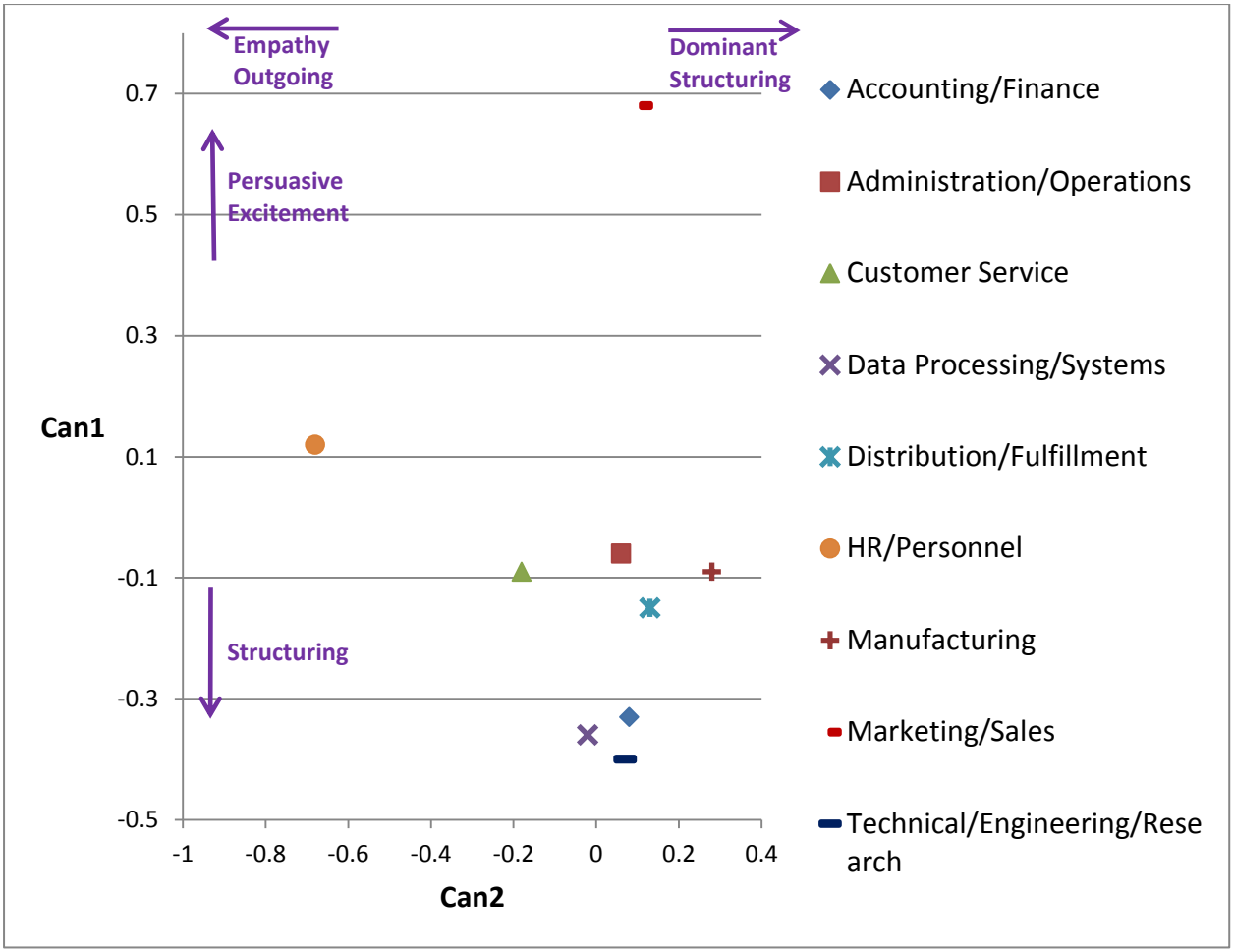


Figure 3. Job Function Group Means on LEA-Self Canonical Variates (n = 24,454)

Higher scores on CAN1 are associated with higher Persuasive and Excitement scores and lower Structuring scores. Higher scores on CAN2 are associated with higher Dominant and Structuring scores and lower Empathy and Outgoing scores.

Examination of Figure 3 suggests that job functions fall roughly into four clusters based on LEA-Self scores. Both Marketing/Sales and HR/Personnel form separate and distinct clusters. Administration/Operations, Customer Service, Manufacturing, and Distribution/Fulfillment form a cluster. Accounting/Finance, Data Processing/Systems, and Technical/Engineering/Research also form a cluster.

As can be seen from the figure, clear and interpretable group differences were obtained. For example, the Marketing/Sales group tended to be much higher on the Persuasive and Excitement sets and lower on the Structuring set than groups describing other job functions. The HR/Personnel group tended to be much higher on the Empathy and Outgoing sets and lower on the Dominant set than other functional groups. The Accounting/Finance – Data Processing/Systems – Technical/Engineering/Research cluster tended to be higher on Structuring and lower on Persuasive and Excitement than other groups. The Customer Service group tended to have higher Empathy and Outgoing scores and lower Dominant and Structuring scores than all other groups except HR/Personnel.

The results of the descriptive discriminant analysis summarized in Figure 3 again provide strong evidence of the construct validity of the LEA questionnaire.

Relationships Among Rater Groups. Another method of examining the construct validity of an instrument is to assess its convergent and discriminant validity. Basically, an instrument demonstrates convergent validity when it correlates with other measures that theory suggests it should correlate with. Conversely, an instrument demonstrates discriminant validity when it does not correlate with other measures that theory suggests it should not correlate with.

A common method of displaying this type of validity information is the multitrait-multimethod (MTMM) matrix (Campbell & Fiske, 1959). The correlations among several traits measured by several methods are presented in a table. Examination of these correlations provides information about the convergent and discriminant validity of the measurement process.

To examine the convergent and discriminant validity of the LEA questionnaires, a sample of 12,397 individuals who completed the LEA Self Questionnaire and who were rated by superiors, peers, and direct reports on the LEA Observer Questionnaire was studied. The ratings of 15,272 bosses, 48,274 peers, and 48,215 direct reports were available. Individuals were included only if self, boss, peer, and direct report ratings were all available.

For each individual, observer ratings were collapsed into three separate mean profiles (one for each rater group)[5]. Since there are 22 LEA sets, this resulted in 22 self scores, 22 mean boss scores, 22 mean peer scores, and 22 mean direct report scores for each individual. The MTMM matrix consists of the correlations among these 88 variables. The four rater groups (self, boss, peer, direct report) represent the methods. The 22 LEA sets represent the traits. With 88 variables, the matrix contains 3,838 unique correlations. These are provided in Appendix D.

Numerous methods have been proposed for analyzing MTMM matrices (Schmitt, Coyle, & Saari, 1997). These include ANOVA, structural equation models, three mode factor analysis, and principal components analysis. Given the complexity of an MMTM matrix with four methods and 22 traits, the original evaluative criteria proposed by Campbell & Fiske (1959) were adopted. Each of the criteria are applied and evaluated below:

1. Correlations between the same LEA sets measured by different observer groups should be statistically significant and high enough to warrant further consideration. For example, the correlation between self-rated Excitement and boss-rated Excitement should be statistically significant and relatively high. Before proceeding, we need to address the term "relatively high". Observers had no formal training in rating procedures and a vast majority would be considered naïve raters, subject to a variety of rating biases. In addition, since leader/managers came from a wide variety of settings (from the highest level down to entry level supervision and from highly varied job functions and industries), one might expect a great deal of error variance in the rating process[6]. Taken together, we would expect significant attenuation of these

[5] The median number of raters per individual was nine (1 boss, 4 peers, and 4 direct reports).
[6] Bernardin (1986), Farh, Cannella & Bedeian (1991), and Castañeda & Nahavandi (1991) have described relative differences between classes of observers in providing ratings, and the differential validities which can be obtained as a result.

correlations. The correlation coefficients (also called validities) are provided in Table 22. Each of the validities was significant at the 0.01 level, with a mean of 0.39 (SD = 0.12). The fact that the reported validities were this high, given the factors discussed, argues forcefully for the convergent validity of the LEA self and observer questionnaires.

2. Correlations between the same LEA sets measured by different observer groups should be higher than the correlations between different LEA sets measured by different observer groups. For example, the correlation between self-rated Excitement and boss-rated Excitement should be higher than the correlation between self-rated Excitement and boss-rated Dominant. The required correlations are provided in Appendix D as Table D5 through D10. The correlations between the same LEA sets measured by different observer groups (i.e. validities) are underlined. The correlations between different LEA sets measured by different observer groups are not underlined. As can be seen, this validity criterion is easily met by the data (i.e., with rare exception, each validity is larger than any other correlation in the same row or column).

3. Correlations between the same LEA sets measured by different observer groups should be higher than the correlations between different LEA sets measured by the same observer group. For example, the correlation between self-rated Excitement and boss-rated Excitement should be higher than the correlation between self-rated Excitement and self-rated Dominant. The validities are provided in Table 21. The remaining correlations are provided in Table D1 through D4 in Appendix D. Again, the data conform to the pattern expected from construct validity.

4. A similar pattern of intercorrelations should be apparent in the LEA set intercorrelations for each rater group. For example, the pattern of correlations among the 22 LEA sets for self ratings should be similar to the pattern of correlations among the 22 LEA sets for boss ratings. In particular, Tables D1 through D4 should evidence similar highs and lows. Again, the expected pattern was strongly obtained. The correlation between corresponding elements of the self intercorrelation matrix and boss intercorrelation matrix was 0.93. The correlation between corresponding elements of the boss intercorrelation matrix and the peer intercorrelation matrix was 0.98. Other comparisons fell between these two figures.

To summarize, evidence from the MTMM matrix suggests that the LEA Self Diagnostic Questionnaire and the LEA Observer questionnaire demonstrate good convergent and discriminant validity.

Table 22
Correlations Between Rater Groups on Corresponding LEA Scales (n = 12,297)

Group 1	Self	Self	Self	Boss	Boss	Peer		
Group 2	Boss	Peer	Direct Report	Peer	Direct Report	Direct Report	Mean	Std
Conservative	0.28	0.33	0.31	0.46	0.38	0.47	0.37	0.08
Innovative	0.34	0.38	0.39	0.47	0.39	0.48	0.41	0.05
Technical	0.31	0.38	0.36	0.47	0.35	0.48	0.39	0.07
Self	0.17	0.20	0.18	0.37	0.27	0.36	0.26	0.09
Strategic	0.33	0.37	0.34	0.46	0.38	0.47	0.39	0.06
Persuasive	0.32	0.39	0.38	0.42	0.33	0.46	0.38	0.05
Outgoing	0.39	0.45	0.42	0.55	0.49	0.58	0.48	0.07
Excitement	0.50	0.58	0.55	0.63	0.57	0.67	0.58	0.06
Restraint	0.46	0.53	0.51	0.59	0.51	0.63	0.54	0.06
Structuring	0.39	0.46	0.46	0.55	0.47	0.57	0.48	0.07
Tactical	0.11	0.16	0.14	0.21	0.15	0.22	0.17	0.04
Communication	0.14	0.17	0.19	0.27	0.19	0.29	0.21	0.06
Delegation	0.17	0.21	0.24	0.32	0.27	0.35	0.26	0.07
Control	0.24	0.28	0.29	0.39	0.31	0.40	0.32	0.06
Feedback	0.34	0.43	0.42	0.47	0.39	0.52	0.43	0.06
Management Focus	0.29	0.32	0.29	0.55	0.45	0.56	0.41	0.13
Dominant	0.40	0.45	0.43	0.59	0.50	0.62	0.50	0.09
Production	0.35	0.40	0.40	0.50	0.43	0.55	0.44	0.07
Cooperation	0.32	0.40	0.36	0.47	0.35	0.49	0.40	0.07
Consensual	0.21	0.26	0.26	0.41	0.32	0.42	0.31	0.09
Authority	0.31	0.38	0.35	0.46	0.40	0.54	0.41	0.08
Empathy	0.44	0.48	0.47	0.58	0.50	0.60	0.51	0.06
Mean	0.31	0.36	0.35	0.46	0.38	0.49		
Std	0.10	0.11	0.11	0.11	0.11	0.11		

Relationship with other instruments. Relationships between the LEA Self Diagnostic Questionnaire and several personality and cognitive assessment instruments were evaluated using data collected by a North American psychological consulting firm[7]. Four hundred sixty-four individuals in the United States and Canada completed the LEA and one or more of the instruments listed below as part of ongoing screening or organizational development activities.

- Sixteen Personality Factors Questionnaire (16PF; Cattell & Mead, 2008)
- California Psychological Inventory (CPI; Gough & Bradley, 1996)
- Myers-Briggs Type Indicator (MBTI; Myers, McCaulley, Quenk, & Hammer, 2003)
- Wesman Personnel Classification Test (WPCT; Wesman, 1965)

[7] MRG wishes to acknowledge William Croom, Ph.D. and William Croom Associates for providing the data described in this section.

- Individual Directions Inventory (IDI; Kabacoff, 2014).

Individuals represented a wide variety of industries, management levels, and job functions. Twenty-two percent completed all six instruments, 24% completed five instruments, 29% completed four instruments, 21% completed three instruments, and 4% percent completed two instruments. In general, the higher the level of responsibility involved, the greater the number of instruments completed.

LEA and IDI variables were recorded as percentile rank scores. CPI variables were recorded as T scores. 16PF variables were recorded as sten scores. MBTI variables were recorded as transformed scores[8] and WPCT variables were recorded as raw scores.

In the design of the LEA, leadership sets were not defined as personality variables. However, personality features can affect the selection and use of leadership sets. Therefore, we expect small to moderate correlations between various LEA sets and personality indicators. In addition, we expect leadership sets to be relatively independent of cognitive abilities. Therefore, we expected zero or very small correlations between LEA sets and cognitive variables.

Correlations between the LEA and each of the other assessment instruments are provided in Appendix E. Given the ordinal nature of the data, Spearman rank order correlation coefficients were employed.

Since the 16PF and MBTI variables are bipolar, it is important to correctly interpret the relationships implied by these correlations. For bipolar variables, as one moves from the left pole to the right pole, scores increase. Thus, a positive correlation between the LEA Dominant set and the 16PF scale E (humble, mild vs. assertive, dominant) implies that higher LEA Dominant scores tend to be associated with the assertive, dominant pole (right pole) of the 16PF E scale. A negative correlation between the LEA Outgoing set and the MBTI EI (External-Internal) scale, suggests that lower LEA Outgoing scores tend to be associated with the External pole (right pole) of the MBTI EI scale.

Correlations between LEA sets and other variables that were 0.30 or larger in absolute magnitude are summarized below:

- The **Conservative** set was positively correlated with the IDI Stability scale (r = 0.35). The stability scale indicates the degree to which individuals strive to minimize factors of risk by maintaining a predictable, safe, and consistent environment.

- The **Innovative** set was positively correlated with the MBTI SN (Sensing-Intuition) scale (r = 0.47). It was positively correlated with the IDI Creating scale (r = 0.67). The Creating scale indicates the degree to which individuals strive to perceive their worlds in an innovative and creative manner. It was negatively correlated with the IDI Stability scale (r = -0.31).

[8] In order to create continuous variables, 100 was subtracted from left pole (ESTJ) scores and 100 was added to right pole (INFP) scores.

- The **Technical** set was positively correlated with the IDI Structuring scale (r = 0.32). The Structuring scale indicates the degree to which individuals strive to control their environment through the use of organization, precision, and thoroughness.

- The **Self** set was positively correlated with the IDI Independence scale (r = 0.52). The Independence scale indicates the degree to which individuals strive to be free of external controls on personal autonomy.

- The **Persuasive** set was negatively correlated with the IDI Structuring scale (r = -0.36), and positively correlated with the IDI Winning scale (r = 0.35) and Controlling scale (r = 0.40). The Winning scale indicates the degree to which individuals strive to win through forceful, aggressive and directly competitive behavior. The Controlling scale indicates the degree to which individuals strive to influence and control people and events.

- The **Outgoing** set was negatively correlated with the MBTI EI (External-Internal) scale (r = -0.32).

- The **Excitement** set was negatively correlated with the MBTI EI (External-Internal) scale (r = -0.41). It was positively correlated with the 16PF F (sober, taciturn vs. happy-go-lucky, enthusiastic) scale (r = 0.33), and H (shy, timid vs. venturesome, uninhibited) scale (r = 0.33).

- The **Restraint** set was negatively correlated with the 16PF E (humble, mild vs. assertive, dominant) scale (r = -0.32), the F (sober, taciturn vs happy-go-lucky, enthusiastic) scale (r = -0.30), and the H (shy, timid vs. venturesome, uninhibited) scale (r = -0.32).

- The **Structuring** set was negatively correlated with the CPI E (Empathy) scale (r = -0.32) and Fx (Flexibility) scale (r = -0.42). It was negatively correlated with the MBTI JP (Judging-Perceiving) scale (r = -0.40). It was positively correlated with the IDI Structuring scale (r = 0.64) and Stability scale (r = 0.49). It was also positively correlated with the 16PF G (expedient, disregards rules vs. conscientious, persistent) scale (r = 0.31)

- The **Control** set was positively correlated with the IDI Excelling scale (r = 0.34). The Excelling scale indicates the degree to which individuals strive to challenge themselves and push for ever-higher levels of achievement through expending energy.

- The **Management Focus** set was positively correlated with the CPI Do (Dominance) scale (r = 0.44) and In (Independence) scale (r = 0.37). It was positively correlated with the IDI Controlling scale (r = 0.58) and the 16PF H (shy, timid vs. venturesome, uninhibited) scale (r = 0.32).

- The **Dominant** set was positively correlated with the 16PF E (humble, mild vs. assertive, dominant) scale (r = 0.33).

- The **Production** set was positively correlated with the CPI Do (Dominance) scale (r = 0.32) and the IDI Excelling scale (r = 0.53).

- The **Cooperation** set was negatively correlated with the IDI Controlling scale (r = -0.38) and positively correlated with the Stability scale (r = 0.34). It was negatively correlated with the 16PF E (humble, mild vs. assertive, dominant) scale (r = -0.36).

- The **Authority** set was negatively correlated with the CPI In (Independence) scale (r = -0.33). It was negatively correlated with the MBTI SN (Sensing-Intuition) scale (r = -0.38). It was positively correlated with the IDI Stability scale (r = 0.35), and the 16PF Q3 (undisciplined, lax vs. self-sufficient, resourceful) scale (r = 0.30).

- The **Empathy** set was positively correlated with the MBTI TF (Thinking-Feeling) scale (r = 0.49). In addition, it was positively correlated with the IDI Giving scale (r = 0.51), Receiving scale (r = 0.36), Belonging scale (r = 0.31), and Expressing scale (r = 0.31). It was negatively correlated with the Winning scale (r = -0.30). The Giving scale indicates the degree to which individuals strive to relate to others by providing them with support, affection, and empathy. The Receiving scale indicates the degree to which individuals strive to relate to others in order to receive support, affection, and empathy. The Belonging scale indicates the degree to which individuals strive to relate to others by developing mutual bonds of loyalty, cooperation, and friendship. The Expressing scale indicates the degree to which individuals strive to relate to others by expressing themselves in a direct, spontaneous, and emotionally uninhibited fashion. As stated previously, the Winning scale indicates the degree to which individuals strive to win through forceful, aggressive and directly competitive behavior.

- The **Exaggeration** scale was positively correlated with the IDI Irreproachability scale (r = 0.37). The Irreproachability scale indicates the degree to which individuals ascribe to and strive toward ideal behavior, or perfectionism in general.

- Correlations between any LEA set and either Verbal or Numerical ability sub-tests on the WPCT were quite small.

- The Strategic, Tactical, Communication, Delegation, Feedback, and Consensual sets did not correlate with the other instruments above the r = 0.30 level.

As anticipated, moderate correlations were found between LEA sets and personality variables. In each case, these correlations were interpretable and lend support to the construct validity of the LEA. In addition, no significant correlations were found between verbal and numeric ability and LEA sets. Since we expect leadership sets to be relatively independent of cognitive abilities, this finding also lends support to the construct validity of the instrument.

LEA Sets and Leadership Competencies. Competency modeling involves the process of determining those characteristics that distinguish superior performers from average performers. Competencies reflect KSAs (knowledge, skills, abilities), as well as personality and attitudes. They are person-focused but tied to the organizational goals and strategy and tend to be broad and job-spanning in nature.

The relationship between the 22 LEA sets and a wide variety of leadership competencies was assessed in a sample of 3,074 individuals from 30+ countries, and a wide range of industries, job functions, and management levels.

Each participant completed a Leadership 360® processes, and was evaluated by a median of 1 boss, 4 peers, and 4 direct reports using the LEA Observer Questionnaire. This Observer questionnaire includes an additional 27 evaluative questions assessed using anchored rating scales (see Appendix F for details). The evaluative questions (commonly referred to as Part B of the questionnaire) assess a number of commonly sought leadership competencies.

In order to determine which leadership sets were most important for success in a given competency area, a multiple regression strategy was employed. Boss, peer, and direct report scores were averaged using a weighted mean approach that gave equal weight to each of the three observer groups. The 27 effectiveness measures were then separately predicted from these averaged LEA observer profiles.

A statistical method called ―relative weights‖ (Johnson and Lebreton, 2004) was used to identify the relative importance of each leadership set for each competency. This methodology takes into account how important a leadership set is by itself and in all combinations with other leadership practices.

Consider the competency *Delivers Results*. The 22 LEA behavior sets account for 46% of the variance ($R^2 = 0.54$) in effectiveness ratings on in this area. The relative importance of each LEA leadership set for effectiveness are displayed in Figure 4.

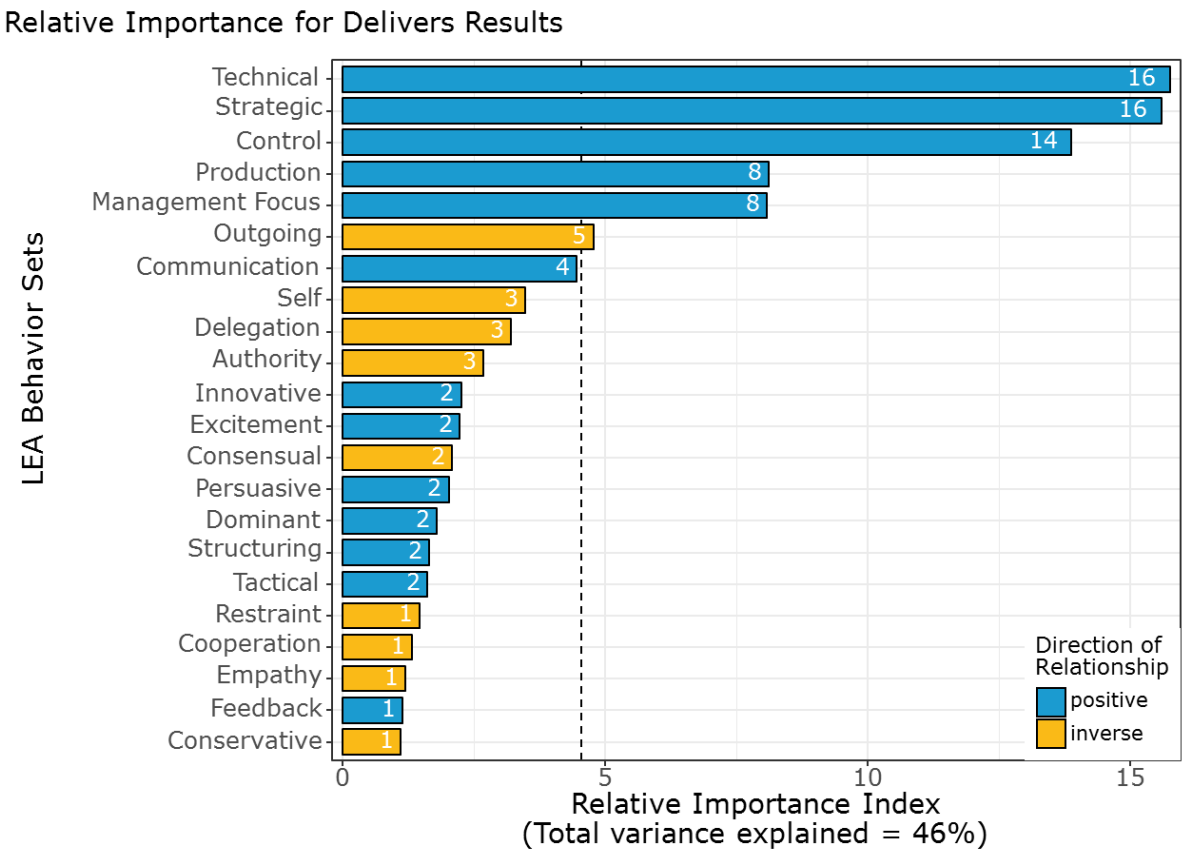


Figure 4. Relative importance of leadership practices for predicting the competency Delivers Results (i.e., accomplishes a great deal, achieves significant results, focuses on measureable outcomes). The dashed line indicates average importance (i.e., a relative importance index of 4.545).

The graph indicates that the most important variables for predicting observer ratings on the anchored rating scale *Delivers Results* are (in order of importance) Technical, Strategic, Control, Production, Management Focus, and Outgoing (inverse). Yellow bars indicate that lower scores on that set are associated with higher ratings on the competency. If all 22 behavior sets were equally important for a competency, they would all have a relative importance index of 4.545 (i.e., 100 divided by 22; indicated by the dashed line in the graph). However, behavior sets differ in their level of importance and any bar extending beyond the dashed line indicates that a behavior is more important that average for the competency being measured.

Relative importance analyses for all effectiveness scales are included in Appendix G. Examination of these graphs indicate that each competency is associated with a unique combination of leadership practices. Many of the competencies involve several leadership practices interacting in a complex fashion. This points to the difficulty of using such competencies by themselves for the purposes of development. Feedback on such competencies does not tell an individual which leadership behaviors need to change. An understanding of the relationship between competencies and behaviors is essential to using competency feedback for development.

The pattern of relationships between the 22 LEA leadership practices and the 27 measures of leadership effectiveness and competency are in the directions expected from theory and strongly support the construct validity of the LEA scales.

Predictive Validity

LEA Self Diagnostic Questionnaire. In order to investigate the predictive validity of the LEA Self Diagnostic Questionnaire, investigations were carried out in US samples of human resource department heads (n = 2,338), vice presidents of finance (n = 2,077), and vice presidents of sales (n = 3,025).

Participants completed the Leadership 360 and were evaluated by bosses, peers, and direct reports. Each participant was classified as highly effective or less effective based on observer ratings of the 27 effectiveness questions in Part B of the LEA Observer Questionnaire[9]. Logistic regression was employed to predict observer rated effectiveness classifications from the 22 LEA-Self percentile rank scores[10].

For human resource department heads, effectiveness was predicted by higher scores on Strategic, Restraint, Management Focus, Empathy and Outgoing, and lower scores on Conservative and Feedback.

The results are displayed visually in Figure 5. For each predictor variable, the graph indicates the probability of being rated as highly effective by observers for a range of percentile rank values, setting each of the other predictor variables at their group means. Thus, the probability of being rated highly effective for individuals with a management focus score of 5 is 0.37, holding the other leadership variables constant. For a management focus score of 99, this probability increases to 0.53. The dashed line at 0.45 indicates the probability of being rated as highly effective for the sample as a whole (without regard to self scores).

[9] Mean scores over all 27 Part B items were calculated for each rater and then averaged over raters. Participants with mean scores above 5.5 on a 7-point scale were classified as highly effective.

[10] A backward stepwise selection procedure maximizing Akaike's information criterion (AIC) was used to arrive at the final prediction equations.

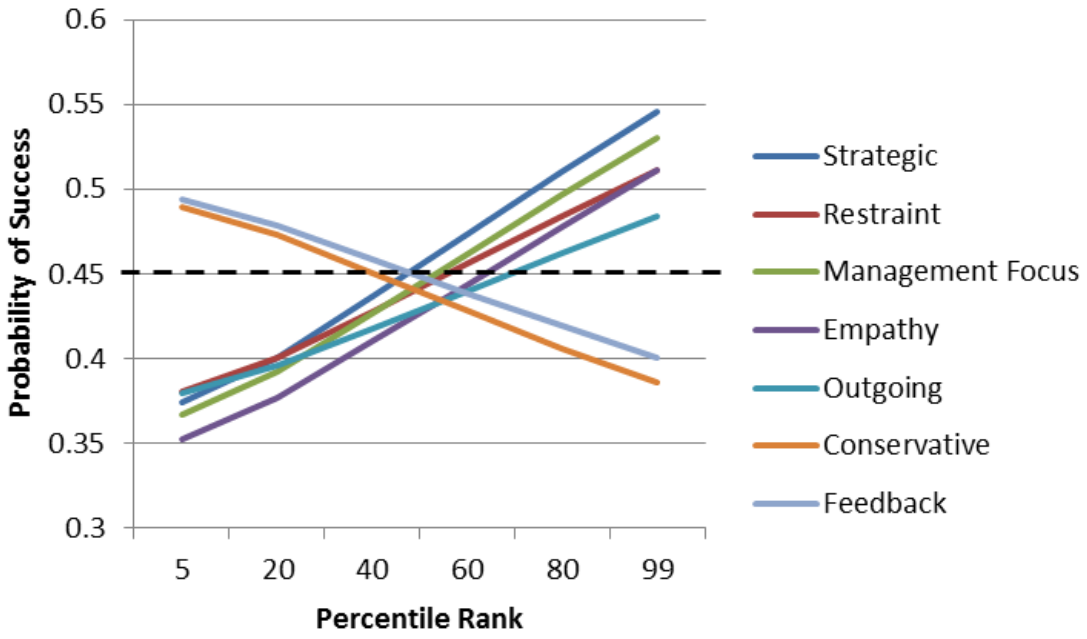


Figure 5. Prediction of Observer-Rated Effectiveness from LEA Self Scores for Human Resource Department Heads.

For vice presidents of accounting/finance, effectiveness was predicted by higher scores on Strategic, Management Focus, Empathy and Communication, and lower scores on Self, Feedback and Authority. The results are displayed in Figure 6.

Finally, for marketing/sales vice presidents, effectiveness was predicted by higher scores on Strategic, Restraint, Tactical, Communication, Management Focus and Empathy, and by lower scores on Conservative, Self, Feedback and Consensual. The results are displayed in Figure 7.

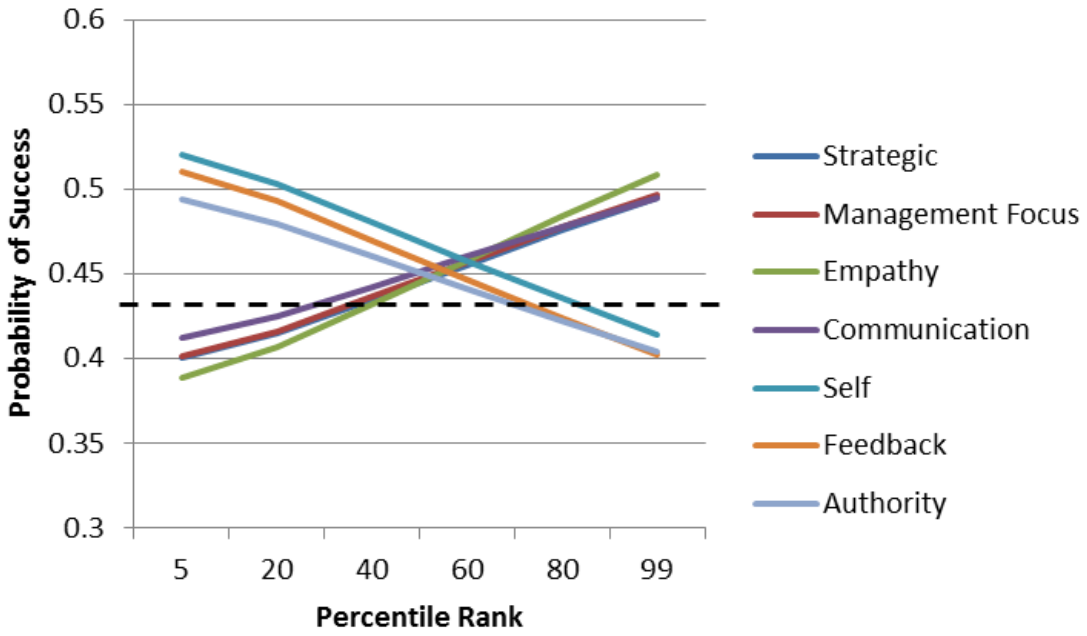


Figure 6. Prediction of Observer-Rated Effectiveness from LEA Self Scores for Accounting/Finance Vice Presidents.

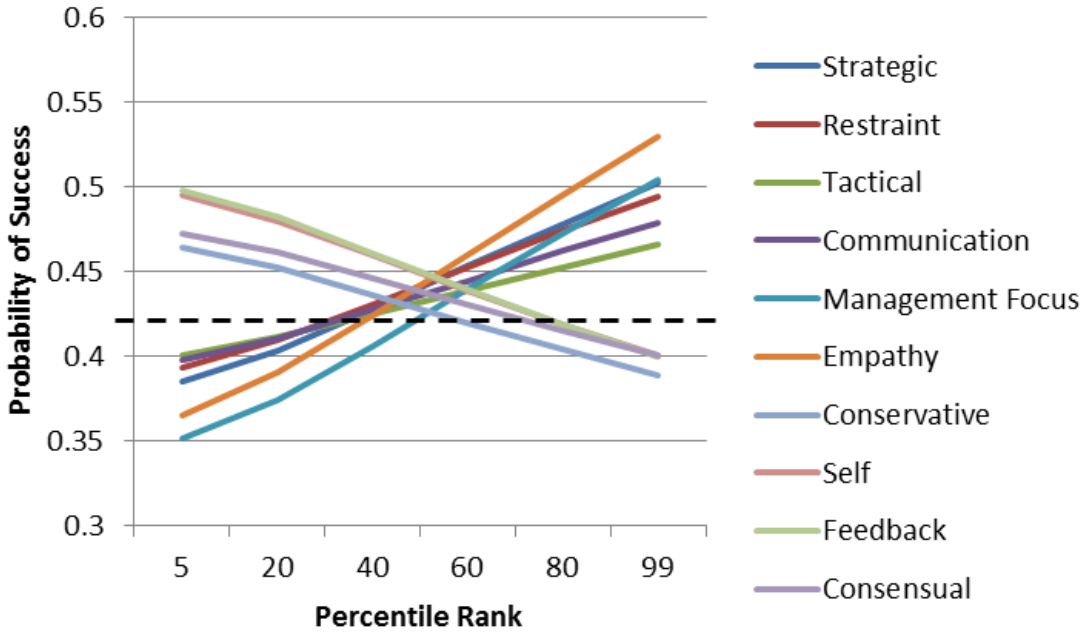


Figure 7. Prediction of Observer-Rated Effectiveness from LEA Self Scores for Marketing/Sales Vice Presidents

Several points should be made regarding these results. First, responses on the LEA Self Diagnostic Questionnaire appear to have some predictive validity with regard to observer (boss, peer, direct report) ratings of effectiveness. Second, the pattern of prediction appears to

vary by management level and functional area. Third, it should be kept in mind that prediction was based on how individuals described their own behavior and approach to leadership– not necessarily how others would describe their behavior and approach[11]. Finally, the results are presented in support of the instrument's overall validity and should not be used to in a selection context without further validation (see Chapter 6 for a discussion of the LEA and selection).

LEA Strategic Directions Questionnaire. Mahoney & Mahoney (1994) have investigated the utility of the LEA-SDQ process with organizations. A brief summary of their findings is included below.

The study included eight companies (public and private) that had completed the LEA-SDQ process. Senior level managers in each company had established desired target ranges for leaders on from six to thirteen LEA sets. Three hundred sixty-nine leaders within these companies had also undergone a 360-degree development process that included the completion of boss, peer, and direct report LEA Observer questionnaires and ratings of overall effectiveness.

A total gap score[12] was calculated for each of the 369 leaders. A gap score measures the discrepancy between the company's LEA-SDQ based desired leadership behaviors and stakeholders' perceptions of the individual's actual leadership behavior. A large gap score indicated that the individual's leadership behavior (as perceived by boss, peers, and direct reports) differed substantially from the desired profile established by upper level management. A small gap score indicated congruence between the two.

Gap scores were then correlated with mean overall effectiveness ratings (see Table 23). An examination of these correlations suggests that leaders demonstrating leadership practices that were congruent with those identified as vital for company success by upper level management, tended to be perceived as more effective by their bosses, peers and direct reports. Results were replicated for seven out of eight of the companies studied[13]. This is compelling evidence for the potential value of focusing training and development around multi-rater feedback that is specific to individuals and simultaneously applicable to the organization's broader objectives.

[11] When setting organizational goals best practice studies based on observer ratings of both leadership behavior and effectiveness are more useful. Numerous such studies have been completed and are described in Chapter 7.

[12] Total gap score = $\sum_{i=1}^{i-j} |Xi - Mi|$ where M_1 is the midpoint of the percentile rank range established for desired

[13] Qualitative examination of the government contractor sample indicated that the LEA sets identified by the SDQ process did not accurately reflect the beliefs of company management.

Table 23
Correlations of LEA-SDQ Gap Scores and Effectiveness Ratings

	Effectiveness		
Company	Boss	Peer	Direct Report
Bank (n = 78)	-0.35	-0.36	-0.39
Electric Utility (n = 24)	-0.51	-0.35	-0.64
Semiconductor (n = 11)	-0.54	-0.74	-0.66
Electric Utility (n = 38)	-0.49	-0.10	-0.20
Government Contractor (n = 21)	0.45	-0.26	-0.09
Investment (n = 18)	-0.79	-0.60	-0.42
Hospital (n = 105)	-0.56	-0.46	-0.34
Insurance (n = 68)	0.49	-0.21	-0.38

Chapter 5: Norms

As of October 2017, more than 250,000 individuals had completed an LEA Self Diagnostic Questionnaire and more than 900,000 individuals had completed an LEA Observer Questionnaire. The LEA instruments have been used within thousands of organizations worldwide. The purpose of this section is to describe relevant characteristics of the norming process.

MRG research has consistently found that geographic differences in leadership behaviors are more pronounced than other differences such as industry and job function. Therefore, norms groups are based on country and world region.

Scores on LEA questionnaires are reported as percentile ranks - the proportion of questionnaire respondents scoring below the given raw score. Although there are limitations associated with the use of this metric (e.g., attenuation of individual differences at distribution tails), we have found that percentile ranks are intuitively appealing and understandable to individuals undergoing the development process.

Percentile ranks are always calculated relative to a specific norm group, selected from a list of available groups prior to scoring.

Norm Groups

Norm groups consist of organization employees (private, public, government) who have completed an LEA Self or Observer Questionnaire as part of ongoing organizational development activities. We strive to create norm groups that will be broadly representative of business professionals within a given geographic region.

In general norm groups must have at least 500 individuals and be broadly representative with regard to gender, industry, management level and job function. Most norm groups are much larger. Occasionally, we will allow smaller norm groups to service populations until larger and more stable norms can be established.

There are currently 39 norm groups available for scoring LEA questionnaires (see Table 24). Detailed demographics descriptions of each norm group are available from the publisher. LEA norms are revised every three to five years. The last revision of norms occurred in 2017.

Table 24
Current LEA Norm Groups

Norm	Sample Size	
	Self	Observer
Africa	3,696	4,982
Asia	6,401	33,386
Australia	8,109	35,691
Australia-New Zealand	9,255	42,489
Belgium	4,215	24,707
Brazil	1,054	6,583
Canada	12,461	62,793
China	1,605	8,360
China-Hong Kong	2,558	13,481
Colombia	681	4,377
Continental Europe	29,992	137,889
Denmark	2,877	20,946
East Asia	2,911	15,120
Eastern Europe	1,418	10,353
General Europe	40,423	194,614
France	10,637	28,695
Germany	2,467	11,183
Hong Kong	955	5,121
India	549	3,007
Italy	2,764	15,964
Latin America	4,033	25,133
Mexico	1,039	5,866
Netherlands	3,176	15,908
New Zealand	1,146	6,798
Nordic	4,143	29,519
North America	111,429	322,435
Northern Europe	14,590	86,353
Poland	557	5,204
Singapore	891	4,503
South Africa	2,607	995
South Asia	707	3,639
Southeast Asia	1,634	9,202
Spain	2,767	9,532
Sweden	1,879	12,288
Switzerland	1,864	6,862
United Kingdom-Ireland	10,425	56,686
United States	98,411	256,839
West Asia/Middle East	1,051	4,821
Western Europe	29,594	127,571

Selecting an Appropriate Norm Group

In general, we recommend selecting a norm group that is most similar to the context in which the individual completing the questionnaire is operating or which forms the most meaningful basis of comparison. This usually means choosing the norm for the country the individual is currently working in. If a specific country norm is not available, then the most similar existing norm would be used. For example, there is no Greek norm at present. In this case a continental European norm may be used.

At times, although a specific country norm is available, you may choose to use a regional norm instead. For example, a multinational company in Germany may opt to use the European norm rather than the German norm because it makes more sense to them to compare their individuals to other leaders throughout Europe rather than just in Germany. Ultimately the decision of which norm to use rests on what you are trying to accomplish (i.e., what comparison group is most meaningful to the client).

Converting Raw Scores to Percentile Ranks

Once a norm group has been chosen, an individual's raw scale scores are converted to percentile rank scores. For the LEA Self Questionnaire, raw scores are converted to percentile ranks relative to other individuals completing the self questionnaire. Raw scores for LEA Observer Questionnaires completed by bosses are converted to percentile ranks relative to other bosses completing the observer questionnaire. In a similar fashion, percentile rank scores for peers and direct reports are calculated relative to peer and direct report reference groups respectively.

Strategic Directions (LEA-SDQ), Role Expectations (LEA-REQ), and Leadership Culture (LEA-LCQ) questionnaires are each scored relative to a general observer group (a combined group of bosses, peers, and direct reports who have completed the LEA Observer Questionnaire).

Over the years we have had many debates about whether we should norm these questionnaires against a combined observer norm base or against each questionnaire's own norm base (LEA-SDQ against LEA-SDQ responses, LEA-REQ against LEA-REQ responses, and LEA-LCQ against LEA-LCQ). Ultimately, we chose not to use this approach. When we norm LEA-SDQ results against a general observer norm we are saying "This is the leadership behavior you want compared with the leadership behavior that is currently observed in your leadership universe". If we compared LEA-SDQ responses to other LEASDQ responses what we would be telling people is "Here is what you want compared to what other people want." While that may be interesting to know, it does not help them chart their developmental course. Similar arguments follow for LEA-REQ and LEA-LCQ. In addition, by comparing LEA-SDQ, LEA-REQ and LEA-LCQ against the same norm base (a general observer norm), the consultant can make comparisons among the questionnaires (LEA-SDQ vs. LEA-REQ vs. LEA-LCQ).

Comments

LEA databases have unusual breadth for commercial psychological tests. This is due to the centralization of test processing and the generous contribution of data by questionnaire respondents. This information can be combined in a myriad of ways for research and reporting purposes. In our experience with LEA products, norm tables become quite stable when several hundred observations are available. Technically, sample means tend to mirror the population means precisely when sample sizes approach 1,500.

Chapter 6: The LEA and Selection

Questionnaire use in selection typically falls into four general categories:

1. Screening – where a tool is used to essentially make a go/no go decision about a person early in the recruiting process

2. Primary Selection mechanism – where a tool is used as a dominant but not exclusive means of determining fit

3. Supporting Selection mechanism – where data from the tool is used to generate a more in-depth interview process

4. Assessment battery – where data from multiple tools are used in conjunction with candidate interviews, career and biographical data and may also include an assessment center process

MRG tools are not recommended for Screening or as the Primary Selection mechanism. We do, however, find that MRG tools increase the quality of the selection/assessment process when used in situations 3 and 4 if there is a strategic directions profile and/or a validation study conducted.

The risk that a candidate will project an idealized version of themselves into the questionnaire increases in any kind of evaluative process, and while the MRG questionnaire design limits the amount of distortion that can occur, there is still possible to get some level of idealized distortion. The risk is mitigated somewhat when observer data is available. However, we only recommend use of our tools in a selection process when there is a meaningful amount of additional data gathered (through other assessments, interviews, historical data and observation).

We strongly recommend that LEA products be used for selection purposes only when adequate local validation studies have been completed. The MRG research unit can provide consultation regarding the development and completion of such studies. Contact information is provided at the end of this document.

Chapter 7: Additional Research

The Leadership Effectiveness Analysis™ suite of tools is the subject of considerable research annually. A sampling is provided below. Copies are available from the publisher.

Gender

Naddaff, T. (2016). Gender and Leadership. Paper presented at the *HR Business Summit*, Birmingham, UK

Age and Generation

Brown, M. (chair), Schiemann, W., Deal, J.J., Ogan, L., Stevenson, M., & Brooks, S. (2019, April). Keeping up with workplace demographics: Preparing for Gen Z. Alternative session conducted at *the Annual Conference of the Society for Industrial and Organizational Psychology*, National Harbor, Maryland.

Sessa, V., Kabacoff, R., & Deal, J. (2007). Generational differences in leader values and leadership behaviors. *The Psychologist-Manager Journal*, 10, 1-28.

Culture

Kabacoff (2008). Working effectively in global environments: New findings about leadership and country culture. In R. Presiosi (Ed.) *Pfeiffer 2008 Annual on Management Development* (pp. 195-214). San Francisco, CA: Pfeiffer.

Diversity and Inclusion

Brown, M. & Ringwood, D. (2018, April). Inclusive Leadership in a Diverse World. Paper presented at *the European Mentoring and Coaching Council Coaching Conference*, Amsterdam, Netherlands.

Complexity and Ambiguity

Naddaff, T. (2017, February). Leading on the Edge: New Research Insights on Helping Leaders Succeed in an Increasingly Complex and Ambiguous World. Paper presented at the *Society of Consulting Psychology Conference*, Seattle, Washington.

Other Areas

Brown, M. & Naddaff, T. (2018, February). The science of self-confidence: Helping leaders gain and demonstrate the confidence they need to succeed. Paper presented at *the Society of Consulting Psychology Conference*, Fort Worth, Texas.

Kabacoff, R. (2010). Leadership Practices for Front Line Supervisors. Paper presented at the *24th Annual Convention of the Society for Industrial and Organizational Psychology*, Atlanta, GA.

Peters, H., & Kabacoff, R. (2001). HR leaders at the crossroads: Remaining relevant in the 21st century. *HR Professional*, 18, 18-25.

Ringwood, D. & Brown, M. (2019, January). What leadership behaviours characterize the best coaches? *Coaching Perspectives*, 19, 18-20.

Leadership Best Practices/Validation Studies

Dozens of leadership best practice and validation studies have been conducted with the LEA. The following are available from the publisher:

- Coaching a Multi-Generational Workforce: Not just the Post-Millennials…
- Coaching High Potentials: What to Know and What to Watch Out For
- Exploring the Gap: Gender Variations in Leadership Behaviors and Competencies
- Mind the Gap: Age-Related Patterns in Leadership Behavior and Effectiveness
- Recognizing Tomorrow's Leaders: 5 Behavioral Themes that Distinguish High Potentials
- Stepping Up: The Behaviors Leaders Need to Increase (and Decrease) as They Climb the Ranks
- The Eye of the Beholder: How Leader and Observer Relationships Influence 360 Feedback
- Think Globally: Variations in Effective Leadership Around the World
- Who We Are and How We Lead: An Overview of Empirical Data Exploring Leadership Differences by Gender, Age, and Country

- Best Practice Report: Cognitive Effectiveness
- Best Practice Report: Entrepreneurial Effectiveness
- Best Practice Report: Consulting Services
- Best Practice Report: Higher Education
- Best Practice Report: Construction Industry
- Best Practice Report: Inclusive Leadership
- Best Practice Report: Technology Industry
- Best Practice Report: Manufacturing Industry
- Best Practice Report: Transportation Industry
- Best Practice Report: Energy Industry
- Best Practice Report: Retail and Wholesale
- Best Practice Report: Senior Leaders

- Best Practice Report: Complexity and Ambiguity
- Best Practice Report: Employee Engagement
- Best Practice Report: Financial Services
- Best Practice Report: Health Care
- Best Practice Report: High Potential Leaders
- Best Practice Report: Human Resources
- Best Practice Report: Aerospace Industry
- Best Practice Report: Chief Financial Officers
- Best Practice Report: Customer Services
- Best Practice Report: Healthcare Industry
- Best Practice Report: Humanitarian Organizations
- Best Practice Report: Insurance Industry
- Best Practice Report: Pharmaceutical Industry
- Best Practice Report: Legal Services
- Best Practice Report: Project Managers
- Best Practice Report: Public Sector Western Europe
- Best Practice Report: Real Estate
- Best Practice Report: School Principals
- Best Practice Report: Telecommunications Industry
- Best Practice Report: Publishing
- Best Practice Report: Scientists and Engineers
- Best Practice Report: Senior Executives

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Appendix A: LEA Sets

Brief descriptions of each of the 22 LEA sets are provided below, along with sample items from the self, observer, strategic directions (SDQ), role expectations (REQ), and Leadership Culture (LC) versions of the questionnaire. For detailed information on the theoretical underpinnings and developmental implications of each of these sets, see Mahoney (1993).

Creating a Vision

Conservative
Studying problems in light of past practices to ensure predictability, reinforce the status quo and minimize risk.
Sample item:
Others are likely to notice that I respect the lessons of the past. (Self)

Innovative
Feeling comfortable in fast changing environments; being willing to take risks and to consider new and untested approaches.
Sample item:
This person is an innovative thinker. (Observer)

Technical
Acquiring and maintaining in-depth knowledge in your field or area of focus; using your expertise and specialized knowledge to study issues and draw conclusions.
Sample item:
People in this organization may have problems unless they do a strong technical job. (SDQ)

Self
Emphasizing the importance of making decisions independently; looking to yourself as the prime vehicle for decision-making.
Sample item:
To succeed in this role, a person's strength should lie in the fact that he/she is an independent decision maker. (REQ)

Strategic
Taking a long-range, broad approach to problem solving and decision making through objective analysis, thinking ahead, and planning.
Sample item:
This organization rewards leaders who plan for the future. (LC)

Developing Followership

Persuasive
Building commitment by convincing others and winning them over to your point of view.
Sample item:
I think this person is able to sway people's opinions. (Observer)

Outgoing
Acting in an extroverted, friendly and informal manner; showing a capacity to quickly establish free and easy interpersonal relationships.
Sample item:
In this organization, leaders will need to be very friendly. (SDQ)

Excitement
Operating with a good deal of energy, intensity, and emotional expression; having a capacity for keeping others enthusiastic and involved.
Sample item:
To be effective in this role, a person will need to create an aura of excitement. (REQ)

Restraint
Maintaining a low-key, understated and quiet interpersonal demeanor by working to control your emotional expression.
Sample item:
I believe in avoiding unnecessary emotional displays. (Self)

Implementing the Vision

Structuring
Adopting a systematic and organized approach; preferring to work in a precise, methodical manner; developing and utilizing guidelines and procedures.
Sample item:
When working on an important assignment, he/she emphasizes structured, systematic approaches. (Observer)

Tactical
Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies.
Sample item:
As a leader, this person should give everyone concrete, practical goals. (REQ)

Communication
Stating clearly what you want and expect from others; clearly expressing your thoughts and ideas; maintaining a precise and constant flow of information.
Sample item:
This organization needs more people who are explicit about what they want. (SDQ)

Delegation
Enlisting the talents of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment.
Sample item:
When I ask people to do something really important, I let them do it without interference. (Self)

Following Through

Control
Adopting an approach in which you take nothing for granted, set deadlines for certain actions and are persistent in monitoring the progress of activities to ensure that they are completed on schedule.
Sample item:
This person makes sure things get done on time. (Observer)

Feedback
Letting others know in a straightforward manner what you think of them, how well they have performed and if they have met your needs and expectations.
Sample item:
This organization's leaders accomplish results by letting their people know how they are performing. (LC)

Achieving Results

Management Focus
Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others.
Sample items:
In difficult situations, a person in this role should display a willingness to take command. (REQ)

Dominant
Pushing vigorously to achieve results through an approach which is forceful, assertive and competitive.
Sample items:
I believe in being highly competitive. (Self)

Production
Adopting a strong orientation toward achievement; holding high expectations for yourself and others; pushing yourself and others to achieve at high levels.
Sample items:
This person is a hard driving achiever. (Observer)

Team Playing

Cooperation
Accommodating the needs and interests of others by being willing to defer performance on your own objectives in order to assist colleagues with theirs.
Sample item:
In the future, it will be more important for a leader in this organization to be a helpful teammate. (SDQ)

Consensual
Valuing the ideas and opinions of others and collecting their input as part of your decision-making process.
Sample item:
When in charge, a person in this role should try to get the ideas of his/her colleagues. (REQ)

Authority
Showing loyalty to the organization; respecting the opinions of people in authority, and using them as resources for information, direction and decisions.
Sample item:
Peers probably regard me as willing to support my superiors. (Self)

Empathy
Demonstrating an active concern for people and their needs by forming close and supportive relationships with others.
Sample item:
People are likely to be impressed by his/her genuine interest in them. (Observer)

Appendix B: LEA Self Demographics

This appendix describes the demographic characteristics of the sample (n = 146,635) used to calculate the LEA Self Diagnostic Questionnaire descriptive statistics and correlations presented in Chapter 2. Please note that this is not a description of the LEA normative samples. Descriptions of the normative samples are available from the publisher.

Country

Country	***Frequency***	***Percent***
Australia	4,376	2.98
Belgium	2,034	1.39
Brazil	1,040	0.71
Canada	11,784	8.04
Switzerland	889	0.61
China	1,153	0.79
Germany	1,662	1.13
Denmark	1,855	1.27
Spain	1,125	0.77
France	8,759	5.97
United Kingdom	5,443	3.71
Hong Kong	782	0.53
Ireland	1,911	1.30
Italy	2,158	1.47
Netherlands	2,367	1.61
United States	88,423	60.30
South Africa	1,052	0.72
Other	7,775	5.30
Not Reported	2,047	1.40

Manager Status

Status	***Frequency***	***Percent***
Manager	96,461	65.78
Individual Contributor	31,628	21.57
Not Reported	18,546	12.65

Year Data Collected

Year	*Frequency*	*Percent*
2009	12,001	8.18
2010	14,330	9.77
2011	16,135	11.00
2012	16,340	11.14
2013	15,580	10.63
2014	16,976	11.58
2015	16,180	11.03
2016	15,204	10.37
2017	15,403	10.50
2018	8,486	5.79

Gender

Gender	*Frequency*	*Percent*
Female	44,662	30.46
Male	85,262	58.15
Not Reported	16,711	11.40

Functional Area

Area	*Frequency*	*Percent*
Accounting/Finance	11,237	7.66
Administration/Operations	19,774	13.49
Customer Service	4,925	3.36
Information Technology	6,994	4.77
Distribution/Fulfillment	2,107	1.44
HR/Personnel	8,679	5.92
Manufacturing	5,544	3.78
Marketing/Sales	18,174	12.39
Technical/Engineering/Research	14,020	9.56
Other	35,806	24.42
Not Reported	19,375	13.21

Industry

Industry	*Frequency*	*Percent*
Accounting/Banking/Financial Services	8,405	5.73
Aerospace	797	0.54
Biotechnology	344	0.23
Business/Information Systems	2,233	1.52
Communications/Technology	4,012	2.73
Consulting Services	17,520	11.95
Contracting/Construction	3,874	2.64
Education	5,971	4.07
Entertainment/Recreation/Sports	1,090	0.74
Farming/Fishing/Forestry	434	0.30
Food/Products/Processing	4,057	2.77
General Manufacturing	7,282	4.97
Health Care/Medical Services	7,173	4.89
High Tech	1,784	1.22
Hospitality/Travel/Tourism	1,681	1.15
Insurance	5,110	3.48
Law/Legal Services	518	0.35
Mining/Oil-Gas Production/Chemicals	5,586	3.81
Pharmaceutical/Medical Products	2,818	1.92
Printing/Publishing/Advertising	915	0.62
Real Estate/Land Development	619	0.42
Research/Scientific Services	8,644	5.89
Social Services	1,426	0.97
Transportation	2,540	1.73
Utilities	10,900	7.43
Wholesale/Retail Trade	7,006	4.78
Other	32,012	21.83
Not Reported	1,884	1.28

Management Level

Management Level	*Frequency*	*Percent*
Board	3,321	2.26
President/CEO	4,478	3.05
Senior VP/General Manager/Director	17,841	12.17
VP/Divisional or Functional Head	19,222	13.11
Department/Unit Manager	37,321	25.45
Supervisor/Foreman	12,558	8.56
Professional/Technical	21,871	14.92
Other (Non-management)	10,289	7.02
Not Reported	19,734	13.46

Number of Employees in Organization

Number of Employees	*Frequency*	*Percent*
1 to 49	21,066	14.37
50 to 99	5,484	3.74
100 to 499	35,246	24.04
500 to 999	14,332	9.77
1000 to 4999	25,936	17.69
5000 or more	32,438	22.12
Not Reported	12,133	8.27

Years in Present Position

Years	*Frequency*	*Percent*
Less than 1 year	23,756	16.20
1 to 5 years	66,628	45.44
6 to 10 years	18,031	12.30
11 to 15 years	5,620	3.83
More than 15 years	5,628	3.84
Not Reported	26,972	18.39

Years of Management Experience

Years	*Frequency*	*Percent*
Less than 1 year	3,403	16.39
1 to 5 years	19,761	13.48
6 to 10 years	21,395	25.07
11 to 15 years	8,279	12.08
More than 15 years	33,093	21.56
Not Reported	52,045	35.49

Number of Direct Reports

Direct reports	*Frequency*	*Percent*
No direct reports	16,628	11.34
1 direct report	4,712	3.21
2 to 5 direct reports	31,853	21.72
6 to 10 direct reports	26,509	18.08
More than 10 direct reports	20,075	13.69
Not Reported	46,858	31.96

Age

	N	*Median*	*Minimum*	*Maximum*
Age in Years	93,852	43	18	90

Appendix C: LEA Observer Demographics

This appendix describes the demographic characteristics of the sample (n = 459,664) used to calculate the LEA Observer Questionnaire descriptive statistics and correlations presented in Chapter 2. Please note that this is not a description of the LEA normative samples. Descriptions of the normative samples are available from the publisher.

Observer Groups

Status	*Frequency*	*Percent*
Boss	67,927	13.98
Peer	217,685	44.81
Direct Report	200,234	41.21

Country

Country	*Frequency*	*Percent*
Australia	20,143	4.15
Belgium	12,804	2.64
Brazil	5,259	1.08
Canada	55,158	11.35
Switzerland	3,453	0.71
China	5,713	1.18
Colombia	3,410	0.70
Germany	7,171	1.48
Denmark	13,673	2.81
Spain	4,386	0.90
France	22,808	4.69
United Kingdom	32,950	6.78
Hong Kong	4,163	0.86
Ireland	6,393	1.32
Italy	12,082	2.49
Mexico	2,615	0.54
Netherlands	11,834	2.44
Poland	4,779	0.98
Sweden	4,599	0.95
United States	217,658	44.80
Other	30,135	6.20
Not Reported	4,660	0.96

Year Data Collected

Year	*Frequency*	*Percent*
2009	51,241	10.55
2010	53,888	11.09
2011	59,031	12.15
2012	60,089	12.37
2013	53,305	10.97
2014	55,482	11.42
2015	47,815	9.84
2016	45,440	9.35
2017	42,342	8.72
2018	17,213	3.54

Gender

Gender	*Frequency*	*Percent*
Female	127,725	26.29
Male	189,568	39.01
Not Reported	168,553	34.69

Functional Area

Area	*Frequency*	*Percent*
Accounting/Finance	31,186	6.42
Administration/Operations	48,839	10.05
Customer Service	11,331	2.33
Information Technology	19,669	4.04
Distribution/Fulfillment	4,718	0.97
HR/Personnel	20,207	4.16
Manufacturing	11,753	2.41
Marketing/Sales	41,868	8.62
Technical/Engineering/Research	37,022	7.62
Other	74,414	15.32
Not Reported	171,604	35.32

Industry

Industry	*Frequency*	*Percent*
Accounting/Banking/Financial Services	47,364	9.75
Aerospace	2,613	0.54
Biotechnology	1,971	0.41
Business/Information Systems	10,558	2.18
Communications/Technology	15,047	3.10
Consulting Services	27,748	5.72
Contracting/Construction	16,499	3.4
Education	30,791	6.34
Entertainment/Recreation/Sports	6,411	1.32
Farming/Fishing/Forestry	1,488	0.30
Food/Products/Processing	17,161	3.53
General Manufacturing	33,133	6.82
Health Care/Medical Services	39,966	8.23
High Tech	7,623	1.57
Hospitality/Travel/Tourism	3,500	0.72
Insurance	14,080	2.90
Law/Legal Services	3,116	.64
Mining/Oil-Gas Production/Chemicals	33,108	6.82
Pharmaceutical/Medical Products	11,664	2.40
Printing/Publishing/Advertising	4,018	0.82
Real Estate/Land Development	3,359	.69
Research/Scientific Services	6,600	1.36
Social Services	5,344	1.1
Transportation	15,119	3.12
Utilities	11,868	2.44
Wholesale/Retail Trade	19,283	3.97
Other	51,353	10.57
Not Reported	45,061	9.27

Management Level

Management Level	*Frequency*	*Percent*
Board	7,672	1.58
President/CEO	7,853	1.62
Senior VP/General Manager/Director	37,560	7.73
VP/Divisional or Functional Head	42,579	8.76
Department/Unit Manager	81,203	16.72
Supervisor/Foreman	22,628	4.66
Professional/Technical	70,140	14.44
Other (Non-management)	43,337	8.92
Not Reported	172,874	35.58

Number of Employees in Organization

Number of Employees	*Frequency*	*Percent*
1 to 49	46,689	9.61
50 to 99	20,003	4.11
100 to 499	79,303	16.32
500 to 999	64,007	13.18
1000 to 4999	121,342	24.98
5000 or more	103,773	21.36
Not Reported	50,729	10.44

Years in Present Position

Years	*Frequency*	*Percent*
Less than 1 year	42,802	8.81
1 to 5 years	140,426	28.90
6 to 10 years	45,265	9.32
11 to 15 years	16,693	3.44
More than 15 years	18,700	3.85
Not Reported	221,960	45.69

Age

	N	*Median*	*Minimum*	*Maximum*
Age in Years	298,161	44	18	90

Appendix D: Multitrait-Multimethod Matrix

This appendix provides information on the relationship of Self, Boss, Peer, and Direct Report ratings to each other.

Twelve thousand three hundred and ninety-seven individuals completed the LEA Self Questionnaire, and were rated by superiors, peers, and direct reports on the LEA Observer Questionnaire. A total of 15,272 bosses, 48,274 peers, and 48,215 direct reports completed the observer questionnaire. This sample represents a large subset of the database described in Appendix C. Individuals were excluded if self, boss, peer, and direct report ratings were not all available.

For each individual, observer ratings were collapsed into three separate mean profiles (one for each rater group)[14]. Since there are 22 LEA sets, this resulted in 22 self scores, 22 mean boss scores, 22 mean peer scores, and 22 mean direct report scores for each individual. Correlations among these 88 (4 x 22) scores are presented in Tables D1 through D10.

The figure below describes the contents of these tables. Rater groups (self, boss, peer, direct report) represent the methods. The 22 LEA sets represent the traits. Table D1 provides the correlations among the 22 LEA-Self scales. Table D7 provides the correlations between mean peer ratings (rows) and mean boss ratings (columns) for each the 22 sets. Other tables can be similarly interpreted. For completeness, univariate summary statistics are provided in Tables D11 through D14.

[14] The median number of raters per individual was nine (1 boss, 4 peers, and 4 direct reports).

		Self	Boss	Peer	Direct Report
		CNSV … EMPH	CNSV … EMPH	CNSV … EMPH	CNSV … EMPH
Self	CNSV . . . EMPH	D1			
Boss	CNSV . . . EMPH	D5	D2		
Peer	CNSV . . . EMPH	D6	D7	D3	
Direct Report	CNSV . . . EMPH	D8	D9	D10	D4

D1. LEA-Self Scale Intercorrelations

SCALE	CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	1.00										
INNO	-0.18	1.00									
TECH	0.22	0.06	1.00								
SELF	0.01	0.05	0.08	1.00							
STRT	0.18	0.20	0.14	-0.06	1.00						
PERS	-0.21	0.11	-0.16	-0.02	-0.09	1.00					
OUTG	-0.16	-0.03	-0.15	-0.04	-0.3	0.16	1.00				
EXCT	-0.37	0.14	-0.22	-0.10	-0.27	0.35	0.32	1.00			
REST	0.26	-0.09	0.04	0.05	0.16	-0.26	-0.11	-0.41	1.00		
STRC	0.35	-0.33	0.21	-0.06	0.12	-0.36	-0.25	-0.33	0.17	1.00	
TACT	0.03	-0.02	0.02	0.04	0.00	-0.03	-0.09	-0.02	-0.06	0.10	1.00
COMM	0.01	-0.03	0.13	-0.12	0.11	0.05	-0.08	-0.02	-0.07	0.14	-0.03
DELE	-.010	0.20	-0.15	-0.12	0.13	0.05	-0.01	0.04	-0.02	-0.22	-0.07
CTRL	0.05	-0.18	-0.02	-0.09	0.00	-0.12	-0.25	-0.07	-0.04	0.28	0.19
FDBK	-0.22	0.01	-0.08	0.07	-0.16	0.15	-0.08	0.13	-0.33	-0.10	0.10
MGMT	-0.20	0.09	-0.11	0.03	0.05	0.31	-0.08	0.23	-0.21	-0.20	0.01
DOMI	-0.24	0.03	-0.04	0.14	-0.12	0.26	-0.15	0.24	-0.36	-0.11	0.14
PROD	-0.25	0.17	-0.05	-0.01	0.04	0.09	-0.19	0.26	-0.23	-0.10	0.03
COOP	0.22	-0.18	0.01	-0.09	-0.04	-0.31	0.19	-0.26	0.32	0.14	-0.06
CNSN	0.06	-0.01	-0.15	-0.19	0.00	-0.10	0.14	-0.06	0.14	-0.07	-0.10
AUTH	0.23	-0.27	0.05	-0.15	-0.16	-0.26	0.01	-0.16	0.11	0.32	0.07
EMPH	0.01	-0.15	-0.11	-0.07	-0.21	-0.1	0.45	0.08	0.12	-0.11	-0.23
SCALE	**COMM**	**DELE**	**CTRL**	**FDBK**	**MGMT**	**DOMI**	**PROD**	**COOP**	**CNSN**	**AUTH**	**EMPH**
COMM	1.00										
DELE	-0.02	1.00									
CTRL	0.03	-0.10	1.00								
FDBK	0.10	0.01	0.11	1.00							
MGMT	0.06	0.07	0.07	0.16	1.00						
DOMI	-0.01	-0.11	0.20	0.40	0.37	1.00					
PROD	-0.03	-0.02	0.27	0.16	0.27	0.41	1.00				
COOP	-0.07	0.05	-0.12	-0.35	-0.31	-0.51	-0.34	1.00			
CNSN	0.05	0.32	-0.13	-0.18	-0.17	-0.36	-0.25	0.36	1.00		
AUTH	-0.03	-0.14	0.12	-0.16	-0.22	-0.17	-0.14	0.32	0.12	1.00	
EMPH	-0.08	-0.02	-0.22	-0.23	-0.21	-0.36	-0.27	0.42	0.27	0.11	1.00

D2. LEA-Boss Scale Intercorrelations

SCALE	CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	1.00										
INNO	-0.34	1.00									
TECH	0.20	0.12	1.00								
SELF	-0.04	0.14	0.07	1.00							
STRT	0.17	0.27	0.28	-0.10	1.00						
PERS	-0.34	0.21	-0.12	0.04	-0.04	1.00					
OUTG	-0.20	-0.13	-0.29	-0.18	-0.38	0.21	1.00				
EXCT	-0.49	0.14	-0.20	-0.08	-0.31	0.38	0.39	1.00			
REST	0.35	-0.12	0.09	-0.10	0.29	-0.29	-0.20	-0.52	1.00		
STRC	0.46	-0.35	0.15	-0.08	0.19	-0.44	-0.40	-0.48	0.28	1.00	
TACT	0.06	-0.09	-0.03	0.07	-0.13	0.00	-0.03	0.06	-0.11	0.01	1.00
COMM	0.01	0.03	0.13	-0.17	0.26	0.05	-0.18	-0.10	0.08	0.20	-0.14
DELE	-0.02	0.07	-0.06	-0.12	0.11	0.02	0.05	-0.05	0.08	-0.12	-0.09
CTRL	-0.03	-0.05	0.09	-0.04	0.09	-0.09	-0.38	-0.02	-0.08	0.28	0.12
FDBK	-0.32	0.13	-0.05	0.24	-0.21	0.16	-0.11	0.16	-0.37	-0.13	0.10
MGMT	-0.28	0.14	-0.04	0.27	-0.06	0.33	-0.15	0.26	-0.43	-0.17	0.07
DOMI	-0.27	0.11	-0.06	0.42	-0.22	0.23	-0.21	0.23	-0.49	-0.12	0.13
PROD	-0.32	0.16	-0.03	0.14	-0.05	0.11	-0.25	0.33	-0.35	-0.10	0.05
COOP	0.18	-0.15	-0.05	-0.37	0.05	-0.23	0.25	-0.15	0.35	0.04	-0.06
CNSN	0.11	-0.09	-0.12	-0.43	0.13	-0.14	0.16	-0.12	0.28	-0.01	-0.14
AUTH	0.32	-0.38	-0.07	-0.38	-0.13	-0.39	0.10	-0.19	0.25	0.28	0.01
EMPH	0.03	-0.18	-0.19	-0.28	-0.15	-0.04	0.50	0.12	0.18	-0.18	-0.18

SCALE	COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
COMM	1.00										
DELE	-0.03	1.00									
CTRL	0.09	-0.24	1.00								
FDBK	-0.03	-0.10	0.17	1.00							
MGMT	0.00	-0.07	0.20	0.38	1.00						
DOMI	-0.08	-0.21	0.27	0.55	0.66	1.00					
PROD	-0.01	-0.24	0.43	0.27	0.43	0.52	1.00				
COOP	-0.04	0.12	-0.22	-0.41	-0.56	-0.66	-0.42	1.00			
CNSN	0.12	0.32	-0.20	-0.33	-0.48	-0.58	-0.38	0.52	1.00		
AUTH	-0.09	-0.08	0.01	-0.28	-0.42	-0.38	-0.23	0.44	0.33	1.00	
EMPH	-0.05	0.02	-0.30	-0.32	-0.46	-0.52	-0.34	0.51	0.42	0.25	1.00

D3. LEA-Peer Scale Intercorrelations

SCALE	CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	1.00										
INNO	-0.41	1.00									
TECH	0.25	0.09	1.00								
SELF	-0.10	0.20	0.09	1.00							
STRT	0.29	0.22	0.34	-0.10	1.00						
PERS	-0.42	0.30	-0.14	0.14	-0.09	1.00					
OUTG	-0.29	-0.06	-0.31	-0.23	-0.41	0.25	1.00				
EXCT	-0.58	0.19	-0.22	-0.08	-0.39	0.43	0.48	1.00			
REST	0.47	-0.17	0.13	-0.19	0.40	-0.39	-0.21	-0.59	1.00		
STRC	0.54	-0.41	0.16	-0.13	0.26	-0.53	-0.47	-0.55	0.38	1.00	
TACT	-0.02	-0.06	-0.05	0.07	-0.14	0.05	-0.02	0.09	-0.16	-0.02	1.00
COMM	0.10	-0.01	0.19	-0.22	0.34	-0.08	-0.22	-0.15	0.16	0.28	-0.16
DELE	-0.05	0.07	-0.14	-0.12	0.09	0.06	0.13	-0.03	0.10	-0.18	-0.06
CTRL	0.03	-0.13	0.07	0.00	0.06	-0.14	-0.44	-0.06	-0.10	0.34	0.13
FDBK	-0.38	0.16	-0.08	0.37	-0.29	0.26	-0.09	0.21	-0.51	-0.22	0.12
MGMT	-0.34	0.18	-0.06	0.38	-0.12	0.44	-0.17	0.28	-0.54	-0.23	0.11
DOMI	-0.35	0.14	-0.08	0.52	-0.28	0.35	-0.22	0.25	-0.61	-0.18	0.16
PROD	-0.36	0.17	-0.08	0.24	-0.13	0.18	-0.27	0.35	-0.46	-0.10	0.08
COOP	0.25	-0.18	0.02	-0.48	0.11	-0.32	0.28	-0.16	0.46	0.09	-0.08
CNSN	0.18	-0.12	-0.10	-0.51	0.17	-0.26	0.20	-0.13	0.38	0.02	-0.16
AUTH	0.40	-0.47	-0.10	-0.40	-0.15	-0.48	0.05	-0.24	0.29	0.38	0.01
EMPH	0.05	-0.15	-0.12	-0.38	-0.08	-0.11	0.51	0.13	0.25	-0.16	-0.22

SCALE	COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
COMM	1.00										
DELE	-0.08	1.00									
CTRL	0.13	-0.30	1.00								
FDBK	-0.08	-0.11	0.16	1.00							
MGMT	-0.04	-0.06	0.20	0.51	1.00						
DOMI	-0.15	-0.21	0.30	0.64	0.76	1.00					
PROD	-0.05	-0.25	0.45	0.35	0.55	0.63	1.00				
COOP	0.05	0.13	-0.25	-0.49	-0.68	-0.77	-0.56	1.00			
CNSN	0.18	0.31	-0.23	-0.42	-0.59	-0.68	-0.47	0.65	1.00		
AUTH	-0.06	-0.10	0.05	-0.38	-0.47	-0.40	-0.25	0.40	0.29	1.00	
EMPH	0.03	0.04	-0.33	-0.38	-0.53	-0.61	-0.42	0.63	0.54	0.20	1.00

D4. LEA-Direct Report Scale Intercorrelations

SCALE	CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	1.00										
INNO	-0.30	1.00									
TECH	0.27	0.10	1.00								
SELF	-0.08	0.16	0.03	1.00							
STRT	0.29	0.23	0.31	-0.09	1.00						
PERS	-0.33	0.24	-0.17	0.14	-0.09	1.00					
OUTG	-0.27	-0.11	-0.25	-0.19	-0.40	0.19	1.00				
EXCT	-0.48	0.15	-0.16	-0.14	-0.33	0.33	0.43	1.00			
REST	0.39	-0.12	0.13	-0.14	0.34	-0.36	-0.14	-0.50	1.00		
STRC	0.46	-0.40	0.13	-0.13	0.19	-0.46	-0.40	-0.48	0.29	1.00	
TACT	-0.04	-0.01	-0.02	0.06	-0.07	0.11	0.00	0.11	-0.16	-0.08	1.00
COMM	0.13	-0.08	0.24	-0.32	0.23	-0.20	-0.17	-0.09	0.15	0.31	-0.12
DELE	-0.09	0.11	-0.17	-0.09	0.09	0.07	0.08	-0.04	0.06	-0.23	-0.02
CTRL	0.06	-0.12	0.03	-0.04	0.07	-0.11	-0.40	-0.08	-0.11	0.32	0.07
FDBK	-0.34	0.14	-0.08	0.22	-0.25	0.22	-0.09	0.17	-0.43	-0.18	0.09
MGMT	-0.24	0.15	-0.05	0.34	-0.07	0.40	-0.22	0.19	-0.50	-0.17	0.12
DOMI	-0.26	0.10	-0.11	0.46	-0.23	0.33	-0.27	0.14	-0.55	-0.12	0.13
PROD	-0.27	0.13	-0.09	0.18	-0.09	0.16	-0.30	0.28	-0.42	-0.07	0.02
COOP	0.17	-0.15	0.06	-0.39	0.04	-0.30	0.32	-0.09	0.40	0.04	-0.05
CNSN	0.12	-0.05	-0.04	-0.47	0.18	-0.25	0.16	-0.07	0.32	-0.02	-0.12
AUTH	0.31	-0.44	-0.09	-0.29	-0.20	-0.40	0.06	-0.20	0.20	0.36	-0.08
EMPH	0.01	-0.13	-0.01	-0.34	-0.08	-0.16	0.49	0.18	0.23	-0.16	-0.16

SCALE	COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
COMM	1.00										
DELE	-0.13	1.00									
CTRL	0.13	-0.27	1.00								
FDBK	-0.03	-0.04	0.12	1.00							
MGMT	-0.11	-0.05	0.18	0.44	1.00						
DOMI	-0.22	-0.18	0.28	0.54	0.73	1.00					
PROD	-0.10	-0.20	0.42	0.27	0.49	0.58	1.00				
COOP	0.13	0.08	-0.28	-0.39	-0.65	-0.72	-0.53	1.00			
CNSN	0.26	0.32	-0.20	-0.28	-0.51	-0.63	-0.41	0.57	1.00		
AUTH	0.00	-0.14	0.08	-0.31	-0.37	-0.28	-0.17	0.26	0.15	1.00	
EMPH	0.11	0.00	-0.32	-0.29	-0.51	-0.60	-0.41	0.62	0.47	0.11	1.00

D5. Correlations Between LEA-Self and LEA-Boss Ratings

BOSS SCALE	SELF CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	0.28	-0.16	0.14	0.02	0.10	-0.16	-0.14	-0.31	0.23	0.22	-0.01
INNO	-0.14	0.34	-0.01	0.04	0.13	0.08	-0.01	0.09	-0.07	-0.20	0.00
TECH	0.10	0.07	0.31	0.05	0.15	-0.11	-0.13	-0.17	0.05	0.08	0.01
SELF	-0.05	0.08	0.06	0.17	0.05	0.04	-0.10	-0.03	-0.05	-0.05	0.02
STRT	0.09	0.09	0.02	-0.01	0.33	-0.06	-0.15	-0.20	0.16	0.03	-0.01
PERS	-0.18	0.10	-0.12	-0.02	-0.08	0.32	0.12	0.26	-0.20	-0.25	-0.02
OUTG	-0.07	-0.01	-0.08	-0.04	-0.25	0.16	0.39	0.28	-0.11	-0.18	-0.06
EXCT	-0.26	0.09	-0.13	-0.08	-0.22	0.21	0.23	0.50	-0.34	-0.21	0.01
REST	0.22	-0.08	0.06	0.02	0.14	-0.19	-0.11	-0.35	0.46	0.15	-0.03
STRC	0.19	-0.19	0.09	-0.01	0.14	-0.24	-0.20	-0.3	0.17	0.39	0.03
TACT	0.00	-0.03	0.02	-0.01	-0.05	-0.02	-0.01	0.02	-0.05	0.04	0.11
COMM	0.01	-0.02	-0.02	-0.02	0.09	0.00	-0.04	-0.05	0.02	0.05	-0.02
DELE	-0.01	0.06	-0.08	-0.01	0.03	0.05	0.03	-0.03	0.07	-0.12	-0.04
CTRL	-0.03	-0.06	-0.03	-0.05	0.03	-0.07	-0.17	-0.01	-0.07	0.15	0.10
FDBK	-0.14	0.04	-0.04	0.04	-0.08	0.08	-0.05	0.10	-0.24	-0.07	0.05
MGMT	-0.19	0.07	-0.10	-0.01	0.00	0.19	-0.07	0.20	-0.28	-0.12	0.04
DOMI	-0.17	0.05	-0.04	0.03	-0.04	0.15	-0.11	0.17	-0.32	-0.07	0.07
PROD	-0.17	0.06	-0.06	-0.03	0.01	0.06	-0.13	0.20	-0.21	-0.02	0.07
COOP	0.13	-0.07	0.03	-0.05	-0.02	-0.15	0.12	-0.13	0.25	0.06	-0.03
CNSN	0.09	-0.05	-0.06	-0.05	-0.02	-0.07	0.11	-0.08	0.18	0.00	-0.06
AUTH	0.17	-0.18	0.07	-0.06	-0.09	-0.17	0.00	-0.13	0.14	0.22	0.02
EMPH	0.04	-0.07	-0.03	-0.04	-0.15	-0.03	0.25	0.04	0.12	-0.07	-0.14

BOSS SCALE	SELF COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
CNSV	0.01	-0.06	0.03	-0.14	-0.15	-0.17	-0.19	0.17	0.06	0.15	0.02
INNO	-0.04	0.08	-0.12	0.03	0.07	0.06	0.09	-0.14	-0.06	-0.18	-0.11
TECH	0.02	-0.03	-0.03	-0.06	-0.06	-0.03	-0.04	0	-0.09	-0.01	-0.09
SELF	-0.04	0.01	-0.01	0.13	0.06	0.17	0.06	-0.15	-0.15	-0.14	-0.16
STRT	0.02	0.05	-0.04	-0.14	0.01	-0.12	-0.03	0.02	0.02	-0.07	-0.10
PERS	0.02	0.06	-0.08	0.12	0.17	0.17	0.08	-0.18	-0.06	-0.18	-0.04
OUTG	-0.04	-0.02	-0.14	-0.04	-0.04	-0.07	-0.08	0.08	0.08	0.01	0.26
EXCT	0.00	0.00	-0.02	0.12	0.11	0.17	0.20	-0.16	-0.03	-0.08	0.05
REST	-0.04	-0.01	0.00	-0.27	-0.14	-0.28	-0.18	0.24	0.12	0.11	0.08
STRC	0.07	-0.08	0.16	-0.09	-0.09	-0.10	-0.07	0.11	0.00	0.14	-0.07
TACT	-0.03	-0.06	0.06	0.08	-0.02	0.08	0.01	-0.03	-0.05	0.04	-0.10
COMM	0.14	0.00	0.00	-0.03	0.06	-0.02	0.00	-0.03	0.02	-0.05	-0.02
DELE	-0.02	0.17	-0.09	-0.02	0.02	-0.08	-0.1	0.03	0.12	-0.06	0.03
CTRL	0.02	-0.05	0.24	0.09	0.07	0.14	0.15	-0.1	-0.08	0.04	-0.15
FDBK	0.04	0.03	0.05	0.34	0.10	0.26	0.10	-0.23	-0.13	-0.08	-0.17
MGMT	0.07	0.05	0.05	0.26	0.29	0.33	0.21	-0.32	-0.15	-0.17	-0.24
DOMI	0.05	0.01	0.11	0.33	0.20	0.40	0.24	-0.34	-0.20	-0.13	-0.28
PROD	0.01	-0.03	0.15	0.17	0.16	0.28	0.35	-0.24	-0.15	-0.06	-0.21
COOP	-0.06	-0.03	-0.09	-0.26	-0.17	-0.31	-0.19	0.32	0.17	0.16	0.26
CNSN	-0.01	0.02	-0.07	-0.20	-0.11	-0.25	-0.16	0.23	0.21	0.08	0.23
AUTH	0.00	-0.11	0.07	-0.13	-0.19	-0.17	-0.12	0.21	0.10	0.31	0.13
EMPH	-0.05	-0.01	-0.12	-0.20	-0.14	-0.27	-0.16	0.27	0.17	0.09	0.44

D6. Correlations Between LEA-Self and LEA-Peer Ratings

PEER / SELF											
SCALE	**CNSV**	**INNO**	**TECH**	**SELF**	**STRT**	**PERS**	**OUTG**	**EXCT**	**REST**	**STRC**	**TACT**
CNSV	0.33	-0.19	0.17	0.01	0.14	-0.20	-0.21	-0.40	0.31	0.28	-0.02
INNO	-0.19	0.38	-0.02	0.08	0.13	0.14	0.04	0.15	-0.11	-0.27	0.00
TECH	0.12	0.05	0.38	0.08	0.14	-0.12	-0.14	-0.18	0.07	0.08	0.00
SELF	-0.06	0.10	0.07	0.20	0.05	0.06	-0.12	-0.03	-0.10	-0.09	0.05
STRT	0.11	0.08	0.04	0.03	0.37	-0.07	-0.17	-0.24	0.21	0.03	-0.04
PERS	-0.22	0.14	-0.15	-0.02	-0.07	0.39	0.12	0.31	-0.28	-0.30	-0.02
OUTG	-0.08	0.00	-0.09	-0.06	-0.27	0.18	0.45	0.31	-0.12	-0.20	-0.08
EXCT	-0.28	0.08	-0.15	-0.08	-0.26	0.26	0.29	0.58	-0.39	-0.24	0.00
REST	0.26	-0.08	0.06	0.02	0.18	-0.20	-0.13	-0.41	0.53	0.16	-0.06
STRC	0.23	-0.21	0.12	-0.02	0.17	-0.31	-0.25	-0.37	0.24	0.46	0.03
TACT	-0.01	-0.03	0.00	0.00	-0.07	-0.01	-0.01	0.04	-0.06	0.05	0.16
COMM	0.04	-0.06	0.01	-0.02	0.11	-0.04	-0.04	-0.10	0.06	0.10	-0.04
DELE	-0.03	0.07	-0.12	-0.02	0.04	0.06	0.06	-0.01	0.08	-0.13	-0.05
CTRL	-0.03	-0.09	-0.03	-0.05	0.03	-0.08	-0.21	-0.02	-0.08	0.18	0.10
FDBK	-0.18	0.04	-0.04	0.06	-0.12	0.11	-0.02	0.15	-0.33	-0.09	0.06
MGMT	-0.23	0.09	-0.11	0.01	-0.01	0.22	-0.07	0.23	-0.35	-0.13	0.07
DOMI	-0.22	0.06	-0.07	0.04	-0.05	0.18	-0.11	0.20	-0.38	-0.09	0.10
PROD	-0.22	0.06	-0.10	-0.03	-0.01	0.11	-0.13	0.26	-0.29	-0.04	0.09
COOP	0.17	-0.09	0.05	-0.05	-0.05	-0.18	0.14	-0.15	0.30	0.07	-0.07
CNSN	0.12	-0.07	-0.06	-0.06	-0.02	-0.11	0.13	-0.09	0.23	0.00	-0.09
AUTH	0.21	-0.19	0.06	-0.12	-0.06	-0.22	-0.04	-0.17	0.21	0.26	0.02
EMPH	0.06	-0.07	-0.02	-0.04	-0.17	-0.05	0.28	0.04	0.14	-0.07	-0.16

PEER / SELF											
SCALE	**COMM**	**DELE**	**CTRL**	**FDBK**	**MGMT**	**DOMI**	**PROD**	**COOP**	**CNSN**	**AUTH**	**EMPH**
CNSV	0.02	-0.07	0.05	-0.2	-0.18	-0.22	-0.20	0.19	0.06	0.17	0.01
INNO	-0.05	0.11	-0.16	0.08	0.08	0.08	0.10	-0.16	-0.06	-0.24	-0.10
TECH	0.03	-0.06	-0.02	-0.06	-0.09	-0.04	-0.04	0.00	-0.10	-0.01	-0.08
SELF	-0.02	0.01	-0.02	0.20	0.07	0.22	0.08	-0.21	-0.17	-0.15	-0.20
STRT	0.02	0.06	-0.05	-0.16	0.01	-0.14	-0.05	0.04	0.02	-0.12	-0.07
PERS	0.00	0.09	-0.09	0.18	0.18	0.22	0.10	-0.25	-0.06	-0.21	-0.08
OUTG	-0.05	0.00	-0.17	-0.05	-0.04	-0.09	-0.09	0.09	0.11	0.03	0.27
EXCT	0.00	0.01	-0.04	0.14	0.13	0.19	0.20	-0.19	-0.04	-0.10	0.06
REST	-0.05	-0.02	-0.01	-0.33	-0.16	-0.33	-0.21	0.28	0.14	0.10	0.10
STRC	0.08	-0.10	0.18	-0.14	-0.12	-0.14	-0.08	0.15	0.00	0.17	-0.06
TACT	-0.02	-0.04	0.05	0.09	-0.01	0.09	0.02	-0.04	-0.06	0.04	-0.12
COMM	0.17	-0.03	0.03	-0.05	0.03	-0.06	-0.04	0.03	0.02	-0.04	0.03
DELE	-0.04	0.21	-0.10	-0.04	0.06	-0.09	-0.11	0.03	0.14	-0.07	0.05
CTRL	0.04	-0.06	0.28	0.10	0.07	0.16	0.19	-0.10	-0.09	0.04	-0.17
FDBK	0.04	0.03	0.05	0.43	0.14	0.33	0.12	-0.27	-0.17	-0.10	-0.18
MGMT	0.08	0.06	0.06	0.33	0.32	0.40	0.24	-0.37	-0.18	-0.17	-0.27
DOMI	0.04	0.02	0.11	0.38	0.23	0.45	0.27	-0.37	-0.22	-0.13	-0.31
PROD	0.02	-0.01	0.18	0.21	0.20	0.34	0.40	-0.30	-0.17	-0.09	-0.23
COOP	-0.06	-0.04	-0.10	-0.31	-0.23	-0.37	-0.24	0.40	0.21	0.17	0.33
CNSN	-0.02	0.02	-0.08	-0.25	-0.14	-0.31	-0.19	0.30	0.26	0.08	0.29
AUTH	-0.01	-0.11	0.09	-0.22	-0.22	-0.23	-0.12	0.27	0.12	0.38	0.12
EMPH	-0.04	-0.02	-0.13	-0.24	-0.16	-0.31	-0.17	0.29	0.19	0.08	0.48

D7. Correlations Between LEA-Self and LEA-Direct Report Ratings

DIRECT REPORT SCALE	SELF CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	0.31	-0.16	0.15	0.02	0.10	-0.17	-0.16	-0.33	0.26	0.23	-0.02
INNO	-0.18	0.39	-0.02	0.07	0.14	0.13	0.01	0.14	-0.10	-0.27	-0.03
TECH	0.12	0.02	0.36	0.11	0.07	-0.12	-0.05	-0.16	0.08	0.08	-0.01
SELF	-0.06	0.09	0.07	0.18	0.05	0.05	-0.11	-0.04	-0.07	-0.07	0.05
STRT	0.09	0.09	0.02	0.02	0.34	-0.05	-0.17	-0.21	0.19	0.01	-0.04
PERS	-0.18	0.15	-0.12	-0.03	-0.03	0.38	0.07	0.27	-0.24	-0.27	-0.01
OUTG	-0.08	-0.01	-0.07	-0.05	-0.23	0.15	0.42	0.26	-0.10	-0.18	-0.06
EXCT	-0.27	0.08	-0.14	-0.09	-0.22	0.23	0.27	0.55	-0.36	-0.22	0.00
REST	0.24	-0.09	0.05	0.04	0.15	-0.18	-0.10	-0.37	0.51	0.13	-0.06
STRC	0.23	-0.23	0.11	-0.01	0.10	-0.27	-0.20	-0.33	0.20	0.46	0.03
TACT	-0.03	0.00	0.00	0.00	-0.06	0.04	0.03	0.08	-0.09	-0.02	0.14
COMM	0.05	-0.10	0.02	-0.04	0.01	-0.09	0.01	-0.08	0.07	0.14	-0.05
DELE	-0.03	0.08	-0.12	-0.04	0.06	0.06	0.02	-0.01	0.04	-0.14	-0.02
CTRL	-0.01	-0.09	-0.03	-0.06	0.01	-0.05	-0.19	-0.02	-0.07	0.17	0.09
FDBK	-0.16	0.03	-0.05	0.04	-0.13	0.11	-0.02	0.14	-0.30	-0.07	0.06
MGMT	-0.21	0.09	-0.08	0.00	-0.01	0.19	-0.10	0.20	-0.31	-0.09	0.06
DOMI	-0.19	0.06	-0.05	0.03	-0.04	0.16	-0.14	0.17	-0.34	-0.06	0.10
PROD	-0.21	0.07	-0.10	-0.04	0.01	0.10	-0.15	0.23	-0.25	-0.03	0.07
COOP	0.15	-0.09	0.05	-0.01	-0.07	-0.14	0.17	-0.13	0.25	0.03	-0.08
CNSN	0.10	-0.05	-0.07	-0.06	0.01	-0.10	0.09	-0.09	0.20	-0.02	-0.08
AUTH	0.21	-0.18	0.06	-0.09	-0.06	-0.19	-0.01	-0.16	0.17	0.24	0.02
EMPH	0.04	-0.06	0.00	-0.03	-0.13	-0.06	0.26	0.03	0.12	-0.07	-0.15

DIRECT REPORT SCALE	SELF COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
CNSV	0.02	-0.07	0.06	-0.18	-0.16	-0.19	-0.17	0.17	0.05	0.16	0.02
INNO	-0.06	0.13	-0.15	0.10	0.10	0.08	0.11	-0.17	-0.06	-0.25	-0.09
TECH	0.03	-0.11	-0.05	-0.07	-0.12	-0.07	-0.07	0.04	-0.10	0.00	0.00
SELF	-0.05	-0.02	-0.01	0.16	0.07	0.20	0.10	-0.19	-0.17	-0.11	-0.21
STRT	0.01	0.08	-0.04	-0.12	0.04	-0.12	-0.05	0.02	0.02	-0.12	-0.06
PERS	-0.02	0.08	-0.07	0.17	0.18	0.22	0.13	-0.26	-0.08	-0.19	-0.11
OUTG	-0.06	-0.01	-0.17	-0.06	-0.04	-0.10	-0.11	0.09	0.11	0.01	0.26
EXCT	-0.01	0.01	-0.05	0.11	0.11	0.15	0.19	-0.16	-0.03	-0.09	0.08
REST	-0.02	-0.02	-0.04	-0.29	-0.15	-0.30	-0.22	0.26	0.13	0.07	0.11
STRC	0.09	-0.15	0.19	-0.11	-0.13	-0.11	-0.09	0.13	-0.01	0.19	-0.05
TACT	-0.02	-0.03	0.04	0.09	0.02	0.10	0.03	-0.05	-0.06	-0.01	-0.09
COMM	0.19	-0.06	0.02	-0.03	-0.04	-0.11	-0.09	0.08	0.04	0.02	0.09
DELE	-0.05	0.24	-0.09	-0.02	0.09	-0.06	-0.08	0.02	0.11	-0.07	0.00
CTRL	0.05	-0.07	0.29	0.11	0.05	0.15	0.17	-0.10	-0.08	0.04	-0.15
FDBK	0.05	0.02	0.06	0.42	0.13	0.30	0.13	-0.26	-0.14	-0.09	-0.16
MGMT	0.04	0.05	0.08	0.30	0.29	0.37	0.26	-0.35	-0.19	-0.14	-0.27
DOMI	0.02	0.00	0.14	0.35	0.22	0.43	0.29	-0.36	-0.22	-0.09	-0.32
PROD	-0.01	-0.01	0.19	0.17	0.20	0.31	0.40	-0.28	-0.16	-0.07	-0.23
COOP	-0.03	-0.03	-0.11	-0.26	-0.21	-0.33	-0.25	0.36	0.20	0.12	0.33
CNSN	0.00	0.09	-0.09	-0.19	-0.10	-0.28	-0.20	0.25	0.26	0.03	0.26
AUTH	0.01	-0.12	0.08	-0.18	-0.22	-0.19	-0.12	0.24	0.10	0.35	0.09
EMPH	-0.03	0.00	-0.15	-0.22	-0.14	-0.29	-0.17	0.27	0.18	0.05	0.47

D8. Correlations Between LEA-Boss and LEA-Peer Ratings

PEER SCALE	BOSS CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	0.46	-0.25	0.17	-0.06	0.16	-0.26	-0.19	-0.42	0.36	0.35	-0.01
INNO	-0.27	0.47	0.06	0.14	0.13	0.19	-0.02	0.15	-0.14	-0.27	-0.05
TECH	0.16	0.05	0.47	0.08	0.18	-0.08	-0.18	-0.17	0.10	0.10	-0.03
SELF	-0.05	0.11	0.08	0.37	-0.04	0.07	-0.15	-0.04	-0.13	-0.07	0.07
STRT	0.15	0.13	0.21	-0.01	0.46	-0.05	-0.26	-0.27	0.26	0.16	-0.11
PERS	-0.26	0.17	-0.11	0.09	-0.08	0.42	0.17	0.31	-0.29	-0.34	0.01
OUTG	-0.15	-0.06	-0.21	-0.15	-0.26	0.15	0.55	0.32	-0.15	-0.31	0.00
EXCT	-0.38	0.10	-0.19	-0.04	-0.27	0.30	0.36	0.63	-0.44	-0.38	0.04
REST	0.30	-0.10	0.09	-0.09	0.25	-0.23	-0.15	-0.44	0.59	0.24	-0.09
STRC	0.32	-0.22	0.14	-0.07	0.18	-0.34	-0.32	-0.39	0.28	0.55	-0.02
TACT	-0.02	-0.04	-0.04	0.04	-0.10	0.01	0.00	0.07	-0.08	-0.03	0.21
COMM	0.05	-0.02	0.07	-0.09	0.18	-0.02	-0.12	-0.11	0.09	0.18	-0.11
DELE	-0.02	0.03	-0.10	-0.05	0.05	0.05	0.08	-0.03	0.08	-0.12	-0.04
CTRL	-0.02	-0.06	0.02	0.01	0.03	-0.07	-0.26	-0.01	-0.07	0.21	0.05
FDBK	-0.21	0.07	-0.08	0.20	-0.19	0.15	-0.05	0.17	-0.36	-0.13	0.09
MGMT	-0.24	0.13	-0.05	0.20	-0.06	0.26	-0.10	0.22	-0.38	-0.14	0.08
DOMI	-0.23	0.11	-0.05	0.27	-0.15	0.20	-0.14	0.21	-0.42	-0.11	0.12
PROD	-0.26	0.12	-0.07	0.13	-0.07	0.14	-0.15	0.27	-0.32	-0.07	0.06
COOP	0.18	-0.14	-0.01	-0.25	0.03	-0.18	0.18	-0.14	0.32	0.05	-0.07
CNSN	0.10	-0.11	-0.09	-0.26	0.07	-0.12	0.14	-0.11	0.26	0.03	-0.10
AUTH	0.25	-0.23	-0.04	-0.26	-0.03	-0.29	0.02	-0.16	0.24	0.23	0.02
EMPH	0.04	-0.14	-0.12	-0.21	-0.11	-0.04	0.35	0.06	0.15	-0.11	-0.13

PEER SCALE	BOSS COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
CNSV	0.04	0.00	0.01	-0.24	-0.25	-0.25	-0.24	0.19	0.11	0.25	0.05
INNO	0.01	0.04	-0.09	0.12	0.12	0.12	0.13	-0.15	-0.10	-0.30	-0.13
TECH	0.05	-0.09	0.02	-0.05	-0.07	-0.05	-0.05	-0.01	-0.10	-0.04	-0.09
SELF	-0.08	-0.06	0.02	0.24	0.23	0.33	0.14	-0.29	-0.29	-0.24	-0.26
STRT	0.18	0.05	0.03	-0.17	-0.08	-0.17	-0.07	0.06	0.07	-0.10	-0.06
PERS	-0.04	0.06	-0.08	0.17	0.29	0.24	0.12	-0.22	-0.14	-0.28	-0.08
OUTG	-0.11	0.08	-0.26	-0.08	-0.10	-0.15	-0.18	0.17	0.16	0.08	0.34
EXCT	-0.07	-0.05	-0.02	0.14	0.21	0.20	0.22	-0.13	-0.09	-0.14	0.07
REST	0.06	0.08	-0.08	-0.33	-0.36	-0.43	-0.28	0.31	0.25	0.17	0.17
STRC	0.15	-0.09	0.21	-0.15	-0.15	-0.13	-0.05	0.07	0.04	0.20	-0.10
TACT	-0.09	-0.03	0.07	0.08	0.07	0.11	0.07	-0.05	-0.09	0.01	-0.12
COMM	0.27	-0.02	0.06	-0.06	-0.02	-0.08	-0.05	0.02	0.08	-0.01	0.01
DELE	-0.02	0.32	-0.17	-0.06	-0.04	-0.14	-0.15	0.08	0.15	-0.05	0.06
CTRL	0.07	-0.15	0.39	0.12	0.13	0.20	0.28	-0.14	-0.13	-0.01	-0.21
FDBK	-0.05	-0.06	0.09	0.47	0.33	0.44	0.21	-0.33	-0.27	-0.20	-0.26
MGMT	0.01	-0.05	0.13	0.34	0.55	0.50	0.33	-0.42	-0.35	-0.31	-0.36
DOMI	-0.05	-0.12	0.19	0.42	0.49	0.59	0.38	-0.46	-0.40	-0.27	-0.41
PROD	0.01	-0.16	0.26	0.25	0.37	0.43	0.50	-0.34	-0.28	-0.19	-0.29
COOP	-0.02	0.08	-0.16	-0.33	-0.44	-0.50	-0.33	0.47	0.37	0.29	0.42
CNSN	0.05	0.14	-0.13	-0.28	-0.36	-0.43	-0.27	0.37	0.41	0.22	0.36
AUTH	-0.03	-0.03	0.03	-0.24	-0.31	-0.29	-0.15	0.31	0.22	0.46	0.18
EMPH	-0.02	0.04	-0.21	-0.26	-0.35	-0.40	-0.29	0.36	0.33	0.20	0.58

D9. Correlations Between LEA-Boss and LEA-Direct Report Ratings

DIRECT REPORT SCALE	BOSS CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	0.38	-0.19	0.14	-0.04	0.13	-0.21	-0.15	-0.33	0.30	0.28	-0.01
INNO	-0.20	0.39	0.06	0.14	0.13	0.17	-0.05	0.11	-0.12	-0.21	-0.04
TECH	0.13	0.03	0.35	0.07	0.11	-0.06	-0.10	-0.12	0.10	0.07	0.00
SELF	-0.04	0.10	0.08	0.27	-0.01	0.05	-0.13	-0.05	-0.09	-0.04	0.05
STRT	0.12	0.11	0.17	0.02	0.38	-0.02	-0.24	-0.24	0.23	0.14	-0.08
PERS	-0.20	0.13	-0.08	0.11	-0.07	0.33	0.13	0.25	-0.25	-0.28	0.02
OUTG	-0.13	-0.05	-0.17	-0.15	-0.22	0.12	0.49	0.27	-0.12	-0.28	0.00
EXCT	-0.34	0.09	-0.16	-0.07	-0.23	0.27	0.32	0.57	-0.39	-0.33	0.04
REST	0.26	-0.07	0.06	-0.07	0.22	-0.19	-0.12	-0.37	0.51	0.19	-0.07
STRC	0.27	-0.19	0.09	-0.06	0.12	-0.28	-0.25	-0.31	0.23	0.47	0.00
TACT	-0.07	0.00	-0.03	0.05	-0.07	0.05	0.03	0.10	-0.09	-0.07	0.15
COMM	0.04	-0.07	0.01	-0.08	0.07	-0.04	-0.06	-0.06	0.08	0.15	-0.05
DELE	-0.02	0.05	-0.03	-0.01	0.06	0.05	0.02	-0.04	0.05	-0.09	-0.03
CTRL	0.01	-0.07	0.00	0.00	0.01	-0.07	-0.21	-0.02	-0.05	0.19	0.04
FDBK	-0.19	0.05	-0.07	0.15	-0.18	0.14	-0.03	0.17	-0.33	-0.12	0.09
MGMT	-0.19	0.09	-0.03	0.16	-0.06	0.20	-0.10	0.18	-0.32	-0.09	0.06
DOMI	-0.18	0.07	-0.04	0.21	-0.13	0.15	-0.13	0.17	-0.35	-0.06	0.09
PROD	-0.21	0.10	-0.06	0.09	-0.04	0.11	-0.14	0.23	-0.26	-0.03	0.04
COOP	0.12	-0.11	-0.02	-0.17	-0.02	-0.13	0.18	-0.10	0.24	0.00	-0.04
CNSN	0.08	-0.06	-0.06	-0.19	0.08	-0.08	0.09	-0.09	0.20	0.01	-0.09
AUTH	0.20	-0.20	-0.04	-0.23	-0.04	-0.25	0.03	-0.14	0.18	0.19	0.01
EMPH	0.03	-0.10	-0.08	-0.18	-0.09	-0.03	0.29	0.05	0.13	-0.10	-0.10

DIRECT REPORT SCALE	BOSS COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
CNSV	0.04	-0.01	0.01	-0.18	-0.21	-0.21	-0.20	0.16	0.09	0.21	0.04
INNO	0.00	0.04	-0.05	0.11	0.13	0.11	0.10	-0.14	-0.09	-0.27	-0.12
TECH	0.04	-0.12	-0.01	-0.05	-0.09	-0.06	-0.06	0.03	-0.07	0.00	-0.01
SELF	-0.07	-0.07	0.02	0.18	0.18	0.25	0.13	-0.22	-0.23	-0.17	-0.23
STRT	0.14	0.06	0.04	-0.14	-0.03	-0.13	-0.07	0.03	0.04	-0.11	-0.07
PERS	-0.06	0.04	-0.06	0.15	0.25	0.23	0.12	-0.21	-0.15	-0.24	-0.10
OUTG	-0.11	0.07	-0.23	-0.09	-0.10	-0.15	-0.16	0.16	0.14	0.07	0.31
EXCT	-0.07	-0.04	-0.02	0.11	0.17	0.15	0.20	-0.10	-0.06	-0.11	0.09
REST	0.07	0.09	-0.08	-0.28	-0.30	-0.36	-0.26	0.25	0.21	0.13	0.15
STRC	0.13	-0.10	0.16	-0.11	-0.14	-0.11	-0.06	0.06	0.03	0.20	-0.08
TACT	-0.07	-0.02	0.04	0.08	0.09	0.10	0.07	-0.05	-0.08	-0.03	-0.09
COMM	0.19	-0.03	0.05	-0.05	-0.05	-0.08	-0.07	0.05	0.08	0.04	0.04
DELE	-0.02	0.27	-0.11	-0.01	0.01	-0.07	-0.10	0.02	0.08	-0.09	0.00
CTRL	0.06	-0.13	0.31	0.09	0.10	0.14	0.20	-0.12	-0.10	0.04	-0.17
FDBK	-0.05	-0.04	0.09	0.39	0.29	0.38	0.20	-0.28	-0.22	-0.15	-0.21
MGMT	-0.01	-0.05	0.13	0.29	0.45	0.43	0.28	-0.35	-0.30	-0.24	-0.31
DOMI	-0.05	-0.12	0.18	0.36	0.41	0.50	0.33	-0.39	-0.34	-0.20	-0.36
PROD	0.00	-0.13	0.23	0.19	0.30	0.35	0.43	-0.28	-0.23	-0.15	-0.25
COOP	-0.03	0.07	-0.16	-0.26	-0.35	-0.39	-0.28	0.35	0.29	0.21	0.36
CNSN	0.06	0.15	-0.11	-0.21	-0.25	-0.33	-0.22	0.27	0.32	0.12	0.27
AUTH	-0.01	-0.04	0.01	-0.20	-0.28	-0.25	-0.13	0.26	0.21	0.40	0.16
EMPH	-0.02	0.05	-0.18	-0.22	-0.29	-0.34	-0.24	0.31	0.27	0.16	0.50

D10. Correlations Between LEA-Peer and LEA-Direct Report Ratings

DIRECT REPORT SCALE	PEER CNSV	INNO	TECH	SELF	STRT	PERS	OUTG	EXCT	REST	STRC	TACT
CNSV	0.47	-0.24	0.17	-0.07	0.18	-0.26	-0.18	-0.38	0.34	0.32	-0.03
INNO	-0.26	0.48	0.05	0.17	0.12	0.22	-0.04	0.12	-0.13	-0.25	-0.03
TECH	0.17	0.04	0.48	0.07	0.17	-0.11	-0.14	-0.15	0.10	0.10	-0.01
SELF	-0.05	0.14	0.10	0.36	0.01	0.09	-0.17	-0.06	-0.11	-0.07	0.05
STRT	0.18	0.11	0.18	0.00	0.47	-0.04	-0.28	-0.28	0.27	0.19	-0.09
PERS	-0.28	0.20	-0.10	0.14	-0.10	0.46	0.16	0.30	-0.30	-0.37	0.05
OUTG	-0.19	-0.02	-0.17	-0.18	-0.26	0.15	0.58	0.34	-0.14	-0.33	0.00
EXCT	-0.44	0.14	-0.18	-0.06	-0.30	0.32	0.38	0.67	-0.46	-0.42	0.06
REST	0.36	-0.12	0.09	-0.13	0.30	-0.28	-0.14	-0.45	0.63	0.26	-0.10
STRC	0.35	-0.27	0.10	-0.10	0.15	-0.37	-0.31	-0.37	0.27	0.57	-0.03
TACT	-0.08	0.01	-0.02	0.07	-0.09	0.08	0.03	0.11	-0.13	-0.09	0.22
COMM	0.08	-0.08	0.04	-0.15	0.10	-0.10	-0.07	-0.08	0.10	0.20	-0.06
DELE	-0.02	0.05	-0.08	-0.02	0.06	0.08	0.06	-0.05	0.07	-0.10	-0.01
CTRL	0.040	-0.11	0.01	0.00	0.01	-0.08	-0.25	-0.03	-0.06	0.22	0.05
FDBK	-0.25	0.10	-0.06	0.24	-0.22	0.20	-0.04	0.19	-0.40	-0.18	0.09
MGMT	-0.25	0.11	-0.05	0.24	-0.10	0.29	-0.12	0.21	-0.39	-0.15	0.10
DOMI	-0.24	0.10	-0.04	0.31	-0.18	0.24	-0.17	0.19	-0.43	-0.11	0.11
PROD	-0.24	0.11	-0.07	0.13	-0.09	0.15	-0.17	0.24	-0.31	-0.06	0.04
COOP	0.16	-0.11	0.00	-0.25	0.04	-0.20	0.21	-0.11	0.30	0.03	-0.06
CNSN	0.12	-0.07	-0.08	-0.26	0.11	-0.14	0.12	-0.11	0.27	0.04	-0.09
AUTH	0.27	-0.29	-0.05	-0.28	-0.07	-0.32	0.04	-0.17	0.20	0.25	0.00
EMPH	0.05	-0.10	-0.07	-0.24	-0.04	-0.10	0.33	0.06	0.17	-0.10	-0.14

DIRECT REPORT SCALE	PEER COMM	DELE	CTRL	FDBK	MGMT	DOMI	PROD	COOP	CNSN	AUTH	EMPH
CNSV	0.08	-0.05	0.03	-0.23	-0.25	-0.25	-0.24	0.18	0.13	0.25	0.06
INNO	-0.04	0.06	-0.09	0.12	0.16	0.12	0.12	-0.16	-0.11	-0.32	-0.12
TECH	0.09	-0.15	0.00	-0.06	-0.09	-0.08	-0.09	0.06	-0.06	-0.04	0.00
SELF	-0.11	-0.06	0.02	0.22	0.23	0.30	0.15	-0.28	-0.28	-0.24	-0.26
STRT	0.18	0.05	0.04	-0.19	-0.05	-0.14	-0.09	0.03	0.06	-0.10	-0.07
PERS	-0.13	0.07	-0.08	0.20	0.31	0.27	0.17	-0.25	-0.20	-0.30	-0.13
OUTG	-0.12	0.13	-0.30	-0.08	-0.13	-0.19	-0.19	0.22	0.18	0.03	0.36
EXCT	-0.12	-0.02	-0.05	0.15	0.20	0.18	0.26	-0.11	-0.08	-0.16	0.11
REST	0.13	0.09	-0.11	-0.39	-0.39	-0.45	-0.35	0.34	0.29	0.20	0.19
STRC	0.21	-0.16	0.22	-0.15	-0.16	-0.12	-0.07	0.07	0.04	0.27	-0.08
TACT	-0.10	-0.01	0.03	0.09	0.11	0.12	0.07	-0.07	-0.10	-0.06	-0.11
COMM	0.29	-0.05	0.07	-0.06	-0.06	-0.12	-0.07	0.10	0.13	0.04	0.08
DELE	-0.07	0.35	-0.14	-0.04	0.00	-0.08	-0.14	0.04	0.10	-0.07	-0.01
CTRL	0.08	-0.17	0.40	0.09	0.12	0.19	0.27	-0.18	-0.14	0.04	-0.21
FDBK	-0.08	-0.05	0.10	0.52	0.38	0.45	0.27	-0.34	-0.29	-0.24	-0.25
MGMT	-0.06	-0.05	0.16	0.39	0.56	0.53	0.39	-0.47	-0.40	-0.30	-0.39
DOMI	-0.10	-0.14	0.23	0.46	0.52	0.62	0.46	-0.52	-0.45	-0.27	-0.44
PROD	-0.04	-0.16	0.29	0.22	0.36	0.42	0.55	-0.38	-0.30	-0.16	-0.30
COOP	0.04	0.09	-0.21	-0.32	-0.45	-0.48	-0.39	0.49	0.39	0.23	0.44
CNSN	0.09	0.19	-0.14	-0.27	-0.34	-0.41	-0.31	0.36	0.42	0.16	0.32
AUTH	0.02	-0.08	0.03	-0.25	-0.33	-0.28	-0.18	0.28	0.21	0.54	0.16
EMPH	0.04	0.07	-0.23	-0.27	-0.37	-0.43	-0.31	0.43	0.37	0.15	0.60

D11. LEA-Self Raw Score Means, Standard Deviations and Ranges

Scale	Mean	Standard Deviation	Range
Conservative	26.31	7.38	0-52
Innovative	29.96	9.68	0-55
Technical	34.46	9.45	0-55
Self	21.02	7.76	0-53
Strategic	31.28	9.63	0-55
Persuasive	21.80	9.77	0-55
Outgoing	21.56	9.26	0-54
Excitement	21.90	10.41	0-55
Restraint	25.24	9.85	0-54
Structuring	28.36	9.69	0-55
Tactical	25.39	6.42	0-47
Communication	30.15	7.79	0-55
Delegation	29.89	8.15	0-55
Control	28.67	7.7	0-53
Feedback	25.13	9.57	0-55
Management Focus	31.05	8.54	0-55
Dominant	22.27	9.3	0-53
Production	26.07	9.53	0-55
Cooperation	31.23	8.27	0-53
Consensual	29.79	7.94	0-54
Authority	28.31	9.24	0-55
Empathy	24.50	11.03	0-55

D12. LEA-Boss Raw Score Means, Standard Deviations and Ranges

Scale	Mean	Standard Deviation	Range
Conservative	22.90	7.42	0-45
Innovative	17.73	7.94	0-42
Technical	30.14	8.53	0-45
Self	20.95	7.78	0-45
Strategic	23.43	8.87	0-45
Persuasive	19.10	8.26	0-45
Outgoing	17.07	9.74	0-45
Excitement	16.18	9.42	0-45
Restraint	22.35	9.94	0-45
Structuring	24.80	9.12	0-45
Tactical	21.67	5.47	0-45
Communication	23.67	6.52	0-45
Delegation	21.38	7.9	0-45
Control	25.74	7.37	0-45
Feedback	21.03	7.83	0-45
Management Focus	21.36	9.53	0-45
Dominant	19.83	9.74	0-45
Production	19.88	8.59	0-45
Cooperation	23.46	7.59	0-45
Consensual	22.80	7.55	0-45
Authority	24.18	9.16	0-45
Empathy	18.22	10.59	0-45

D13. LEA-Peer Raw Score Means, Standard Deviations and Ranges

Scale	Mean	Standard Deviation	Range
Conservative	22.84	5.44	0-42
Innovative	17.75	5.62	0-40
Technical	29.19	6.72	0-45
Self	20.95	5.55	2-42
Strategic	24.11	6.18	3-45
Persuasive	18.80	6.02	2-42
Outgoing	18.34	7.5	0-44
Excitement	16.12	7.68	0-44
Restraint	21.85	7.73	0-45
Structuring	24.46	6.96	0-45
Tactical	21.66	3.53	5-36
Communication	24.46	4.57	2-41
Delegation	22.31	5.37	0-43
Control	24.52	5.03	4-42
Feedback	21.32	5.93	4-41
Management Focus	21.84	7.62	0-45
Dominant	20.24	8.08	0-45
Production	19.43	6.33	2-42
Cooperation	22.31	6.04	3-42
Consensual	23.05	5.68	3-43
Authority	21.70	7.53	0-45
Empathy	17.55	8.33	0-45

D14. LEA-Direct Report Raw Score Means, Standard Deviations and Ranges

Scale	Mean	Standard Deviation	Range
Conservative	22.68	4.89	4-41
Innovative	18.38	5.42	1-39
Technical	28.79	6.57	2-45
Self	19.94	5.3	2-43
Strategic	25.11	6.01	0-45
Persuasive	18.55	5.85	0-43
Outgoing	17.58	7.09	0-44
Excitement	17.43	7.5	0-44
Restraint	21.14	7.34	0-44
Structuring	22.71	6.63	0-43
Tactical	21.12	3.44	6-39
Communication	24.95	5.25	2-43
Delegation	25.00	5.37	4-43
Control	23.71	4.82	3-43
Feedback	21.27	5.47	3-40
Management Focus	23.15	6.97	0-45
Dominant	20.81	7.53	0-43
Production	20.95	6.22	0-43
Cooperation	20.72	5.57	2-42
Consensual	24.11	5.62	0-43
Authority	20.59	6.92	0-45
Empathy	17.78	8.01	0-44

Appendix E: Correlations with Other Instruments

This appendix provides information on relationships between the LEA Self Questionnaire and other assessment instruments. Scale labels are provided, followed by tables of correlations. Please see Chapter 4 for discussion.

E1. Assessment Scales by Inventory

California Psychological Inventory Scales			
Do	Dominance	Gi	Good Impression
Cs	Capacity for Status	Cm	Communality
Sy	Sociability	Wb	Wellbeing
Sp	Social Presence	To	Tolerance
Sa	Self-acceptance	Ac	Acceptance via Conformance
In	Independence	Ai	Acceptance via Independence
Em	Empathy	Ie	Intellectual Efficiency
Re	Responsibility	Py	Psychological mindedness
So	Socialization	Fx	Flexibility
Sc	Self-control	FM	Femininity/Masculinity

Myers-Briggs Type Indicator Scales			
EI	Extraversion-Introversion	TF	Thinking-Feeling
SN	Sensing-Intuition	JP	Judging-Perceiving

16 Personality Factors Questionnaire Scales			
A	Reserved, detached vs. outgoing, warmhearted	L	Trusting vs. suspicious
B	Low crystallized intelligence vs. high crystallized intelligence	M	Practical, down-to-earth vs. imaginative, bohemian
C	Emotionally unstable vs. emotionally stable	N	Forthright, artless vs. shrewd, accute
E	Humble, mild vs. assertive, dominant	O	Self-assured, secure vs. guilt prone, apprehensive
F	Sober, taciturn vs. happy-go-lucky, enthusiastic	Q1	Conservative vs. radical
G	Expedient, disregards rules vs. conscientious, persistent	Q2	Group dependent vs. self-sufficient
H	Shy, timid vs. venturesome, uninhibited	Q3	Undisciplined, lax vs. self-sufficient, resourceful
I	Tough-minded, self-reliant vs. tender-minded, sensitive	Q4	Relaxed, tranquil vs. tense, frustrated

Individual Directions Inventory Scales			
GIVE	Giving	ENDR	Enduring
RECV	Receiving	STRC	Structuring
BLNG	Belonging	MANV	Maneuvering
EXPR	Expressing	WINN	Winning
GNST	Gaining Stature	CONT	Controlling
ENTR	Entertaining	STAB	Stability
CREA	Creating	INDP	Independence
INTP	Interpreting	IRRP	Irreproachability
EXCL	Excelling		

E2. Correlations between LEA-Self and California Psychological Inventory (n=253)

SCALE	DO	CS	SY	SP	SA	IN	EN	RE	SO	SC
CNSV	-0.09	-0.02	-0.05	-0.14	-0.09	-0.13	-0.14	0.03	0.10	0.16
INNO	0.06	0.19	0.06	0.18	0.08	0.20	0.20	-0.00	-0.06	-0.12
TECH	-0.11	-0.05	-0.09	-0.07	-0.05	-0.10	-0.11	-0.02	-0.05	-0.03
SELF	-0.11	-0.11	-0.12	0.00	-0.01	-0.04	-0.10	-0.15	-0.12	-0.05
STRT	0.01	0.10	-0.08	-0.07	-0.07	0.07	0.01	0.18	0.09	0.16
PERS	0.22	0.12	0.16	0.18	0.20	0.24	0.18	0.04	0.01	-0.11
OUTG	0.07	0.05	0.24	0.21	0.15	0.09	0.24	-0.13	0.00	-0.25
EXCT	0.29	0.15	0.23	0.17	0.22	0.23	0.19	0.04	0.09	-0.08
REST	-0.26	-0.12	-0.25	-0.17	-0.19	-0.22	-0.17	-0.03	0.12	0.17
STRC	-0.14	-0.09	-0.22	-0.24	-0.23	-0.21	-0.32	-0.02	-0.03	0.14
TACT	-0.08	-0.09	-0.05	0.01	-0.01	-0.10	-0.13	-0.04	-0.03	-0.07
COMM	0.01	0.03	0.13	0.03	0.02	0.00	0.11	0.15	0.10	0.16
DELE	0.06	0.11	0.11	0.06	0.06	0.09	0.15	0.08	-0.04	-0.04
CTRL	0.02	-0.01	0.00	-0.03	0.06	-0.06	-0.09	0.08	-0.03	0.04
FDBK	-0.05	-0.12	-0.04	-0.04	0.05	0.05	-0.04	-0.07	-0.16	-0.04
MGMT	0.44	0.19	0.29	0.18	0.20	0.37	0.21	0.10	0.13	-0.03
DOMI	0.22	-0.00	0.10	0.08	0.13	0.12	0.05	-0.02	-0.16	-0.20
PROD	0.32	0.20	0.17	0.13	0.14	0.09	0.20	0.19	0.11	0.07
COOP	-0.23	-0.03	-0.17	-0.26	-0.27	-0.25	-0.16	-0.01	0.07	0.19
CNSN	-0.14	0.01	-0.04	-0.08	-0.08	-0.14	0.00	0.01	-0.03	-0.07
AUTH	-0.09	-0.16	-0.12	-0.17	-0.13	-0.33	-0.19	-0.01	0.10	0.08
EMPH	-0.12	0.00	-0.02	-0.09	-0.11	-0.07	0.07	-0.01	-0.03	0.05
EXAG	0.18	0.01	0.02	-0.09	0.04	0.10	0.07	0.14	0.17	0.12
SCALE	**GI**	**CM**	**WB**	**TO**	**AC**	**AI**	**IE**	**PY**	**FX**	**FM**
CNSV	0.17	0.02	0.02	-0.08	0.05	-0.02	-0.02	0.08	-0.20	-0.04
INNO	-0.02	-0.12	0.01	0.02	-0.10	0.12	0.16	0.19	0.19	-0.11
TECH	-0.03	0.16	-0.14	-0.11	-0.03	-0.08	-0.09	0.03	-0.16	0.02
SELF	-0.14	0.09	-0.11	-0.09	-0.18	-0.06	-0.05	0.02	-0.05	-0.07
STRT	0.18	-0.11	0.14	0.12	0.12	0.26	0.20	0.19	-0.03	0.03
PERS	-0.06	-0.08	0.13	0.16	0.04	0.06	0.09	0.03	0.17	-0.03
OUTG	-0.20	0.00	-0.03	0.03	-0.15	-0.03	0.03	-0.14	0.18	0.02
EXCT	0.05	0.03	0.16	-0.03	0.07	-0.08	-0.03	-0.02	0.05	-0.02
REST	0.04	0.05	-0.07	-0.08	-0.05	-0.13	-0.07	0.01	-0.06	-0.03
STRC	0.12	0.08	-0.08	-0.13	0.07	-0.06	-0.12	-0.04	-0.42	0.05
TACT	-0.07	0.11	-0.12	-0.08	-0.12	-0.03	-0.06	0.05	-0.02	-0.08
COMM	0.16	-0.05	0.28	0.06	0.13	0.10	0.18	0.09	0.04	-0.02
DELE	-0.05	-0.03	0.03	0.13	-0.01	0.17	0.10	0.07	0.24	0.04
CTRL	0.06	0.13	-0.02	-0.02	0.14	0.06	-0.05	0.00	-0.18	0.02
FDBK	-0.08	-0.02	-0.10	-0.02	-0.07	-0.11	-0.03	-0.12	0.01	-0.09
MGMT	0.05	0.05	0.11	0.01	0.20	0.14	0.08	0.16	0.05	-0.16
DOMI	-0.06	0.05	0.01	-0.06	0.02	-0.06	-0.13	-0.04	-0.02	-0.23
PROD	0.18	-0.05	0.13	0.05	0.12	-0.00	-0.02	0.09	-0.04	-0.19
COOP	0.07	-0.04	-0.02	0.00	-0.01	-0.08	-0.04	-0.06	-0.09	0.15
CNSN	-0.05	-0.03	0.00	0.06	-0.02	0.03	-0.02	-0.00	0.09	0.01
AUTH	0.07	0.10	-0.10	-0.15	0.13	-0.16	-0.13	-0.15	-0.31	0.16
EMPH	-0.01	-0.08	-0.01	0.07	-0.10	-0.02	0.01	-0.05	0.12	0.25
EXAG	0.14	-0.05	0.16	0.06	0.17	-0.09	0.02	0.03	-0.08	-0.07

Entries are Spearman rank order correlations between LEA-Self percentile rank scores and CPI T scores.

E3. Correlations between LEA-Self and Myers-Briggs Type Indicator (n=402)

SCALE	EI	SN	TF	JP
CNSV	0.15	-0.28	-0.14	-0.19
INNO	-0.03	0.47	-0.03	0.26
TECH	0.07	-0.15	-0.02	-0.09
SELF	0.22	-0.02	-0.02	0.15
STRT	0.13	0.16	-0.20	-0.15
PERS	-0.25	0.21	-0.08	0.11
OUTG	-0.32	0.17	0.30	0.19
EXCT	-0.41	0.13	0.06	0.09
REST	0.39	-0.21	-0.05	0.05
STRC	0.17	-0.40	-0.06	-0.40
TACT	0.06	-0.06	-0.14	0.08
COMM	-0.14	0.06	-0.14	-0.10
DELE	-0.03	0.27	0.14	0.15
CTRL	-0.04	-0.13	-0.16	-0.12
FDBK	-0.04	0.01	-0.12	0.04
MGMT	-0.30	0.05	-0.20	-0.05
DOMI	-0.20	0.04	-0.24	0.00
PROD	-0.19	0.09	-0.19	-0.04
COOP	0.23	-0.20	0.24	-0.08
CNSN	0.04	0.10	0.18	0.06
AUTH	0.06	-0.38	0.04	-0.28
EMPH	0.02	0.02	0.49	0.09
EXAG	-0.00	-0.04	-0.02	-0.07

Entries are Spearman rank order correlations between LEA-Self percentile rank scores and MBTI transformed scores.

E4. Correlations between LEA-Self and 16 Personality Factors Questionnaire (n=457)

SCALE	A	B	C	E	F	G	H	I
CNSV	-0.16	-0.09	-0.01	-0.22	-0.16	0.15	-0.15	-0.12
INNO	0.04	0.04	0.07	0.14	0.11	-0.14	0.06	0.04
TECH	-0.17	-0.12	-0.05	-0.17	-0.06	0.14	-0.12	-0.05
SELF	-0.11	-0.05	-0.00	0.01	-0.05	-0.04	-0.17	-0.08
STRT	-0.11	0.18	0.11	0.07	-0.09	-0.05	0.00	-0.10
PERS	0.30	0.03	0.07	0.29	0.19	-0.09	0.29	0.08
OUTG	0.20	-0.02	-0.06	-0.01	0.28	-0.15	0.18	0.19
EXCT	0.30	-0.03	-0.01	0.21	0.33	-0.00	0.33	0.10
REST	-0.21	0.06	0.06	-0.32	-0.30	-0.01	-0.32	-0.12
STRC	-0.22	-0.15	-0.10	-0.24	-0.24	0.32	-0.17	-0.18
TACT	-0.04	-0.00	0.09	0.02	-0.03	-0.01	-0.08	-0.13
COMM	0.06	0.03	0.13	0.02	0.08	0.01	0.18	0.08
DELE	0.11	0.12	0.04	0.08	0.05	-0.19	0.01	0.11
CTRL	0.00	0.04	0.02	0.04	0.01	0.11	0.03	-0.03
FDBK	-0.02	-0.03	-0.04	0.19	-0.00	0.01	-0.02	-0.04
MGMT	0.18	0.08	0.08	0.29	0.19	0.07	0.32	0.02
DOMI	0.07	-0.06	0.02	0.33	0.16	0.13	0.19	-0.07
PROD	0.15	-0.06	0.12	0.17	0.18	0.09	0.19	0.02
COOP	-0.16	-0.02	-0.12	-0.36	-0.17	-0.02	-0.26	0.06
CNSN	-0.00	0.09	0.02	-0.09	-0.00	-0.13	-0.08	0.09
AUTH	-0.06	-0.14	-0.15	-0.28	-0.13	0.23	-0.15	-0.03
EMPH	0.02	0.03	-0.07	-0.19	0.02	-0.01	-0.04	0.26
EXAG	0.08	-0.03	0.12	0.16	0.08	0.06	0.09	-0.04
SCALE	**L**	**M**	**N**	**O**	**Q1**	**Q2**	**Q3**	**Q4**
CNSV	0.01	-0.07	0.12	-0.04	-0.18	0.06	0.22	-0.01
INNO	0.05	0.24	-0.07	-0.03	0.16	-0.01	-0.25	-0.09
TECH	-0.03	-0.13	0.14	0.08	-0.12	0.09	0.15	0.01
SELF	0.10	-0.11	0.10	0.06	0.01	0.23	-0.05	0.11
STRT	-0.02	0.15	-0.02	-0.12	0.13	0.06	0.04	-0.19
PERS	0.05	0.05	-0.16	-0.08	0.21	-0.10	-0.05	-0.08
OUTG	0.03	-0.04	-0.05	0.03	-0.05	-0.12	-0.10	0.10
EXCT	0.06	-0.07	-0.15	0.00	0.06	-0.21	-0.02	-0.00
REST	-0.08	-0.02	0.17	-0.07	-0.12	0.20	0.09	-0.06
STRC	-0.01	-0.23	0.18	0.09	-0.25	0.10	0.28	0.09
TACT	0.04	-0.02	-0.08	-0.03	0.05	0.09	-0.03	0.08
COMM	-0.09	0.06	0.01	-0.14	0.02	-0.15	0.09	-0.20
DELE	-0.06	0.21	-0.11	-0.06	0.07	-0.10	-0.23	-0.07
CTRL	-0.04	-0.04	-0.06	-0.06	0.06	0.05	0.10	-0.04
FDBK	0.10	0.03	-0.08	0.06	0.11	-0.01	-0.14	0.14
MGMT	0.11	0.05	-0.16	-0.11	0.17	-0.18	0.03	-0.13
DOMI	0.06	-0.07	-0.18	0.05	0.20	-0.03	0.02	0.02
PROD	0.02	-0.02	-0.12	-0.06	0.09	-0.14	0.03	-0.08
COOP	-0.11	-0.04	0.20	-0.12	-0.22	0.04	0.08	0.14
CNSN	-0.07	0.05	-0.07	0.02	0.01	-0.08	-0.11	-0.05
AUTH	-0.04	-0.15	0.13	0.07	-0.27	-0.03	0.29	0.15
EMPH	-0.06	0.04	0.04	0.09	-0.20	-0.03	-0.08	0.09
EXAG	0.05	0.05	-0.01	-0.06	0.01	0.02	0.07	-0.08

Entries are Spearman rank order correlations between LEA-Self percentile rank scores and 16PF Form A sten scores.

E5. Correlations between LEA-Self and Wesman Personnel Classification Test (n=291)

SCALE	Verbal	Numerical
CNSV	-0.15	-0.07
INNO	0.07	0.06
TECH	-0.17	-0.04
SELF	0.07	0.01
STRT	0.12	0.17
PERS	0.07	0.11
OUTG	0.10	-0.02
EXCT	-0.03	-0.02
REST	-0.05	0.03
STRC	-0.14	0.06
TACT	0.03	0.00
COMM	-0.03	-0.13
DELE	0.11	0.09
CTRL	0.00	-0.04
FDBK	0.05	0.01
MGMT	0.06	0.06
DOMI	0.02	0.06
PROD	-0.09	0.06
COOP	-0.09	-0.02
CNSN	-0.00	0.09
AUTH	-0.17	-0.18
EMPH	0.07	-0.07
EXAG	-0.07	-0.04

Entries are Spearman rank order correlations between LEA-Self percentile rank scores and WPCT subtest raw scores.

E6. Correlations between LEA-Self and Individual Directions Inventory (n=343)

SCALE	GIVE	RECV	BLNG	EXPR	GNST	ENTR	CREA	INTP	EXCL
CNSV	-0.05	-0.01	-0.07	-0.18	0.03	-0.07	-0.15	0.17	-0.11
INNO	0.01	-0.07	-0.10	0.06	-0.15	0.01	0.67	0.14	-0.03
TECH	-0.06	0.01	-0.01	-0.09	0.02	0.01	0.03	0.21	-0.00
SELF	-0.16	-0.19	-0.26	-0.06	0.02	0.09	-0.04	0.10	-0.04
STRT	-0.08	0.04	0.05	-0.18	-0.11	-0.25	0.15	0.37	0.02
PERS	-0.11	-0.20	-0.14	0.07	0.14	0.15	0.12	-0.13	0.02
OUTG	0.16	0.15	0.16	0.25	0.26	0.41	0.03	-0.20	-0.03
EXCT	0.02	-0.15	0.01	0.18	0.08	0.21	0.05	-0.21	0.27
REST	-0.01	0.11	0.04	-0.18	0.05	-0.13	-0.26	0.16	-0.10
STRC	0.01	0.05	-0.02	-0.12	-0.10	-0.17	-0.20	0.13	-0.02
TACT	-0.19	-0.02	-0.07	-0.10	-0.07	-0.10	-0.02	0.16	0.02
COMM	0.09	0.09	0.10	0.04	0.04	-0.13	0.05	0.08	0.09
DELE	0.15	0.21	0.15	0.08	-0.04	-0.05	0.22	-0.03	-0.04
CTRL	-0.14	-0.02	-0.05	-0.18	-0.02	-0.20	-0.19	0.04	0.34
FDBK	-0.14	-0.15	-0.03	0.13	-0.09	-0.01	0.07	0.03	0.05
MGMT	-0.18	-0.12	-0.01	-0.10	0.23	0.03	0.04	-0.02	0.07
DOMI	-0.27	-0.31	-0.24	-0.05	-0.02	0.02	0.02	0.03	0.25
PROD	-0.06	-0.24	-0.01	-0.10	0.02	-0.13	0.04	-0.06	0.53
COOP	0.29	0.37	0.36	0.06	-0.02	-0.04	-0.17	0.00	-0.16
CNSN	0.29	0.35	0.23	0.11	0.00	-0.02	-0.00	0.00	-0.02
AUTH	0.03	0.14	0.17	-0.04	0.06	-0.06	-0.26	-0.03	-0.00
EMPH	0.51	0.36	0.31	0.31	0.02	0.19	-0.07	-0.13	-0.19
EXAG	0.10	-0.14	-0.10	0.07	-0.09	-0.12	-0.04	-0.10	0.17

SCALE	ENDR	STRC	MANV	WINN	CONT	STAB	INDP	IRRP
CNSV	0.13	0.26	-0.01	-0.08	-0.05	0.35	0.09	0.13
INNO	-0.11	-0.14	0.08	-0.08	-0.01	-0.31	0.01	-0.06
TECH	0.02	0.32	-0.12	-0.20	-0.09	0.21	0.08	-0.04
SELF	0.12	0.10	0.00	-0.02	-0.06	0.07	0.52	-0.09
STRT	0.00	0.03	0.10	-0.02	0.12	-0.08	-0.11	0.13
PERS	-0.10	-0.36	0.15	0.35	0.40	-0.27	-0.08	-0.05
OUTG	-0.20	-0.22	-0.02	-0.05	-0.05	-0.17	-0.10	-0.18
EXCT	0.05	-0.16	0.02	0.17	0.11	-0.24	-0.10	-0.13
REST	0.14	0.17	-0.06	-0.21	-0.16	0.34	0.14	0.15
STRC	0.13	0.64	-0.21	-0.15	-0.26	0.50	0.11	0.07
TACT	0.19	0.08	0.23	-0.03	-0.05	0.10	0.17	-0.12
COMM	-0.01	0.01	0.01	-0.06	0.07	-0.03	-0.21	0.01
DELE	-0.24	-0.31	0.05	-0.03	0.05	-0.21	-0.11	0.06
CTRL	0.29	0.10	0.18	0.15	0.12	0.07	-0.02	0.09
FDBK	0.06	-0.10	-0.03	0.08	0.08	-0.12	0.03	-0.01
MGMT	-0.01	-0.15	0.13	0.22	0.58	-0.22	-0.16	0.03
DOMI	0.15	0.05	0.09	0.39	0.24	-0.14	0.13	-0.07
PROD	0.22	-0.05	0.16	0.14	0.12	-0.19	-0.02	0.06
COOP	-0.08	0.20	-0.17	-0.31	-0.38	0.34	-0.03	0.06
CNSN	-0.12	-0.08	-0.06	-0.17	-0.13	-0.03	-0.17	0.03
AUTH	0.07	0.28	-0.06	-0.03	-0.15	0.35	-0.06	0.09
EMPH	-0.17	-0.08	-0.23	-0.30	-0.26	0.01	-0.17	0.10
EXAG	0.08	0.20	-0.00	0.17	0.11	-0.02	-0.04	0.37

Entries are Spearman rank order correlations between LEA-Self percentile rank scores and IDI percentile rank scores.

Appendix F: Evaluation Measures

This appendix describes the research items contained in Part B of the LEA Observer Questionnaire and used in the predictive validity studies described in Chapter 4.

Description

Part B of the LEA Observer Questionnaire contains 27 items that assess the observer's perceptions of a rated individual's leadership effectiveness and ability. Each item is measured on an evaluative 7-point Likert scale. The items are included to aid in the further development of the LEA.

Item Factor Analyses

The Part B responses of 3,055 bosses, 7,402 peers, and 7,090 direct reports were analyzed to develop effectiveness measures that could serve as dependent variables for the predictive validity studies described in Chapter 4.

A principal components analysis of observer rating yielded two components, accounting for 53% of the variance among items. The number of components to extract was chosen by a parallel analysis based on 1000 iterations.

The Varimax rotated component structure matrix (containing the correlations of the 22 items and the two factors) is provided in Table F1. An examination of the component loadings (correlations) suggests the presence of two clearly interpretable factors. These factors have been tentatively labeled Business–Oriented Skills and People-Oriented Skills. High loadings are displayed in boldface.

(Note: An Iterated principal axis factor analysis with squared multiple correlations as initial communality estimates and Promax rotation of initial solution produced essentially identical results).

F1. Component Structure Matrix for Observer Ratings (N=540,611)

	Factor	
Item	I	II
Q1	0.40	**0.48**
Q2	**0.57**	0.37
Q3	0.48	**0.54**
Q4	**0.64**	0.44
Q5	**0.73**	0.16
Q6	0.34	**0.67**
Q7	**0.61**	0.27
Q8	0.30	**0.67**
Q9	0.21	**0.68**
Q10	**0.45**	0.38
Q11	**0.66**	0.37
Q12	**0.58**	0.42
Q13	0.52	**0.58**
Q14	0.42	**0.60**
Q15	0.13	**0.57**
Q16	**0.63**	0.39
Q17	**0.59**	0.16
Q18	0.42	**0.62**
Q19	**0.70**	0.28
Q20	0.27	**0.65**
Q21	0.32	**0.67**
Q22	**0.57**	0.27
Q23	0.24	**0.62**
Q24	**0.65**	0.35
Q25	**0.70**	0.32
Q26	**0.65**	0.32
Q27	0.40	**0.53**

Scale Construction

Based on the principal components analysis three scales were constructed to measure effectiveness. These were Business–Oriented Skills, People-Oriented Skills, and Overall Effectiveness. The first two scales were created by taking the mean of items loading highly on a factor. The items comprising each scale are listed in Table F2. Items are ordered according to their factor loadings (from high to low). The Overall Effectiveness scale is calculated as the mean of the Business-Oriented Skills and People-Oriented Skills scales. Internal reliability coefficients are reported in Table F3.

Conclusions

Results indicate that the three scales derived from Part B data to assess observers evaluations of an individual's effectiveness and ability as a leader appear to have strong factorial and content validity and are highly reliable.

F2. Evaluative Scale Content

Business-Oriented Skills	
Q9	Business aptitude (i.e., understands how to make a business successful, exploits business opportunities, is skillful in business dealings)
Q6	Ability to see the big picture perspective (i.e., has a strategic orientation, sees interconnections between his/her own objectives and those of the company, anticipates problems)
Q8	Capacity for effective thinking (i.e., deals well with concepts, quickly gets to the heart of an issue, is incisive)
Q21	Delivers Results (i.e., accomplishes a great deal, achieves significant results, focuses on measureable outcomes)
Q20	Fast learner (i.e., learns new material quickly, adapts rapidly to new challenges, constantly expands his/her understanding of new things)
Q18	Ability to make effective decisions
Q23	Takes Initiative (i.e., highly proactive, originates action, makes things happen)
Q14	Future potential (i.e., has the ability to go beyond present level versus has reached his/her highest potential, is likely to be a major resource to the organization)
Q13	Overall effectiveness as a leader/manager (i.e., total level of performance against expectations, total impact in role)
Q15	Financial understanding (i.e., understands and can deal with financial issues such as budgeting, accounting, costs, P&L statements)
Q3	Credibility with management and ability to inspire confidence with superiors (i.e., communicates well, delivers on promises, thinks in similar ways)
Q27	Tolerance for ambiguity and deals effectively with complexity and paradox (i.e., stays confident and focused and is able to take action in situations that are complex and/or there is missing or contradictory information)
Q1	Understanding of how to use organizational resources (i.e., is able to build alliances, is sophisticated about organizational dynamics, has many contacts)
People-Oriented Skills	
Q5	Willingness to listen (i.e., understands quickly, acknowledges communication, goes out of his/her way to get others' views)
Q19	Insight into people (i.e., understands others' motivations and behaviors, is able to "read" people, understands why people do what they do)
Q25	Promotes and enhances employee engagement (i.e., leads in ways that help build employee's emotional commitment to their work and organization)
Q11	Ability to develop people (i.e., effectively coaches others, allows room for mistakes, stimulates growth, challenges positively, delegates authority)
Q24	Conflict Management (i.e., handles conflicts professionally, addresses conflicts early, and works to resolve them effectively with all parties)
Q26	Displays self-awareness and accurately recognizes personal strengths and limitations (i.e., self-reflective, understands own motivations and behaviors, sees self accurately)
Q4	Credibility and ability to inspire confidence with peers and direct reports (i.e., is trusted and respected, delivers on promises)
Q16	Capacity to contribute to team performance (i.e., is willing and able to act as a team player, complements the efforts of others)
Q7	Straightforward, open communicator (i.e., discloses fully, operates without a hidden agenda, is forthright and candid, shares information openly)
Q17	Ability to work with diverse people (i.e., people from different backgrounds, cultures, belief systems and/or life styles)
Q12	Ability to get things done through people (i.e., delegates effectively, sets high standards, organizes efforts well)
Q2	Capacity to get people enthusiastic and involved (i.e., gets people on his/her side, is persuasive and inspiring)
Q22	Demonstrates Ethical Leadership: (i.e. behaves in an ethical manner, encourages ethical behavior in others, stands up for what is right, chooses the honorable course of action)
Q10	Ability to build relationships with customers (i.e., has a strong customer focus, seeks customer input, creates solutions for customers)
Overall Effectiveness	
	Mean of business-oriented and people-oriented skills

F3. Scale Characteristics

Rater Group	Scale	# of items	Mean	Std	Possible Range	Coef. Alpha
Boss (n = 3,055)	Overall Effectiveness	22	5.51	0.66	1-7	0.94
	Business-Oriented Skills	13	5.53	0.73	1-7	0.91
	People-Oriented Skills	14	5.49	0.72	1-7	0.90
Peer (n = 7,402)	Overall Effectiveness	22	5.50	0.78	1-7	0.96
	Business-Oriented Skills	13	5.56	0.79	1-7	0.93
	People-Oriented Skills	14	5.44	0.86	1-7	0.93
Direct Report (n = 7,090)	Overall Effectiveness	22	5.75	0.78	1-7	0.96
	Business-Oriented Skills	13	5.86	0.76	1-7	0.92
	People-Oriented Skills	14	5.65	0.89	1-7	0.94

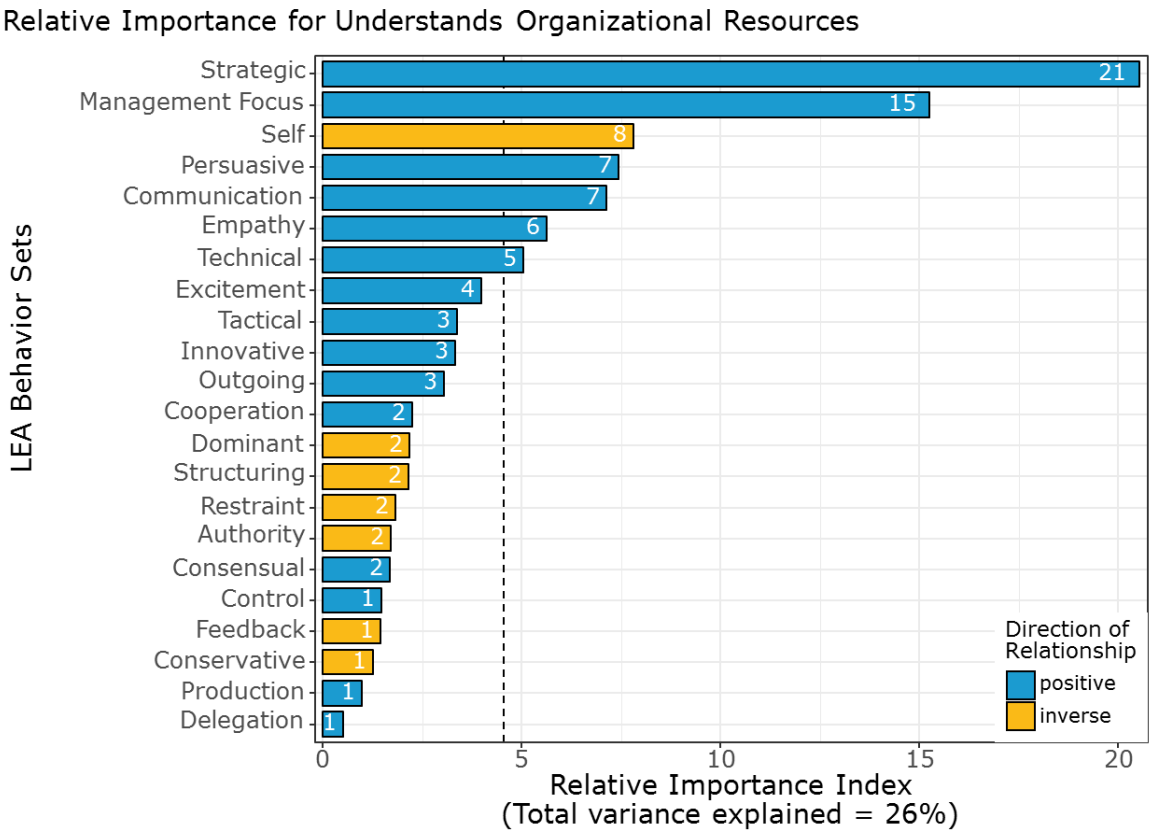
Appendix G: Relationships Between LEA sets and Leadership Competencies

This appendix provides a description of the relationship between LEA sets and various leadership competencies in a sample of 3,074 participants engaged in Leadership 360 assessments.

G0. Amount of variance in leadership competencies explained by LEA sets

Competency	R-squared
Understand organizational resources	0.26
Capacity to get people enthusiastic and involved	0.56
Credibility with management	0.37
Credibility with peers and direct reports	0.43
Willingness to listen	0.58
Ability to see big picture	0.44
Straightforward, open communicator	0.34
Capacity for effective thinking	0.42
Business aptitude	0.33
Ability to build relationships with customers	0.28
Ability to develop people	0.35
Ability to get things done through people	0.35
Effectiveness as a leader	0.46
Future potential	0.44
Financial understanding	0.19
Capacity to contribute to team performance	0.42
Ability to work with diverse people	0.35
Ability to make effective decisions	0.39
Insight into people	0.40
Fast learner	0.38
Delivers results	0.46
Demonstrates ethical leadership	0.36
Takes initiative	0.51
Conflict management	0.35
Promotes employee engagement	0.42
Self-awareness	0.34
Tolerance for ambiguity	0.34

G1.


Relative Importance for Understands Organizational Resources
LEA Behavior Sets
Strategic
Management Focus
Self
Persuasive
Communication
Empathy
Technical
Excitement
Tactical
Innovative
Outgoing
Cooperation
Dominant
Structuring
Restraint
Authority
Consensual
Control
Feedback
Conservative
Production
Delegation
21
15
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5
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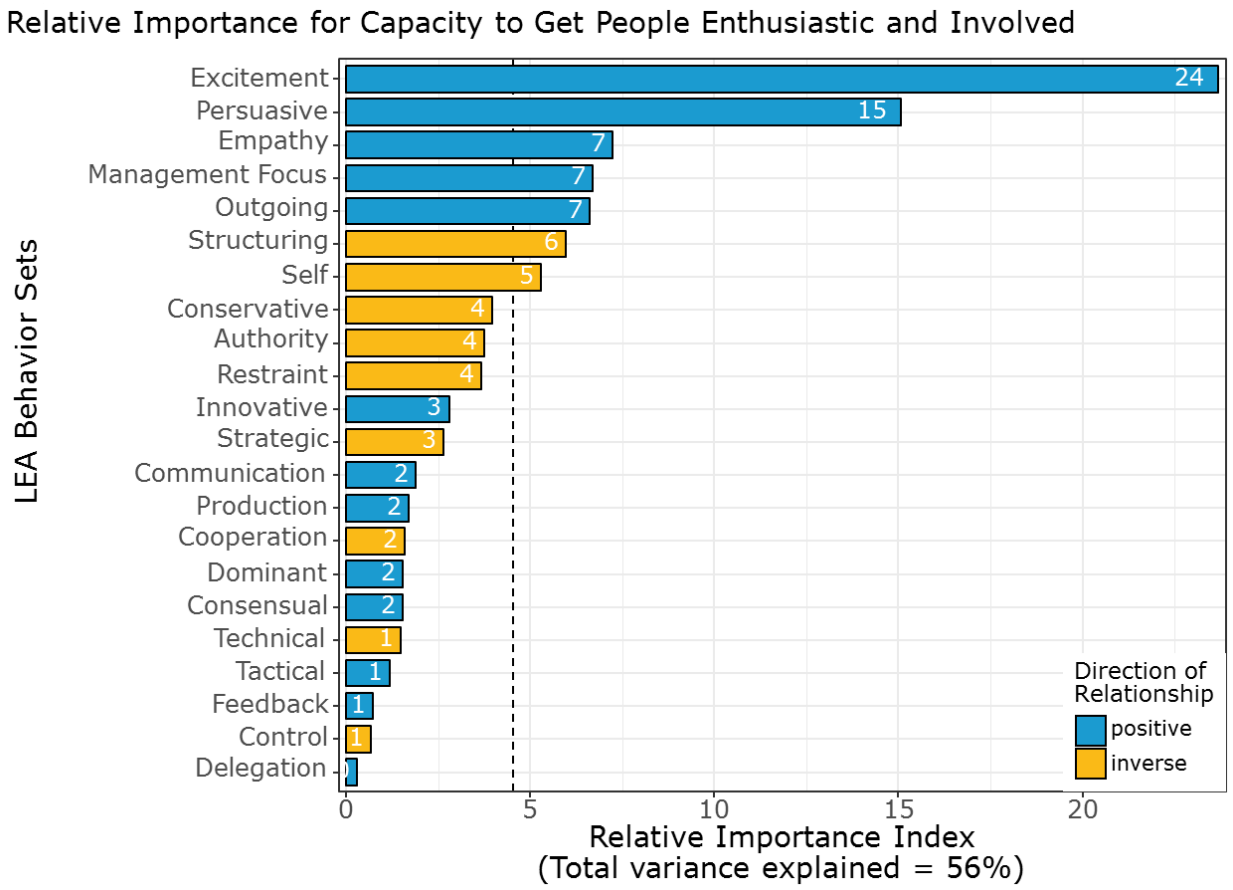
15
20
Relative Importance Index
(Total variance explained = 26%)
Direction of Relationship
positive
inverse

G2.


Relative Importance for Capacity to Get People Enthusiastic and Involved
LEA Behavior Sets
Excitement
Persuasive
Empathy
Management Focus
Outgoing
Structuring
Self
Conservative
Authority
Restraint
Innovative
Strategic
Communication
Production
Cooperation
Dominant
Consensual
Technical
Tactical
Feedback
Control
Delegation
24
15
7
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7
6
5
4
4
4
3
3
2
2
2
2
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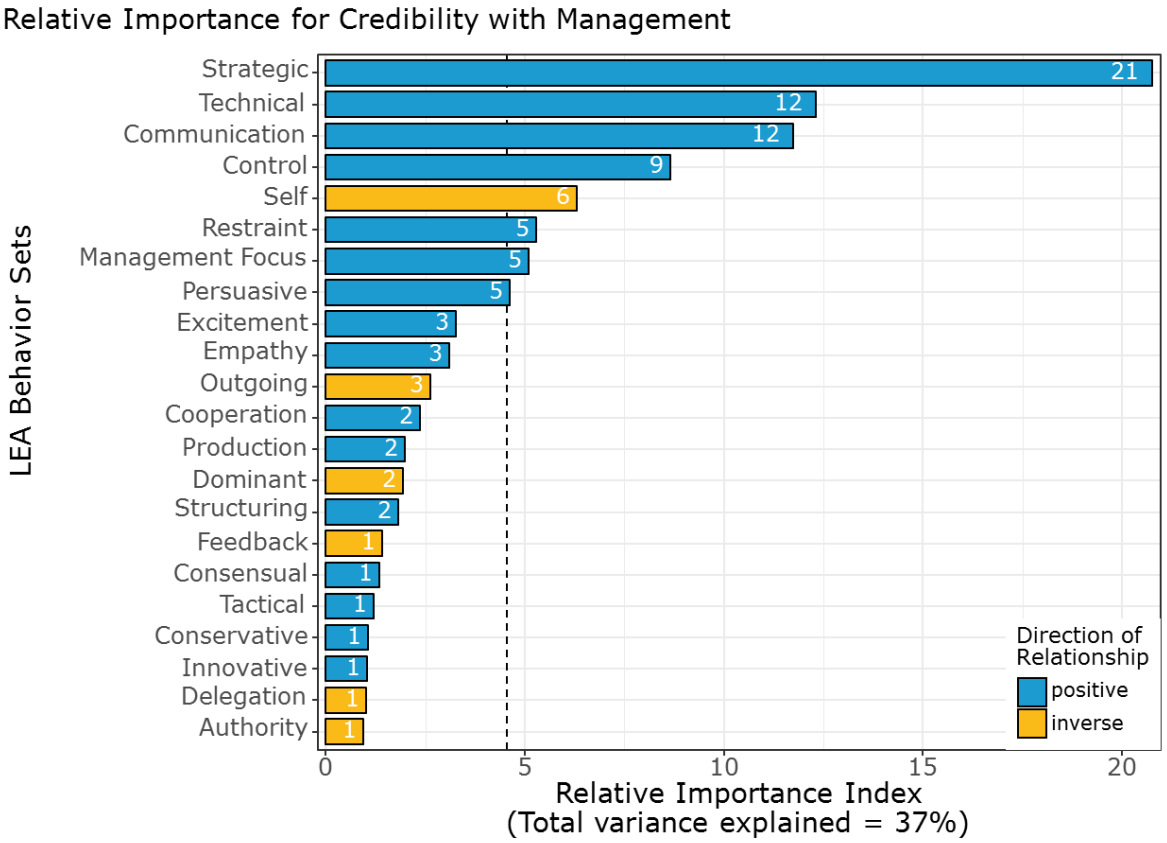
0
5
10
15
20
Relative Importance Index
(Total variance explained = 56%)
Direction of Relationship
positive
inverse

G3.


Relative Importance for Credibility with Management
LEA Behavior Sets
Strategic
Technical
Communication
Control
Self
Restraint
Management Focus
Persuasive
Excitement
Empathy
Outgoing
Cooperation
Production
Dominant
Structuring
Feedback
Consensual
Tactical
Conservative
Innovative
Delegation
Authority
21
12
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3
3
3
2
2
2
2
1
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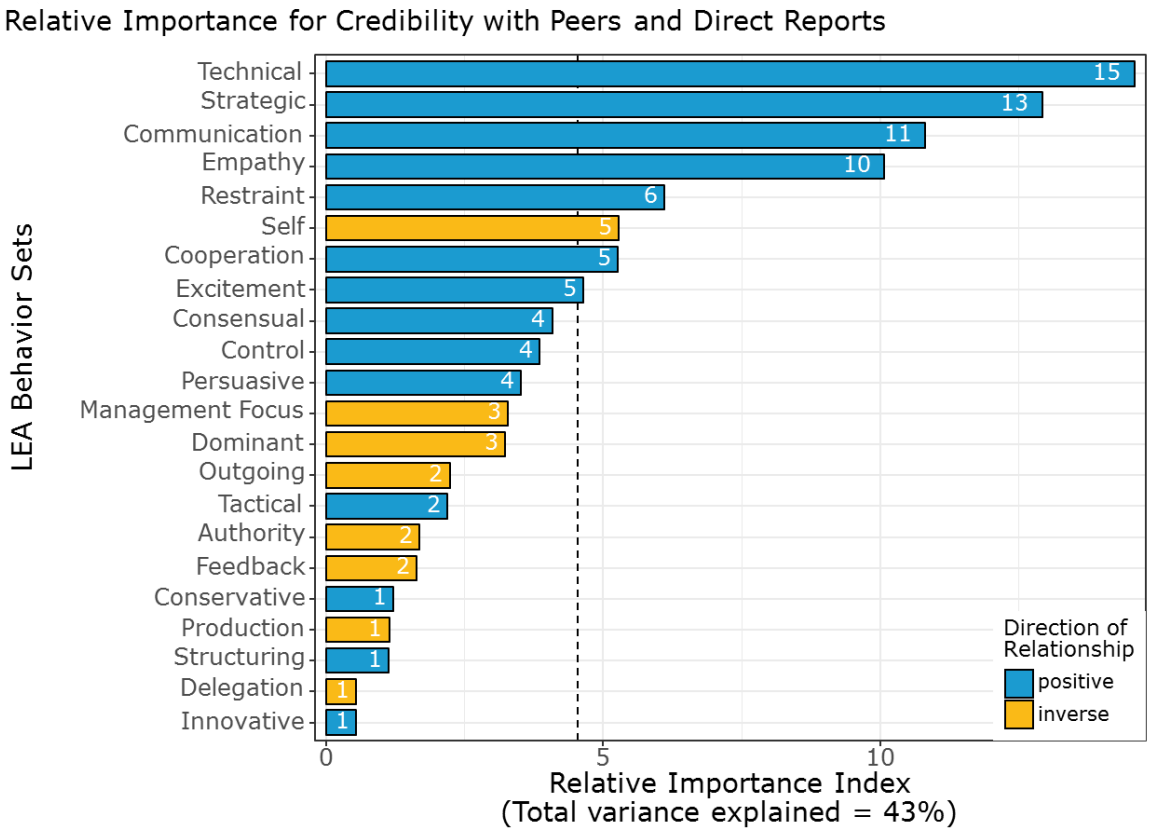
1
0
5
10
15
20
Relative Importance Index
(Total variance explained = 37%)
Direction of Relationship
positive
inverse

G4.


Relative Importance for Credibility with Peers and Direct Reports
LEA Behavior Sets
Technical
Strategic
Communication
Empathy
Restraint
Self
Cooperation
Excitement
Consensual
Control
Persuasive
Management Focus
Dominant
Outgoing
Tactical
Authority
Feedback
Conservative
Production
Structuring
Delegation
Innovative
15
13
11
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5
5
5
4
4
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3
3
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2
2
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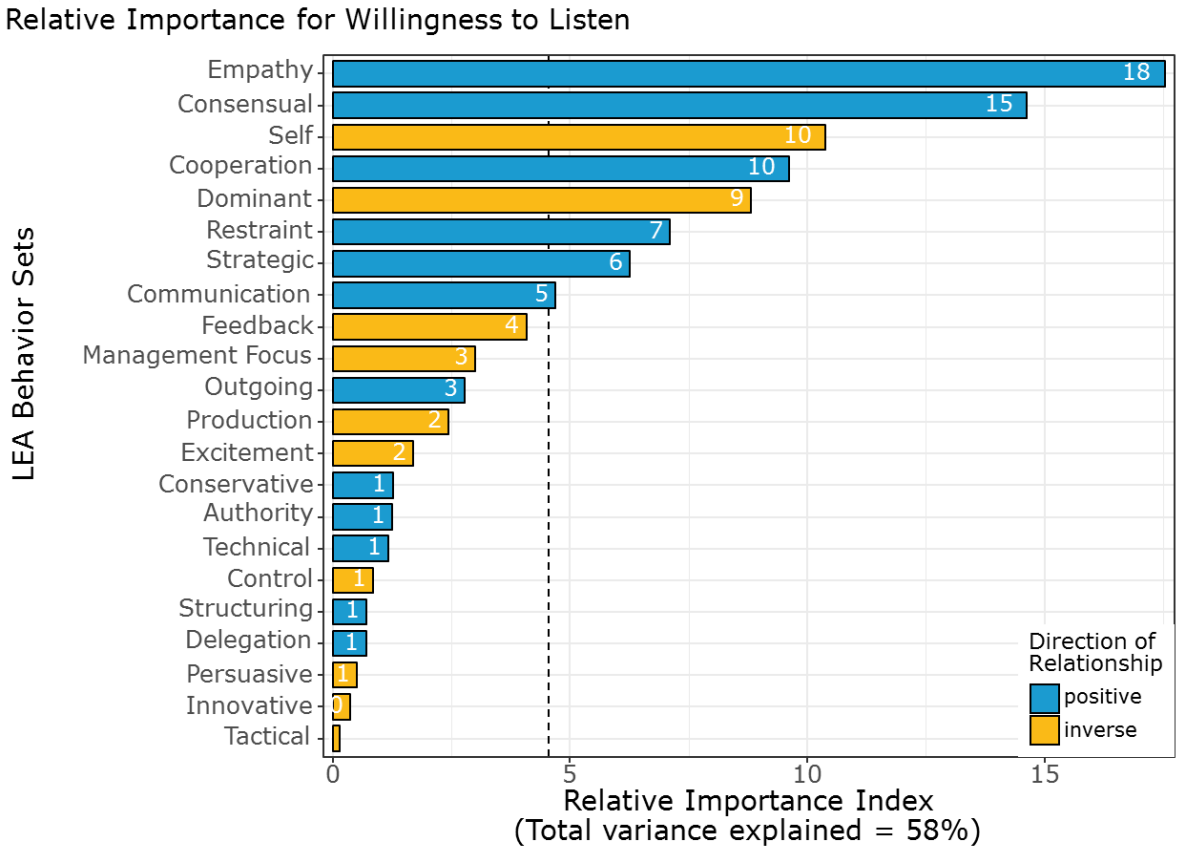
1
1
0
5
10
Relative Importance Index
(Total variance explained = 43%)
Direction of Relationship
positive
inverse

G5.


Relative Importance for Willingness to Listen
LEA Behavior Sets
Empathy
Consensual
Self
Cooperation
Dominant
Restraint
Strategic
Communication
Feedback
Management Focus
Outgoing
Production
Excitement
Conservative
Authority
Technical
Control
Structuring
Delegation
Persuasive
Innovative
Tactical
18
15
10
10
9
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6
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4
3
3
2
2
1
1
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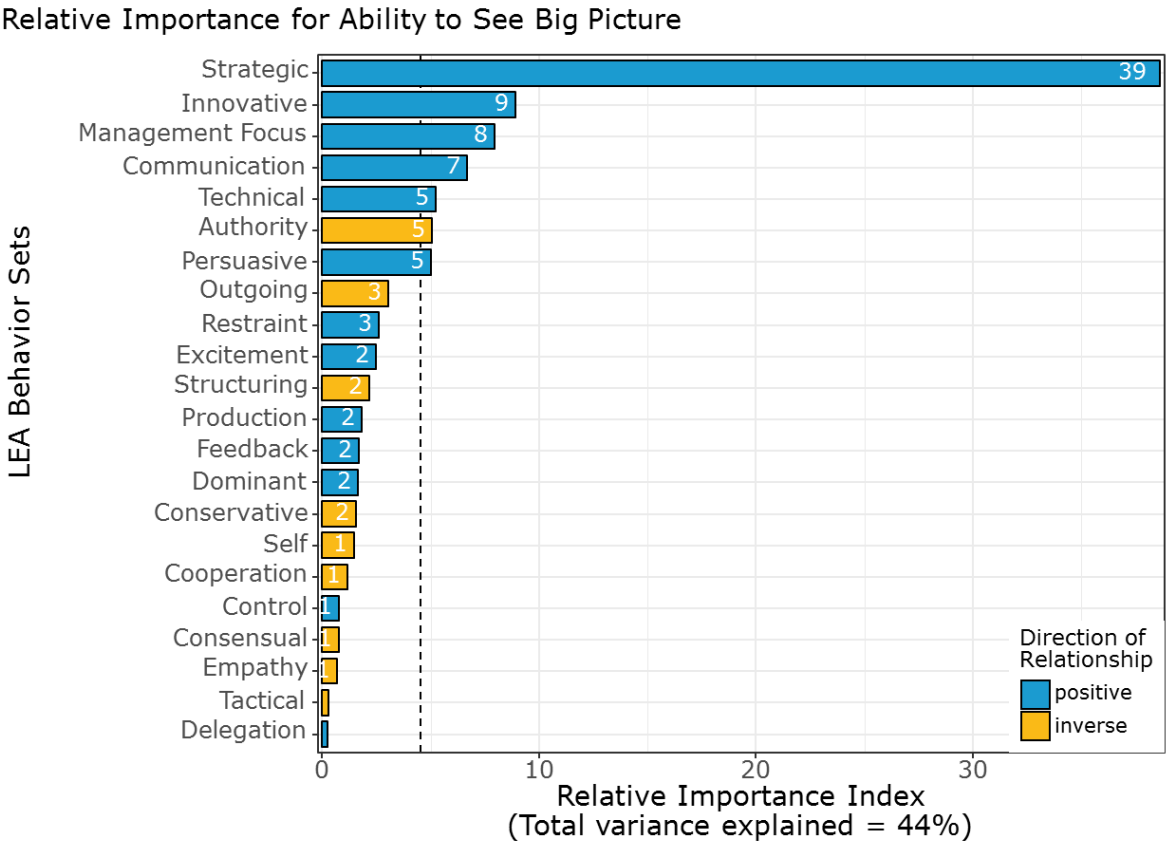
1
0
Direction of Relationship
positive
inverse
0
5
10
15
Relative Importance Index
(Total variance explained = 58%)

G6.


Relative Importance for Ability to See Big Picture
LEA Behavior Sets
Strategic
Innovative
Management Focus
Communication
Technical
Authority
Persuasive
Outgoing
Restraint
Excitement
Structuring
Production
Feedback
Dominant
Conservative
Self
Cooperation
Control
Consensual
Empathy
Tactical
Delegation
39
9
8
7
5
5
5
3
3
2
2
2
2
2
2
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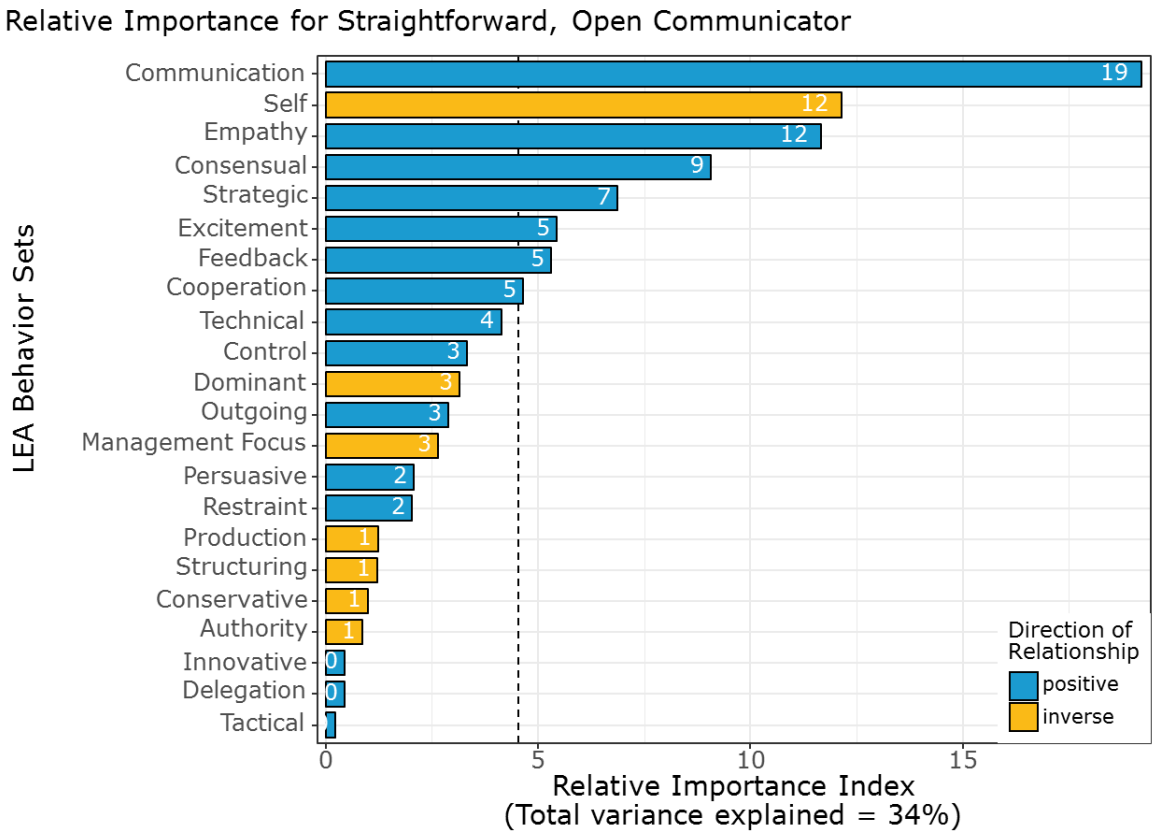
1
1
1
0
10
20
30
Relative Importance Index
(Total variance explained = 44%)
Direction of Relationship
positive
inverse

G7.


Relative Importance for Straightforward, Open Communicator
LEA Behavior Sets
Communication
Self
Empathy
Consensual
Strategic
Excitement
Feedback
Cooperation
Technical
Control
Dominant
Outgoing
Management Focus
Persuasive
Restraint
Production
Structuring
Conservative
Authority
Innovative
Delegation
Tactical
19
12
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5
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5
4
3
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3
3
2
2
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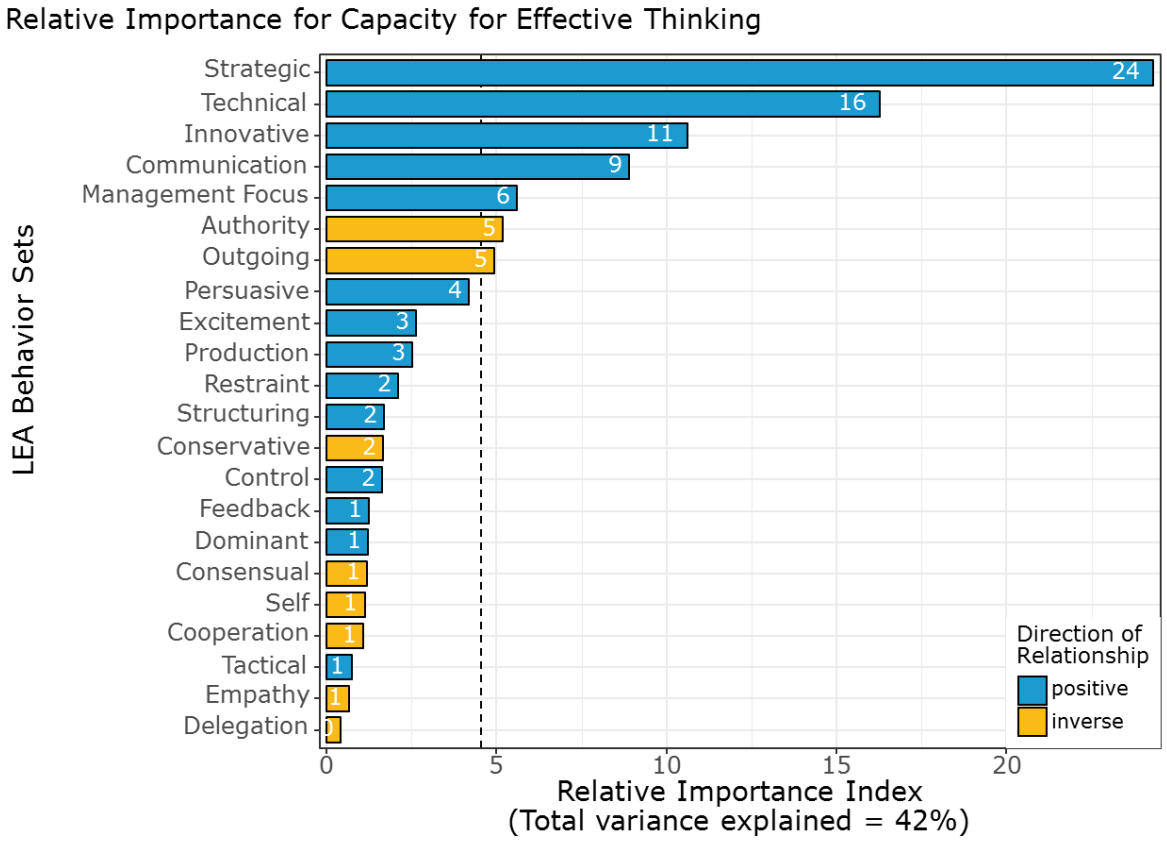
0
5
10
15
Relative Importance Index
(Total variance explained = 34%)
Direction of Relationship
positive
inverse

G8.


Relative Importance for Capacity for Effective Thinking
LEA Behavior Sets
Strategic
Technical
Innovative
Communication
Management Focus
Authority
Outgoing
Persuasive
Excitement
Production
Restraint
Structuring
Conservative
Control
Feedback
Dominant
Consensual
Self
Cooperation
Tactical
Empathy
Delegation
24
16
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5
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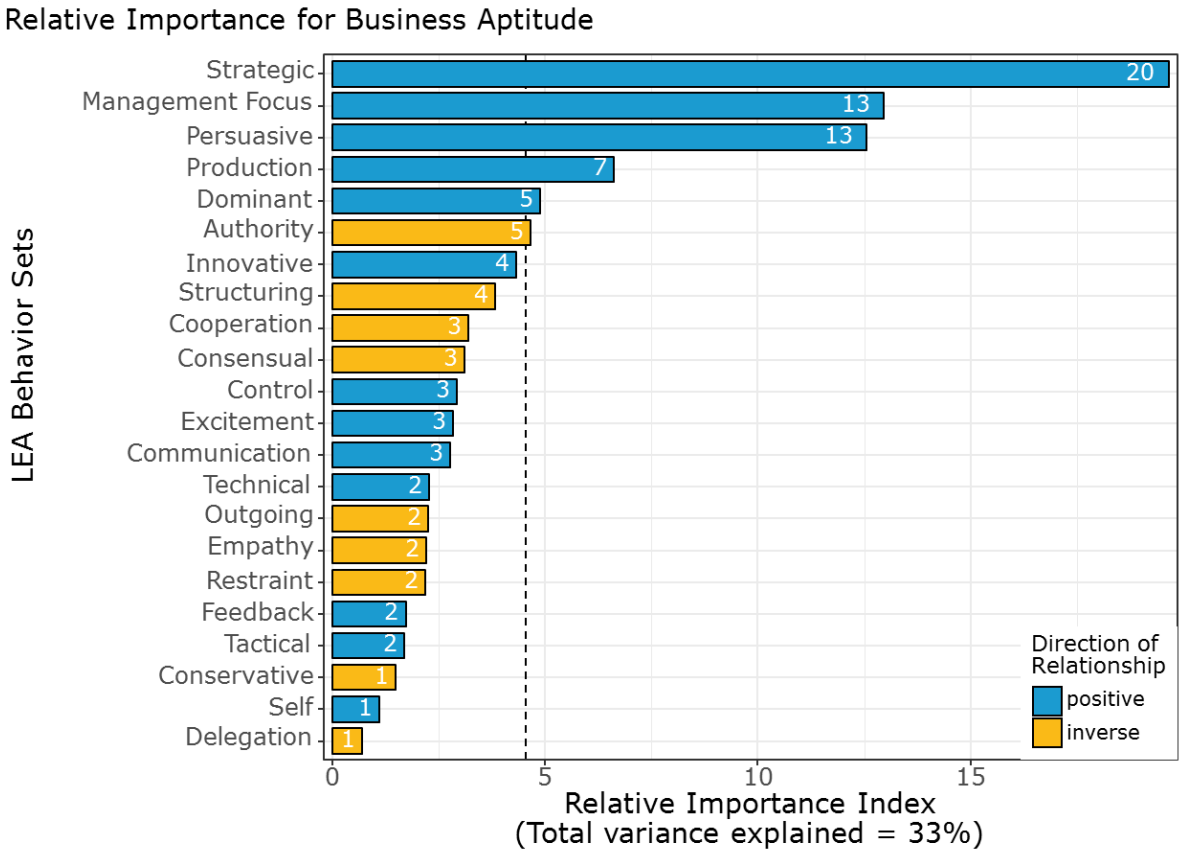
15
20
Relative Importance Index
(Total variance explained = 42%)
Direction of Relationship
positive
inverse

G9.


Relative Importance for Business Aptitude
LEA Behavior Sets
Strategic
Management Focus
Persuasive
Production
Dominant
Authority
Innovative
Structuring
Cooperation
Consensual
Control
Excitement
Communication
Technical
Outgoing
Empathy
Restraint
Feedback
Tactical
Conservative
Self
Delegation
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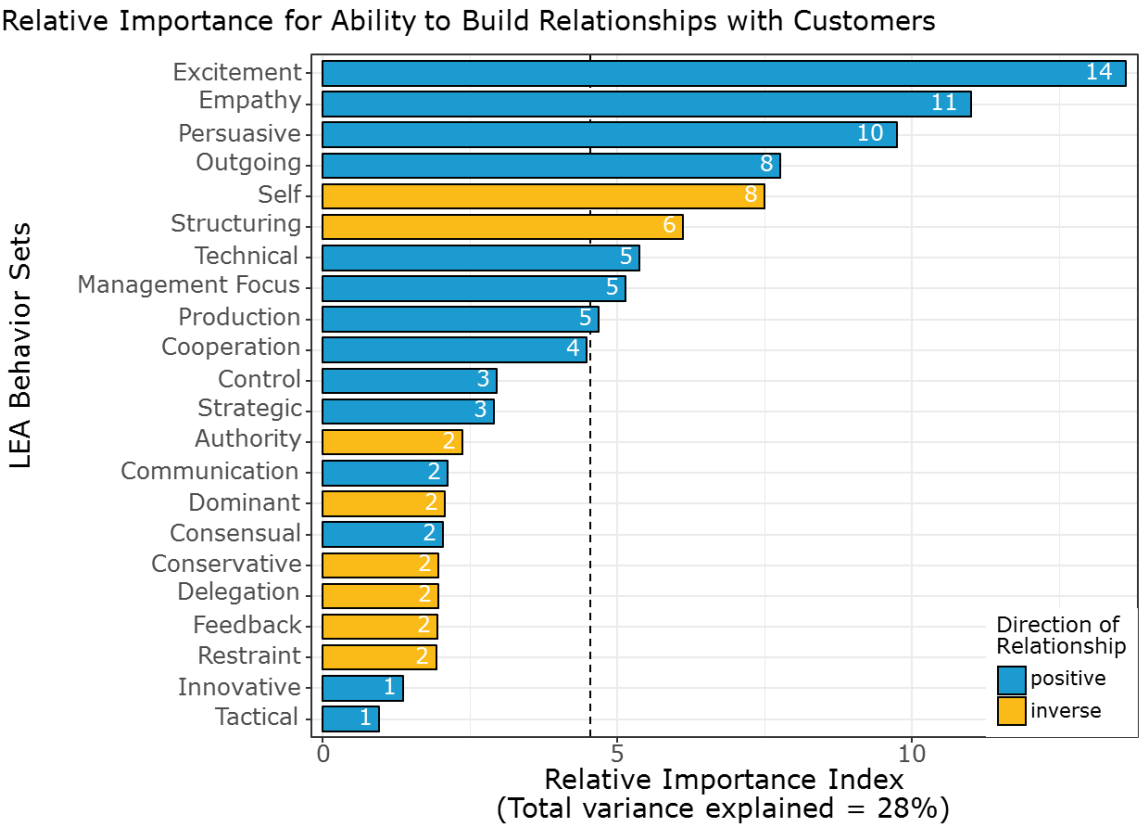
5
10
15
Relative Importance Index
(Total variance explained = 33%)
Direction of Relationship
positive
inverse

G10.


Relative Importance for Ability to Build Relationships with Customers
LEA Behavior Sets
Excitement
Empathy
Persuasive
Outgoing
Self
Structuring
Technical
Management Focus
Production
Cooperation
Control
Strategic
Authority
Communication
Dominant
Consensual
Conservative
Delegation
Feedback
Restraint
Innovative
Tactical
14
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2
2
2
2
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1
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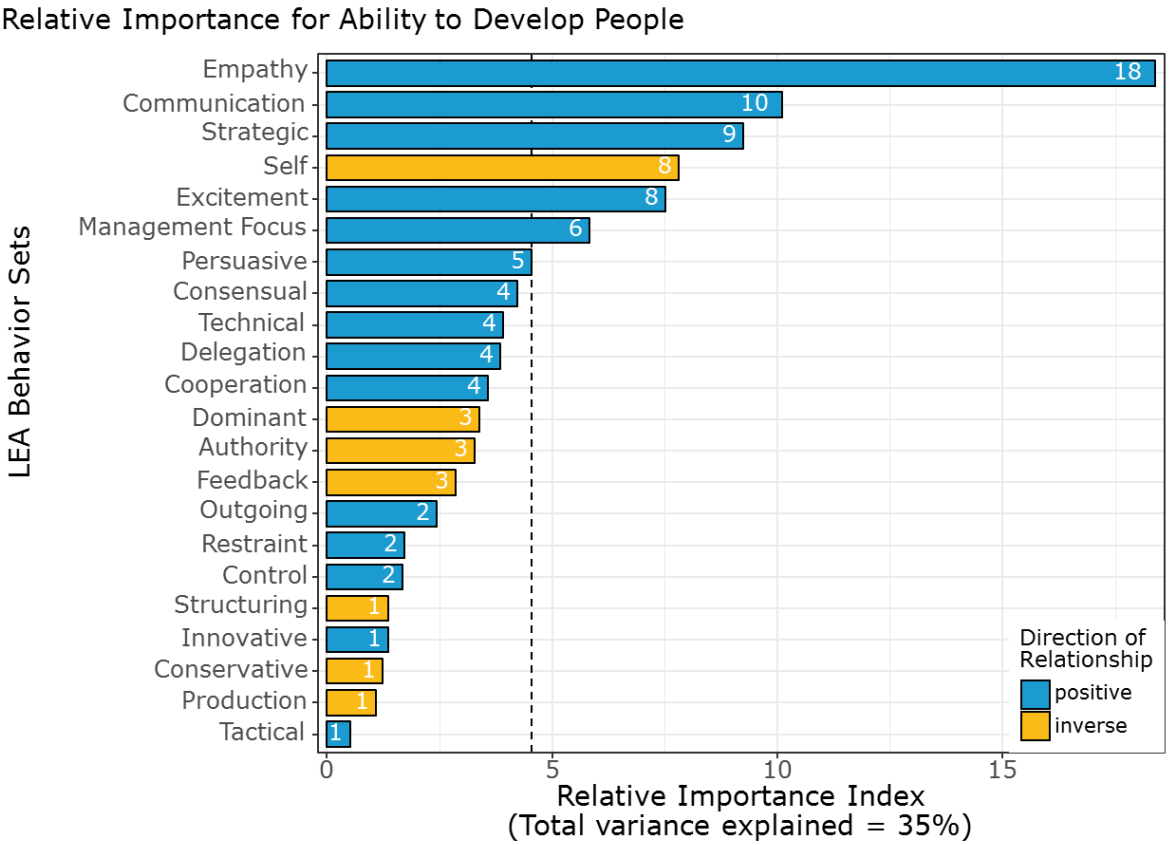
0
5
10
Relative Importance Index
(Total variance explained = 28%)
Direction of Relationship
positive
inverse

G11.


Relative Importance for Ability to Develop People
LEA Behavior Sets
Empathy
Communication
Strategic
Self
Excitement
Management Focus
Persuasive
Consensual
Technical
Delegation
Cooperation
Dominant
Authority
Feedback
Outgoing
Restraint
Control
Structuring
Innovative
Conservative
Production
Tactical
18
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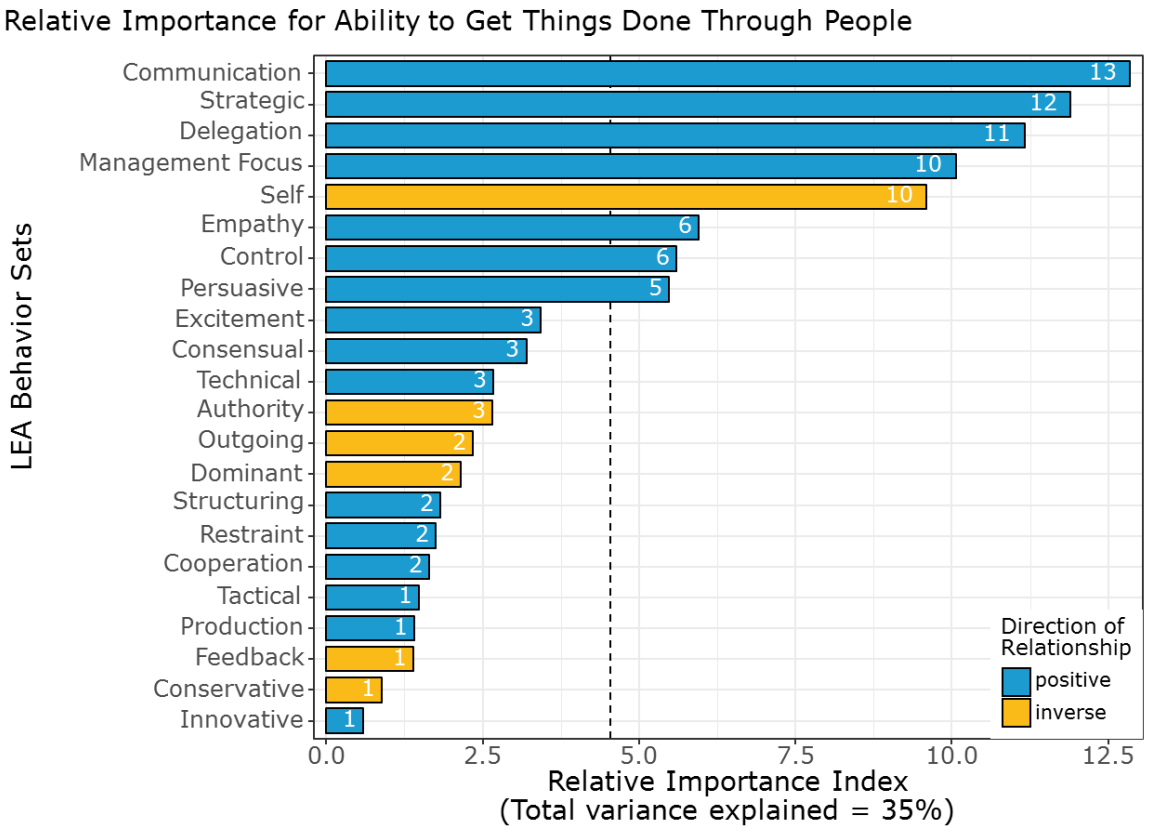
5
10
15
Relative Importance Index
(Total variance explained = 35%)
Direction of Relationship
positive
inverse

G12.


Relative Importance for Ability to Get Things Done Through People
LEA Behavior Sets
Communication
Strategic
Delegation
Management Focus
Self
Empathy
Control
Persuasive
Excitement
Consensual
Technical
Authority
Outgoing
Dominant
Structuring
Restraint
Cooperation
Tactical
Production
Feedback
Conservative
Innovative
13
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2
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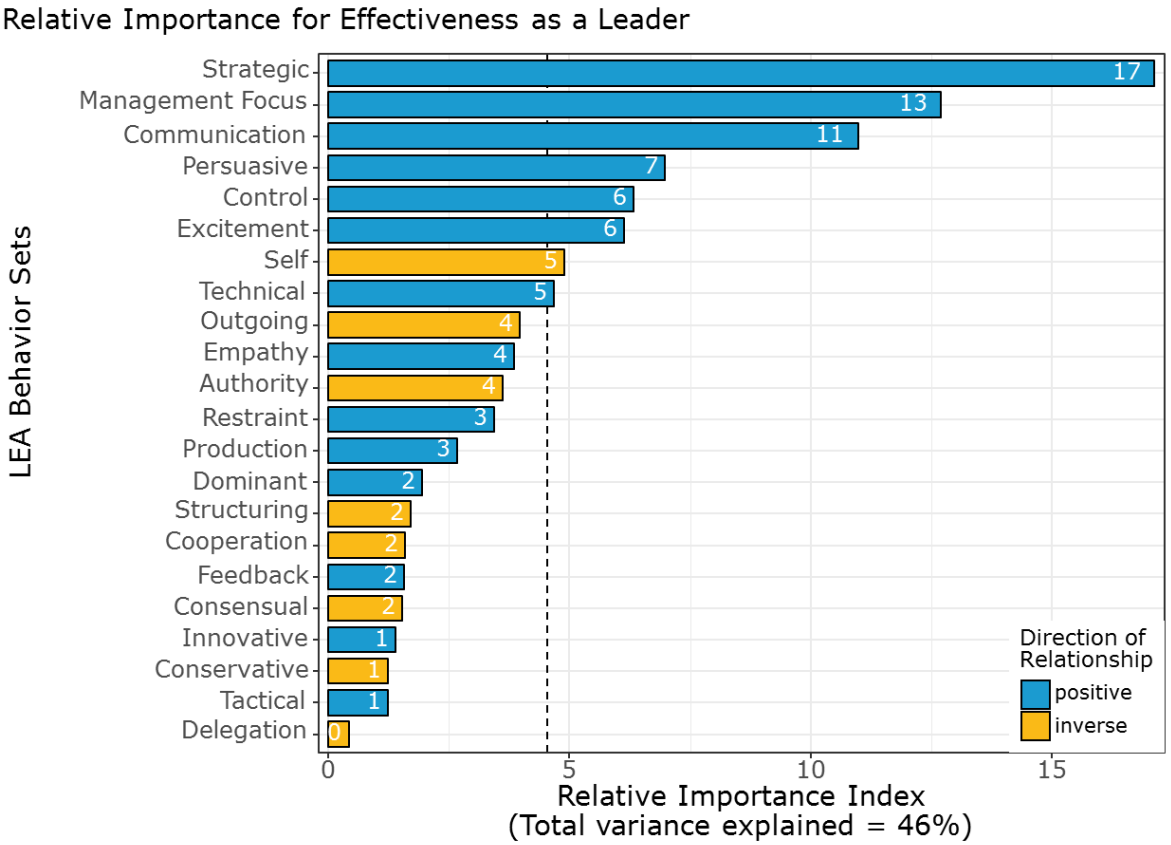
1
1
Direction of Relationship
positive
inverse
0.0
2.5
5.0
7.5
10.0
12.5
Relative Importance Index
(Total variance explained = 35%)

G13.


Relative Importance for Effectiveness as a Leader
LEA Behavior Sets
Strategic
Management Focus
Communication
Persuasive
Control
Excitement
Self
Technical
Outgoing
Empathy
Authority
Restraint
Production
Dominant
Structuring
Cooperation
Feedback
Consensual
Innovative
Conservative
Tactical
Delegation
17
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2
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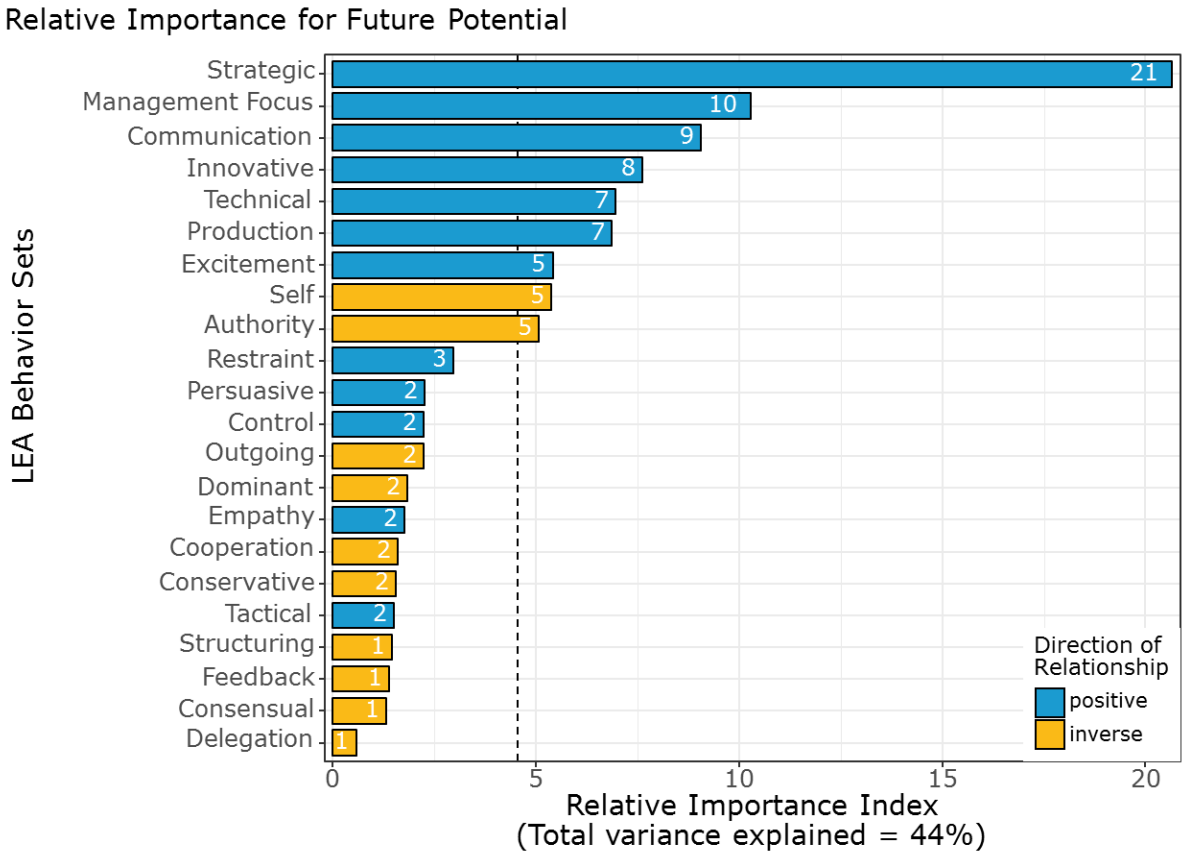
0
5
10
15
Relative Importance Index
(Total variance explained = 46%)
Direction of Relationship
positive
inverse

G14.


Relative Importance for Future Potential
LEA Behavior Sets
Strategic
Management Focus
Communication
Innovative
Technical
Production
Excitement
Self
Authority
Restraint
Persuasive
Control
Outgoing
Dominant
Empathy
Cooperation
Conservative
Tactical
Structuring
Feedback
Consensual
Delegation
21
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2
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1
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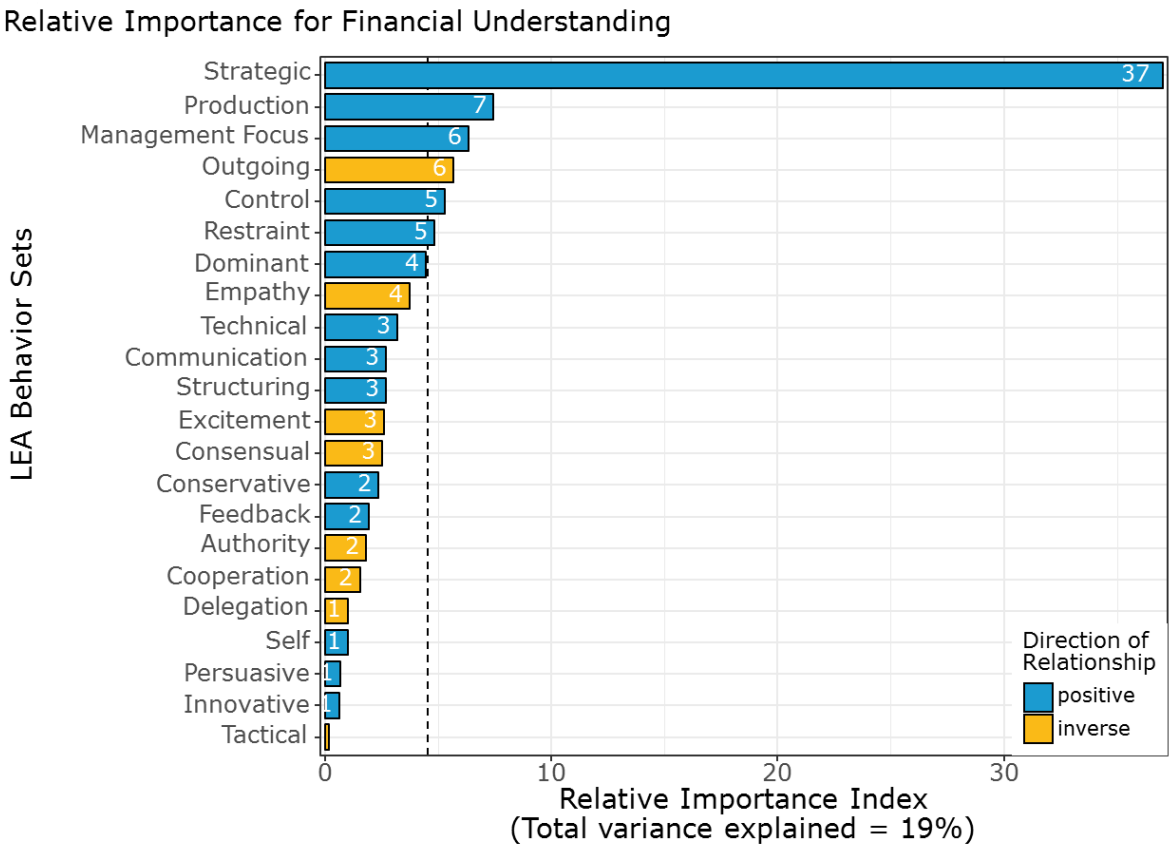
5
10
15
20
Relative Importance Index
(Total variance explained = 44%)
Direction of Relationship
positive
inverse

G15.


Relative Importance for Financial Understanding
LEA Behavior Sets
Strategic
Production
Management Focus
Outgoing
Control
Restraint
Dominant
Empathy
Technical
Communication
Structuring
Excitement
Consensual
Conservative
Feedback
Authority
Cooperation
Delegation
Self
Persuasive
Innovative
Tactical
37
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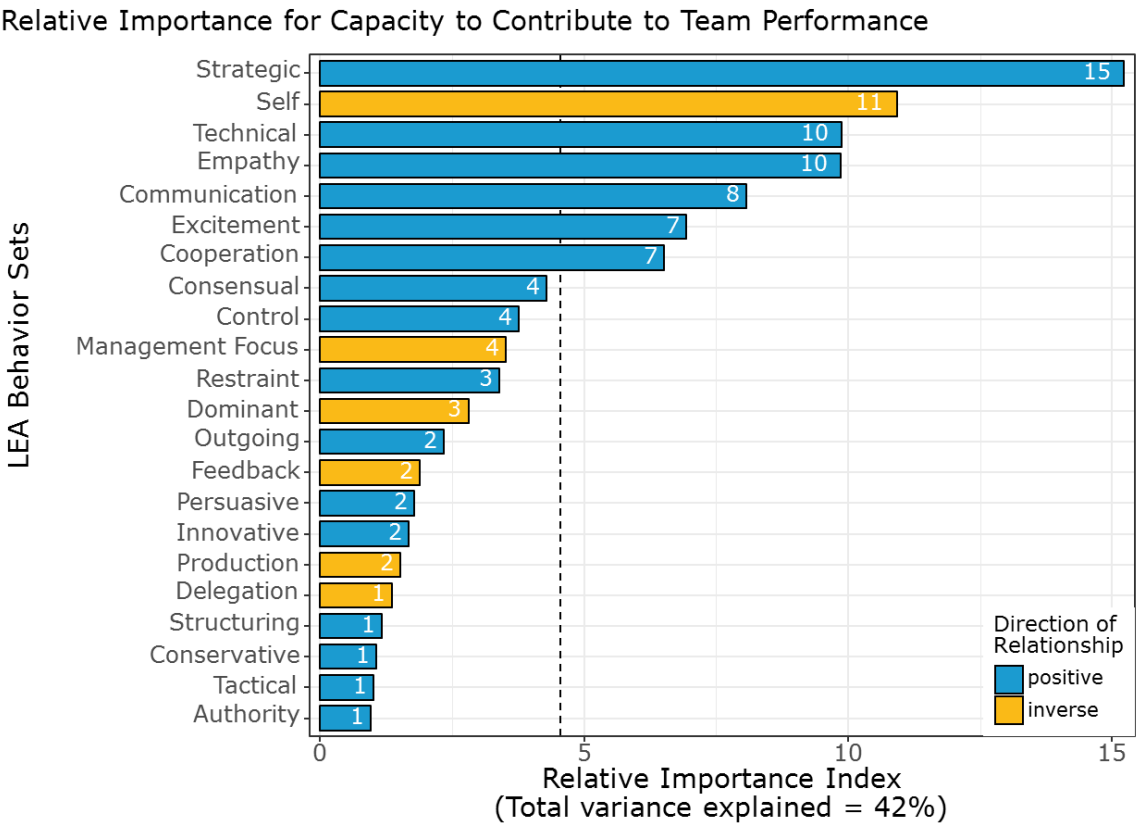
0
10
20
30
Relative Importance Index
(Total variance explained = 19%)
Direction of Relationship
positive
inverse

G16.


Relative Importance for Capacity to Contribute to Team Performance
LEA Behavior Sets
Strategic
Self
Technical
Empathy
Communication
Excitement
Cooperation
Consensual
Control
Management Focus
Restraint
Dominant
Outgoing
Feedback
Persuasive
Innovative
Production
Delegation
Structuring
Conservative
Tactical
Authority
15
11
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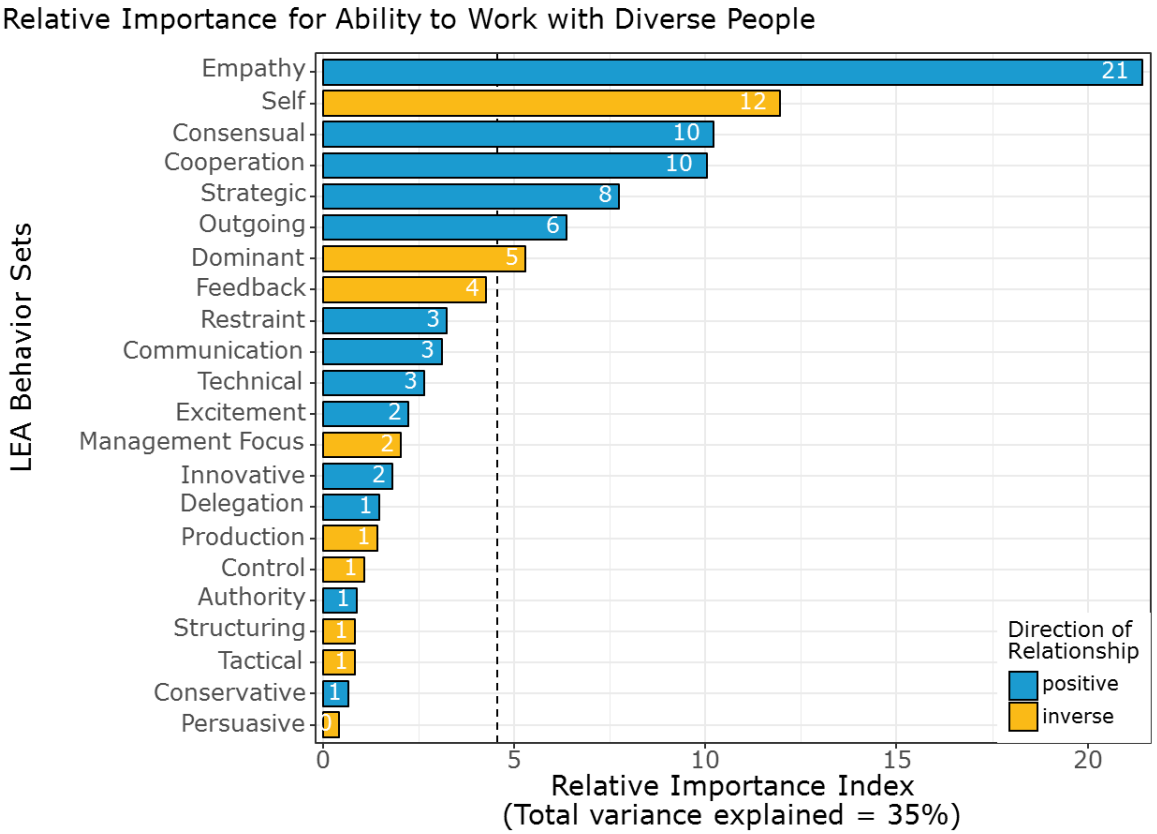
Direction of Relationship
positive
inverse
0
5
10
15
Relative Importance Index
(Total variance explained = 42%)

G17.


Relative Importance for Ability to Work with Diverse People
LEA Behavior Sets
Empathy
Self
Consensual
Cooperation
Strategic
Outgoing
Dominant
Feedback
Restraint
Communication
Technical
Excitement
Management Focus
Innovative
Delegation
Production
Control
Authority
Structuring
Tactical
Conservative
Persuasive
21
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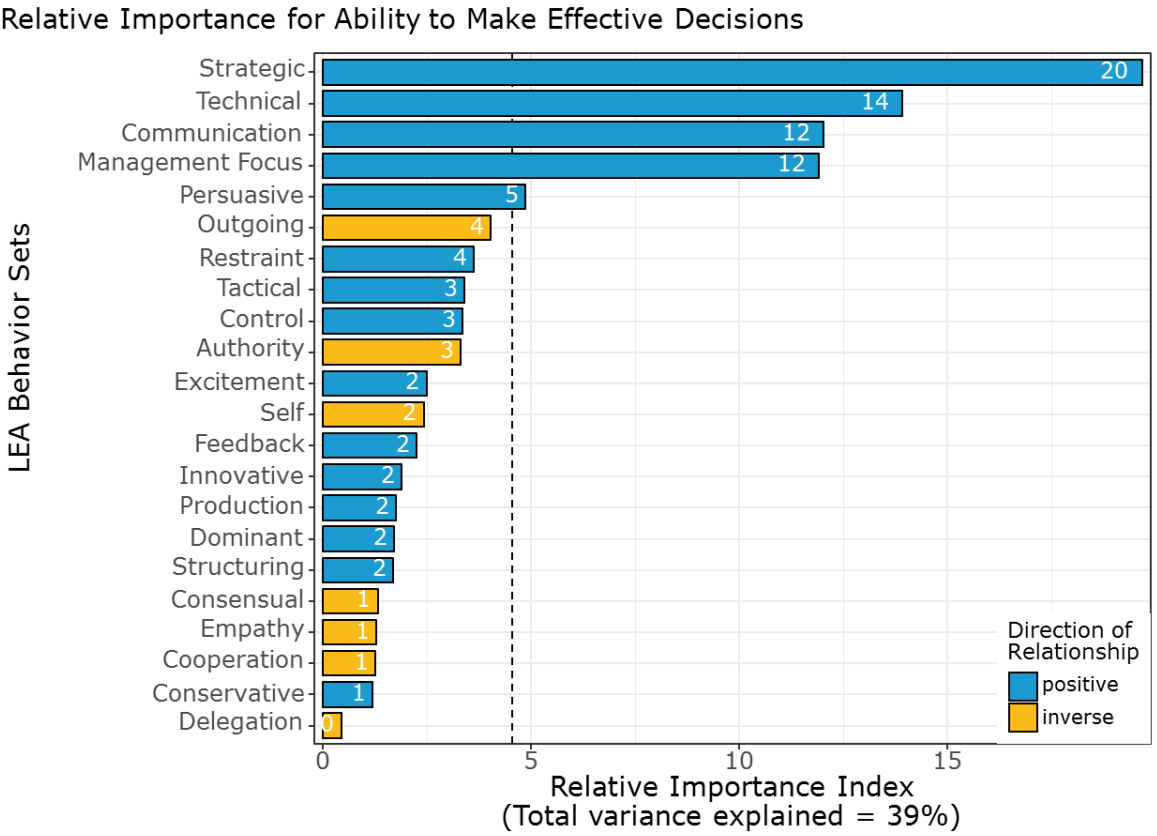
5
10
15
20
Relative Importance Index
(Total variance explained = 35%)
Direction of Relationship
positive
inverse

G18.


Relative Importance for Ability to Make Effective Decisions
LEA Behavior Sets
Strategic
Technical
Communication
Management Focus
Persuasive
Outgoing
Restraint
Tactical
Control
Authority
Excitement
Self
Feedback
Innovative
Production
Dominant
Structuring
Consensual
Empathy
Cooperation
Conservative
Delegation
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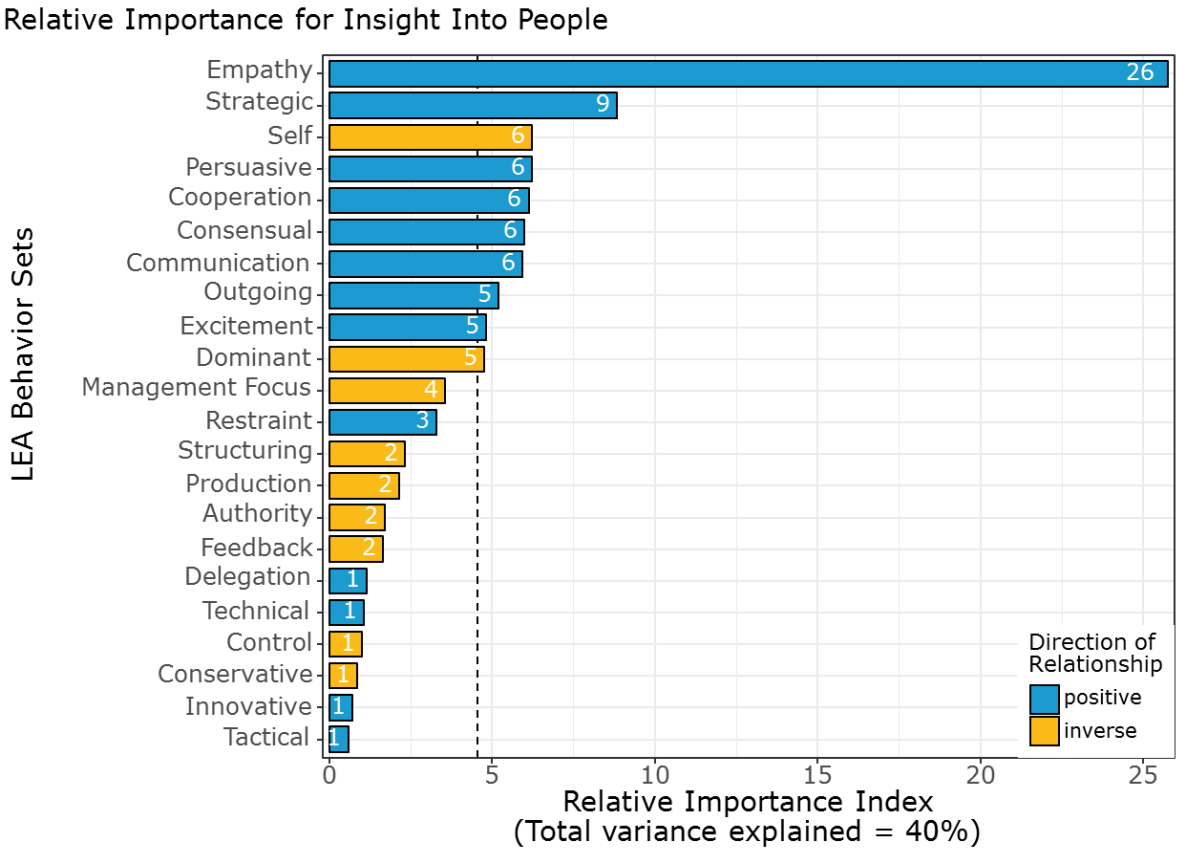
5
10
15
Relative Importance Index
(Total variance explained = 39%)
Direction of Relationship
positive
inverse

G19.


Relative Importance for Insight Into People
LEA Behavior Sets
Empathy
Strategic
Self
Persuasive
Cooperation
Consensual
Communication
Outgoing
Excitement
Dominant
Management Focus
Restraint
Structuring
Production
Authority
Feedback
Delegation
Technical
Control
Conservative
Innovative
Tactical
26
9
6
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6
5
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5
4
3
2
2
2
2
1
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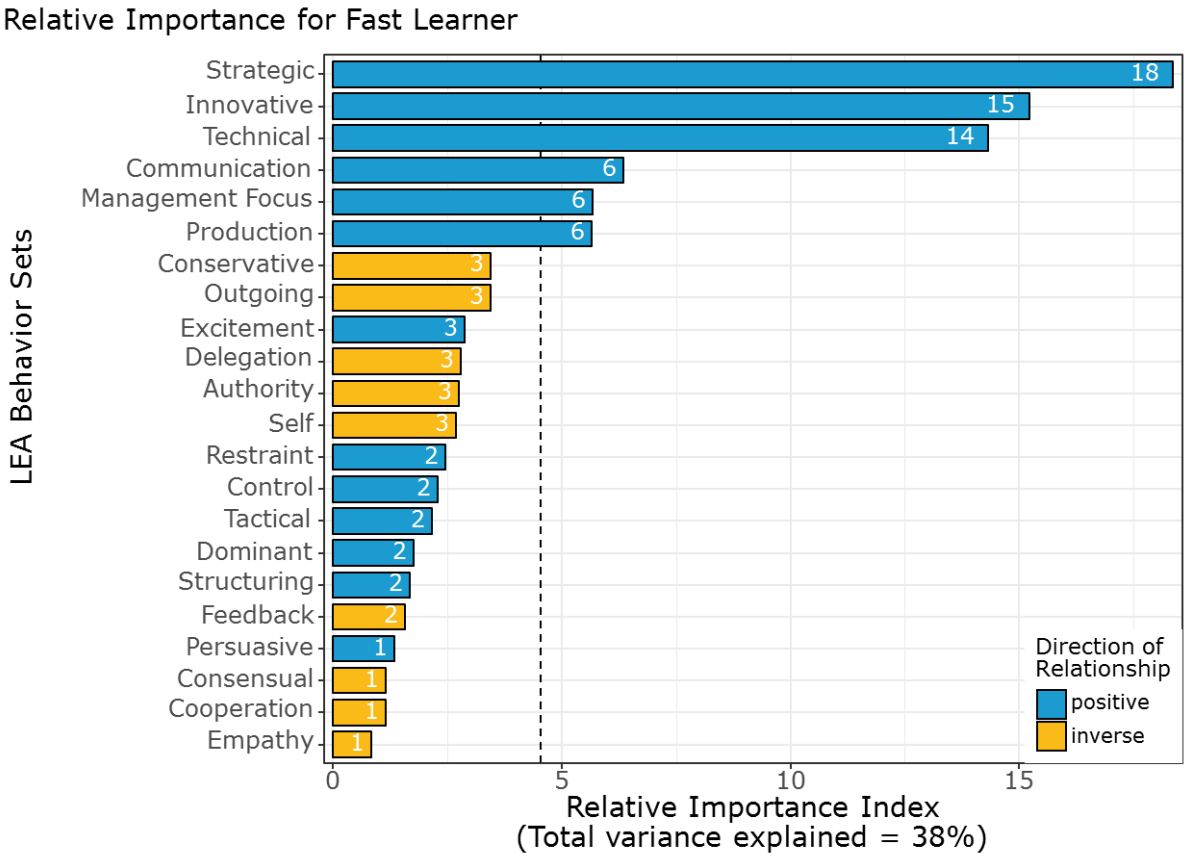
0
5
10
15
20
25
Relative Importance Index
(Total variance explained = 40%)
Direction of Relationship
positive
inverse

G20.


Relative Importance for Fast Learner
LEA Behavior Sets
Strategic
Innovative
Technical
Communication
Management Focus
Production
Conservative
Outgoing
Excitement
Delegation
Authority
Self
Restraint
Control
Tactical
Dominant
Structuring
Feedback
Persuasive
Consensual
Cooperation
Empathy
18
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14
6
6
6
3
3
3
3
3
3
2
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2
2
2
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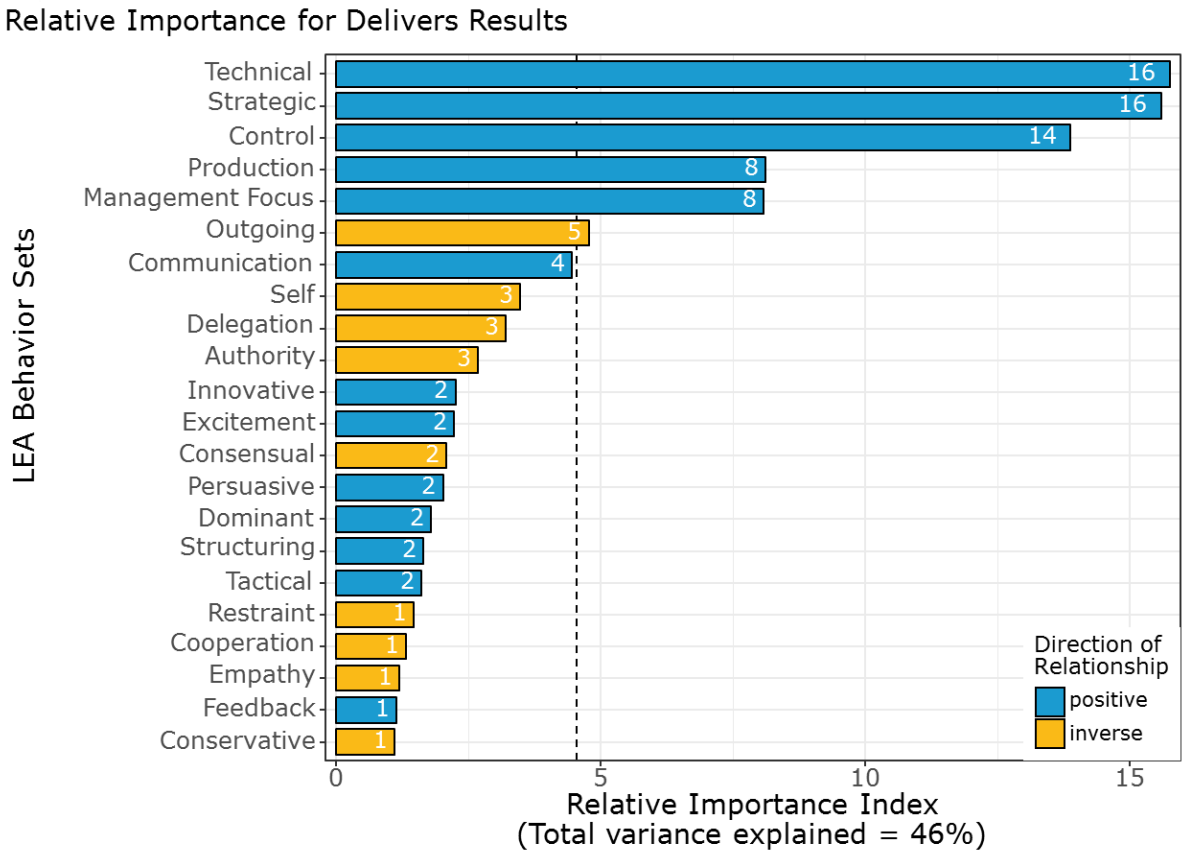
1
Direction of Relationship
positive
inverse
0
5
10
15
Relative Importance Index
(Total variance explained = 38%)

G21.


Relative Importance for Delivers Results
LEA Behavior Sets
Technical
Strategic
Control
Production
Management Focus
Outgoing
Communication
Self
Delegation
Authority
Innovative
Excitement
Consensual
Persuasive
Dominant
Structuring
Tactical
Restraint
Cooperation
Empathy
Feedback
Conservative
16
16
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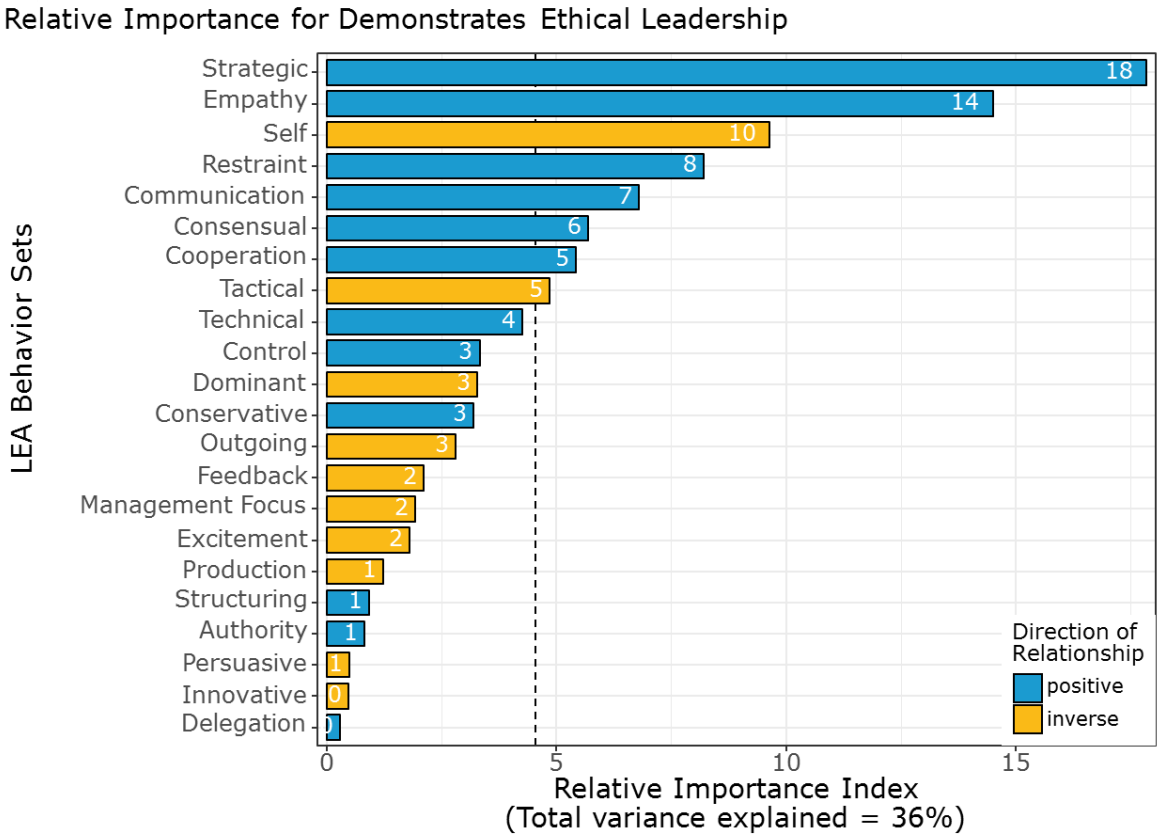
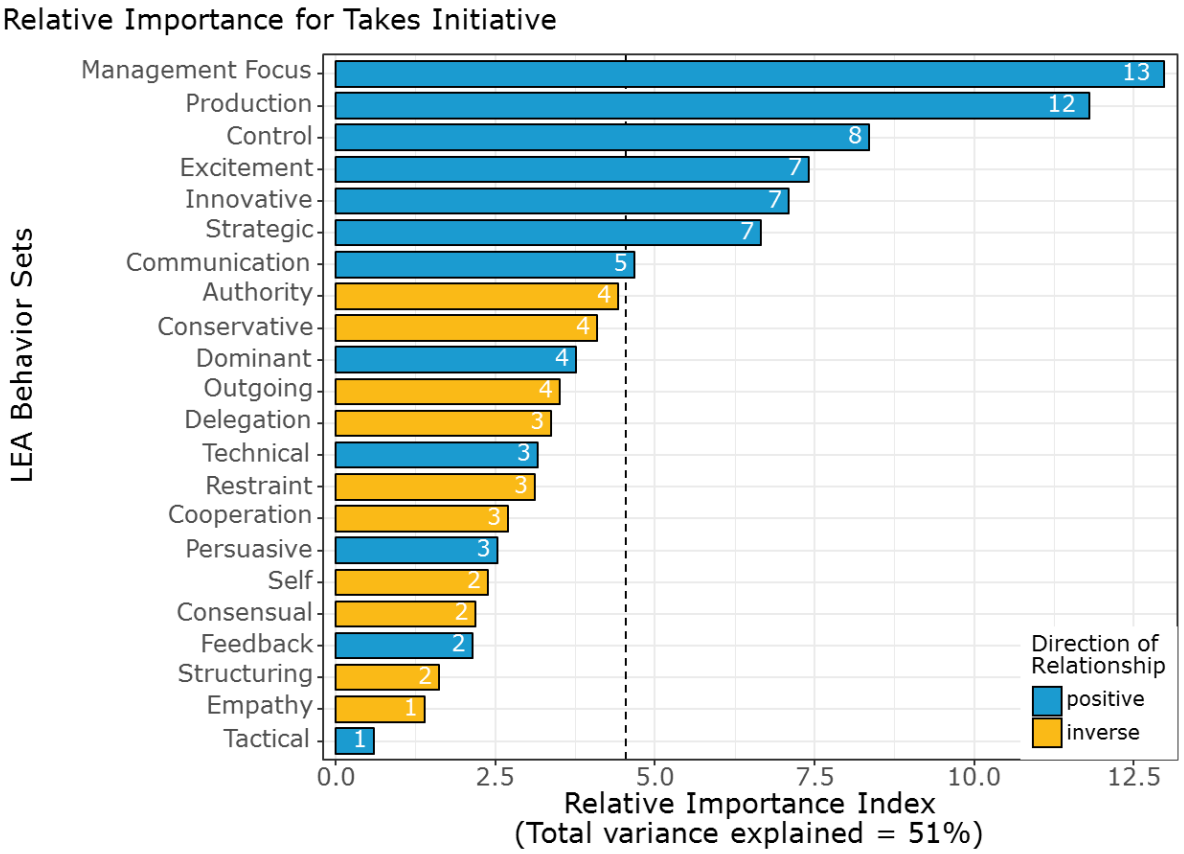
2
2
1
1
1
1
1
0
5
10
15
Relative Importance Index
(Total variance explained = 46%)
Direction of Relationship
positive
inverse

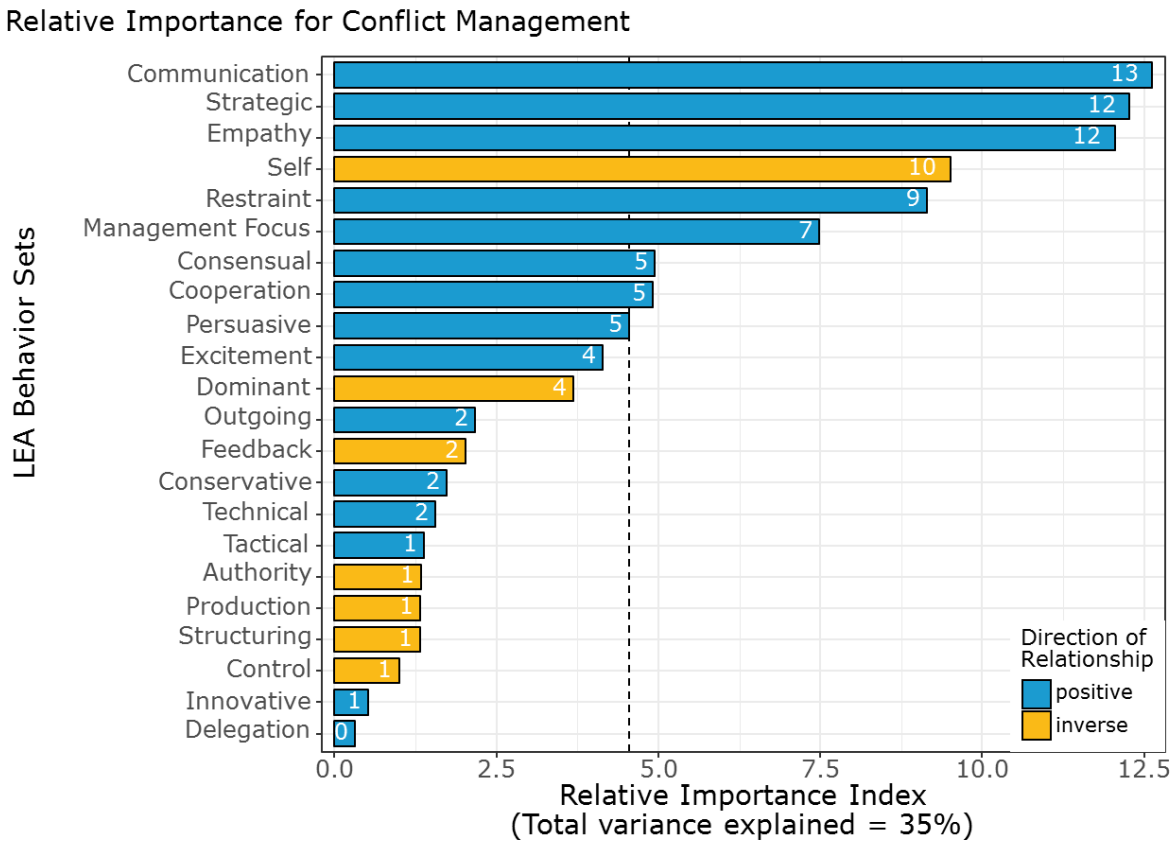
G22.


Relative Importance for Demonstrates Ethical Leadership
LEA Behavior Sets
Strategic
Empathy
Self
Restraint
Communication
Consensual
Cooperation
Tactical
Technical
Control
Dominant
Conservative
Outgoing
Feedback
Management Focus
Excitement
Production
Structuring
Authority
Persuasive
Innovative
Delegation
18
14
10
8
7
6
5
5
4
3
3
3
3
2
2
2
1
1
1
1
0
0
5
10
15
Relative Importance Index
(Total variance explained = 36%)
Direction of Relationship
positive
inverse

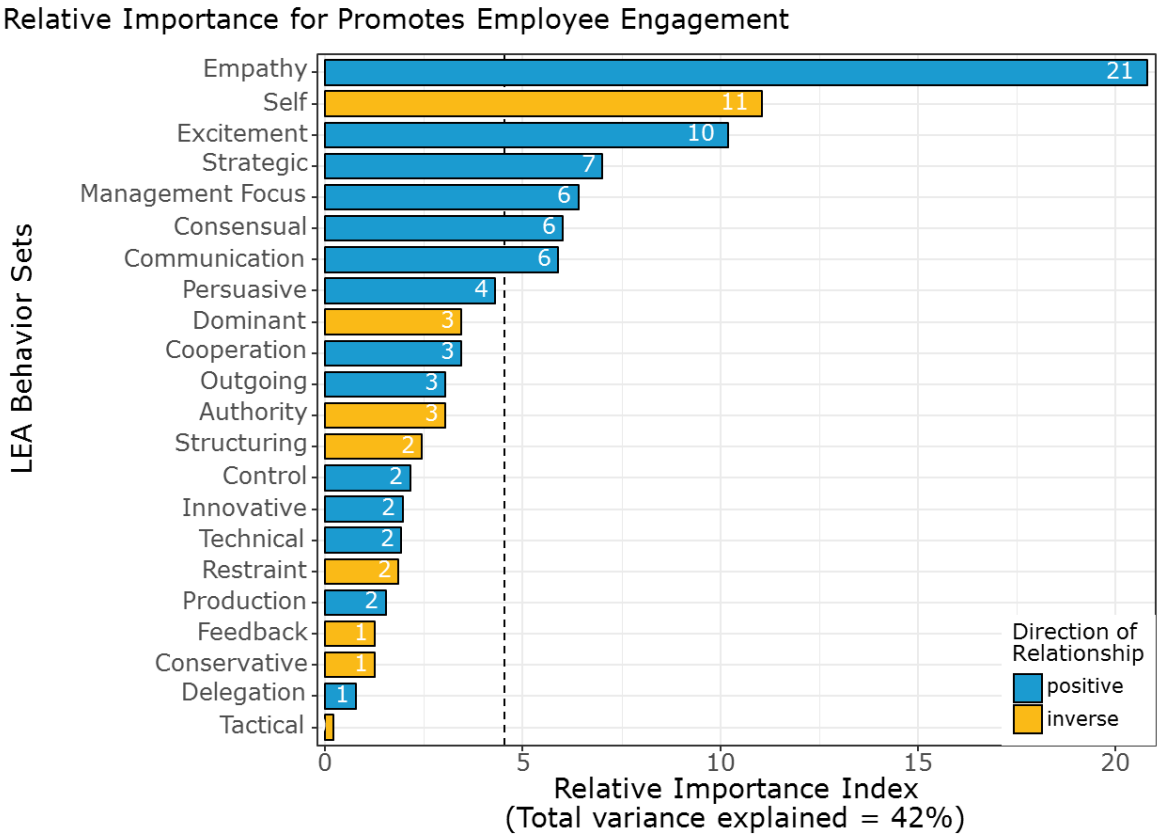
G23.


Relative Importance for Takes Initiative
LEA Behavior Sets
Management Focus
Production
Control
Excitement
Innovative
Strategic
Communication
Authority
Conservative
Dominant
Outgoing
Delegation
Technical
Restraint
Cooperation
Persuasive
Self
Consensual
Feedback
Structuring
Empathy
Tactical
13
12
8
7
7
7
5
4
4
4
4
3
3
3
3
2
2
2
2
1
1
0.0
2.5
5.0
7.5
10.0
12.5
Relative Importance Index
(Total variance explained = 51%)
Direction of Relationship
positive
inverse

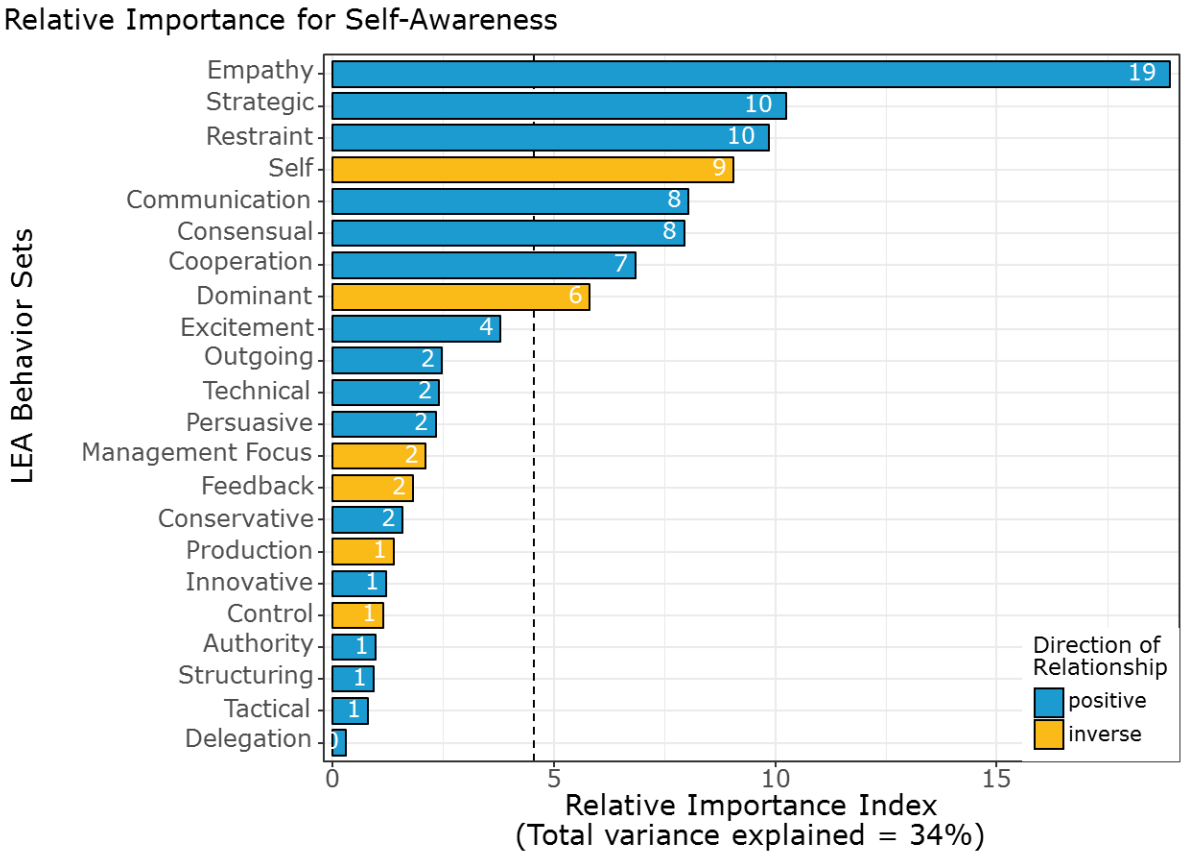
G24.


Relative Importance for Conflict Management
LEA Behavior Sets
Communication
Strategic
Empathy
Self
Restraint
Management Focus
Consensual
Cooperation
Persuasive
Excitement
Dominant
Outgoing
Feedback
Conservative
Technical
Tactical
Authority
Production
Structuring
Control
Innovative
Delegation
13
12
12
10
9
7
5
5
5
4
4
2
2
2
2
1
1
1
1
1
1
0
0.0
2.5
5.0
7.5
10.0
12.5
Relative Importance Index
(Total variance explained = 35%)
Direction of Relationship
positive
inverse

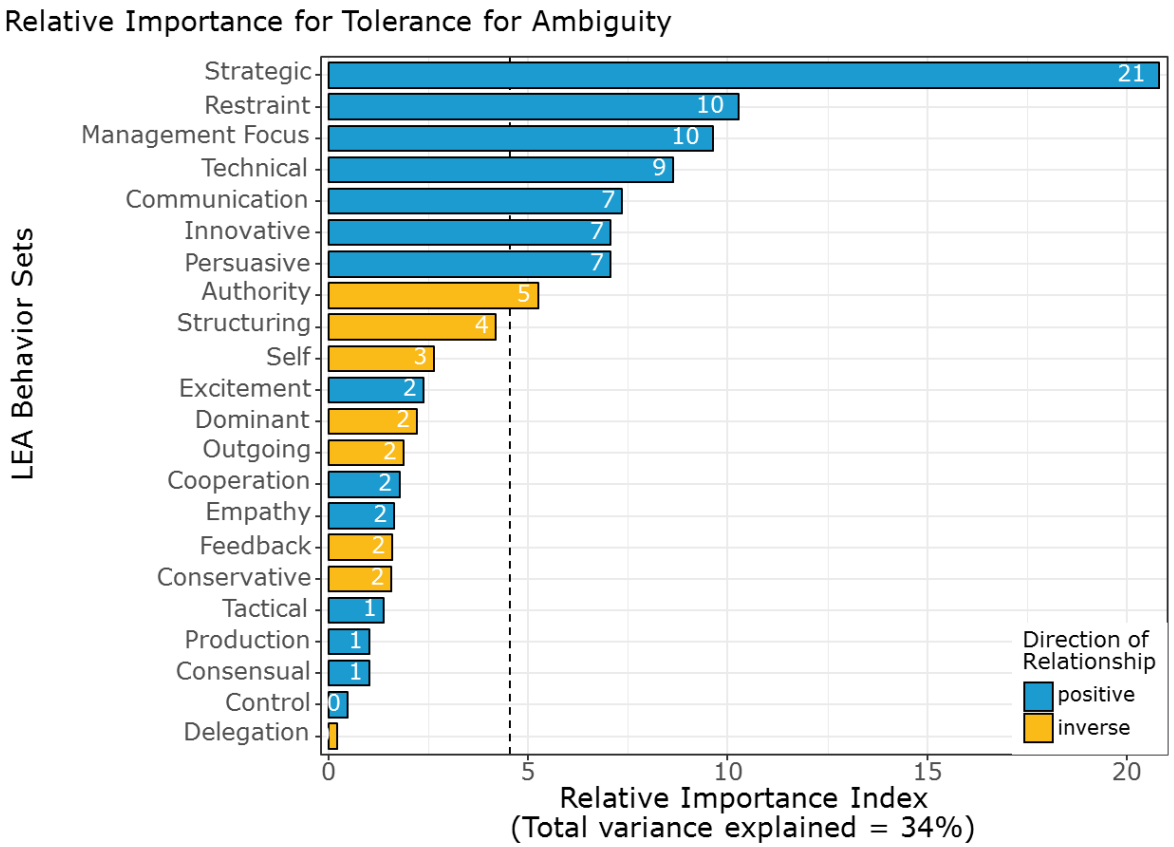
G25.


Relative Importance for Promotes Employee Engagement
LEA Behavior Sets
Empathy
Self
Excitement
Strategic
Management Focus
Consensual
Communication
Persuasive
Dominant
Cooperation
Outgoing
Authority
Structuring
Control
Innovative
Technical
Restraint
Production
Feedback
Conservative
Delegation
Tactical
21
11
10
7
6
6
6
4
3
3
3
3
2
2
2
2
2
2
1
1
1
0
5
10
15
20
Relative Importance Index
(Total variance explained = 42%)
Direction of Relationship
positive
inverse

G26.


Relative Importance for Self-Awareness
LEA Behavior Sets
Empathy
Strategic
Restraint
Self
Communication
Consensual
Cooperation
Dominant
Excitement
Outgoing
Technical
Persuasive
Management Focus
Feedback
Conservative
Production
Innovative
Control
Authority
Structuring
Tactical
Delegation
19
10
10
9
8
8
7
6
4
2
2
2
2
2
2
1
1
1
1
1
1
0
5
10
15
Relative Importance Index
(Total variance explained = 34%)
Direction of Relationship
positive
inverse

G27.


Relative Importance for Tolerance for Ambiguity
LEA Behavior Sets
Strategic
Restraint
Management Focus
Technical
Communication
Innovative
Persuasive
Authority
Structuring
Self
Excitement
Dominant
Outgoing
Cooperation
Empathy
Feedback
Conservative
Tactical
Production
Consensual
Control
Delegation
21
10
10
9
7
7
7
5
4
3
2
2
2
2
2
2
2
1
1
1
0
Direction of Relationship
positive
inverse
0
5
10
15
20
Relative Importance Index
(Total variance explained = 34%)

Appendix H: Reports and Feedback Systems

Feedback and Delivery Systems

The LEA instruments are used to provide feedback at the individual and organizational level through a variety of feedback delivery systems, grouped together as Leadership Effectiveness Analysis 360™ Full Suite. Each is described below.

Strategic Directions. A facilitated session in which a senior level management team identifies the leadership behaviors critical to the overall organization. Participants receive a package containing feedback from their responses to the LEA Strategic Directions Questionnaire (a printout showing the median and frequency distribution of the group's scores), a Resource Guide providing interpretive information on the benefits and risks inherent in each of the 22 LEA leadership sets as well as the supporting conditions necessary to develop each, and a Process Guide with worksheets and group exercises.

Leadership 360®. A report which provides an individual with feedback on his/her day-to-day leadership behavior based on the perceptions of self, boss, peers and direct reports. Leadership 360® participants receive a Personal Feedback Report, and a Resource Guide. The Personal Feedback Report displays the respondent's questionnaire data in graphic and narrative format. The Resource Guide contains additional interpretive information about the 22 LEA leadership sets, as well as specific action steps targeted specifically toward boss, peers and direct reports. In addition, it contains an action planning section which lists exercises that help in prioritizing areas for leadership development and provides the structure for building detailed, action oriented development plans.

Additionally, if a group or team of individuals have each completed the Leadership 360, their scores can be combined to provide a composite report. This composite report anonymously provides the median and frequency distribution of each of the 22 LEA dimensions separately for self, boss, peer, and direct report observer groups. The composite report is a useful tool for summarizing the characteristics of the team or group and is frequently valuable in team building exercises and to assess bench strength.

Role Expectations. Participants who complete the LEA Role Expectations Questionnaire receive their own normed scores on the 22 dimensions assessed desired leadership characteristics for the role. If more than one individual completes the questionnaire, a group composite report displaying medians and frequency distributions for each scale are also provided.

Leadership Culture. A group composite report is generated from the responses of participants completing the LEA Leadership Culture Questionnaire. This composite summarizes the survey participants' perceptions of their organization's current leadership culture. The report consists of median and frequency distributions for each of the 22 LEA leadership dimensions. If desired, several composite reports can be generated by subsetting the overall sample size to reflect the perceptions of specific groups of respondents. For example, reports can be generated by management levels, function areas, or geographic regions.

Feedback Delivery Strategies

Comparison to Norms. In all LEA feedback reports, raw scores are normed and presented as percentile ranks. The LEA has been used in thousands of organizations, large and small, public and private in North America, Central and South America, Europe, the Middle East, Africa, and the Pacific Rim. Reports are normed by geographic region. Norms are described in Chapter 5.

Breakout of Rater Responses. In the Leadership 360® Feedback Report, averaged responses for peers and direct reports are provided separately. If more than one boss responds, these responses are also averaged.

Graphical and Narrative Displays. In the Leadership 360® Feedback Report, scale scores for self and observers are graphically depicted throughout the feedback. The ―Profile Review‖ section of the feedback provides a narrative interpretation of raters' perceptions and suggested developmental opportunities, presented by rater group (boss, peers, direct reports).

Highlighting Largest Self/Rater Discrepancies. In the Leadership 360® Feedback Report, graphic profiles are provided which compare self scores to ratings by each observer group.

Item-Level Feedback. Given low item reliability, the semi-ipsative nature of test format, and the proprietary nature of the instrument, item-level feedback is not provided.

Highlighting High/Low Items and Scales. In the Leadership 360® Feedback Report, for each rater group, narrative interpretations are based on combinations of very high and very low scale scores. The 4 lowest scale scores are presented as Developmental Opportunities as perceived by that rater group.

Importance to Job or Success. If the organization elects to use the LEA Strategic Directions process, a group of senior executives will meet in a facilitated session to determine which of the 22 LEA leadership practices will be essential for the overall organization. These results will then be provided to individuals in the Leadership 360® Feedback Report as a basis to begin developmental action planning.

If the organization elects to use the LEA Role Expectations process, a group of subject matter experts will meet in a facilitated session to determine which of the 22 LEA leadership practices will be essential for success in a given role. These results will then be provided to individuals in the Leadership 360® Feedback Report as a basis to begin developmental action planning.

Other. The Leadership 360® Feedback Report provides a – degree of rater agreement – a reflection of the consistency of agreement among observers. A high rater agreement means that 75% or more of the observers clustered within 25 points of each other, medium agreement reflects 50%-74% are similarly clustered, and low rater agreement means fewer than 50% fell within a 25-point range. A discrepancy in observations suggests a difference in the impact the individual has on various raters.

Similar rater agreement measures are provided for LEA Strategic Directions. Role Expectations, and Leadership Culture group reports.

Appendix I: Supporting Materials

Support for Participants

Development and Planning Guides. The Strategic Directions participant package provides extensive interpretive information about the impact of the LEA sets at the organizational level. This can help senior management determine which sets will be critical to the organization's success, what specific outcomes can be expected if these leadership behaviors are developed, and what action steps they can take can take to reinforce, support and model these critical leadership behaviors.

The Leadership 360® product provides extensive interpretive and developmental information for the individual in the Personal Feedback Report and the LEA Resource Guide. The LEA Resource Guide also lists exercises that help to prioritize areas for leadership development, and provides the structure for building detailed, action-oriented development plans.

Workshops. Strategic Directions is designed to be delivered as a facilitated one-half to one day discussion with a group of key leaders within the organization. LEA feedback can be delivered to individuals through a one-day workshop or in one-on-one discussions. Facilitation of all MRG feedback delivery systems must be provided by individuals who have been facilitator-trained by MRG or a designated MRG Master Trainer.

Post-assessment. MRG offers the following post-assessment options for individuals who have received LEA feedback:

- Strategic Leadership Practices™ (SLP)
  Strategic Leadership Practices™ (SLP) is a series of fourteen experiential training modules. These training modules are designed to help individuals practice and master the specific LEA leadership behaviors they wish to develop. Participants receive workbooks containing interpretive material, worksheets and exercises. In exercises, participants address their own specific workplace issues in order to develop the desired leadership behaviors.

- LEA Reassessment
  Individuals may repeat the assessment process after 12 to 24 months in order to measure progress and chart new developmental goals.

- Summary worksheets
  Summary worksheets are available in the Strategic Directions Process Guide, the LEA Resource Guide, and each of the Strategic Leadership Practices participant workbooks.

Support for Trainers

Trainers' guide/manual. Trainers receive a comprehensive LEA 360™ Participant Workbook and LEA 360™ Reference Manual. They contain extensive interpretive information on the 22 LEA leadership dimensions, step-by-step instruction on facilitating

feedback workshops, numerous resource materials, and reproducible workshop exercises and overhead transparencies.

Workshops. MRG offers a LEA 360™ facilitator training program for human resource professionals wishing to administer and deliver any LEA-related feedback. Individuals are trained in the interpretation and delivery of feedback from all LEA questionnaires, the workshop facilitation of Strategic Directions and LEA feedback to individuals, and the use of LEA feedback in many diverse applications (i.e. coaching, team building, one-on-one discussions). Participants receive their own LEA feedback, plus sample copies of all LEA-related feedback materials and reference manuals.

Supplemental materials and services. MRG has developed more than 200 internal research reports and interpretive papers which are made available to facilitators via a password protected website. Additionally, MRG staff members will consult with facilitators on LEA interpretation and feedback applications. Finally, MRG also offers a global network of consulting firms who can provide consulting expertise and local delivery of LEA-related feedback systems.

Appendix J: Additional Information

For additional technical information, please contact:

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Portland, ME 04101
(207) 775-2173
maria.brown@mrg.com

MRG welcomes technical inquiries and suggestions for further research.