

# INSIGHTMirror 360

## Survey Analysis

Prepared for Bob Bookman  
May 14, 2009



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## **INSIGHTMirror 360 Survey Analysis**

**From Minimax Consulting, LLC / Prepared for:**

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### **Structure of Validity and Reliability Report**

**Minimax Consulting, LLC, an international Mathematical, Statistical and Strategic consulting firm, was retained by Bob Bookman, CEO, INSIGHTMirror 360, to analyze the reliability and validity of the INSIGHTMirror 360 Assessment tool. The structure of the report is as follows. The first section outlines the analysis of the data we conducted. Next, internal consistency reliability is discussed along with our findings. Correlation analysis follows the reliability and then we discuss our tests of the factor structure using Confirmatory Factor Analysis (CFA). An exploratory factor analysis is then conducted with the requisite results.**

### **Summary Results of our Study on INSIGHTMirror 360**

**“Based on standard statistical tests and assumptions the INSIGHTMirror 360 multi-rater assessment has high general validity for the designated objectives. It incorporates a concise array of easily understood items to generate feedback with high utility and practicality.**

**The competencies the instrument evaluates are of clear and immediate interest to both the individuals being rated and their superiors. All rated parties expressed a high degree of satisfaction with the accuracy and usefulness of the feedback provided. In general, the instrument affords superior insight with a relatively very efficient response time and a high quality web-enabled user interface.”**

- The results of the statistical analysis showed that the INSIGHTMirror 360 survey instrument exhibited excellent reliability and validity based on the provided datasets.**
- The survey was valid and reliable both on the sample of raters and on the sample of rated individuals.**
- Cronbach’s alpha for the subscales ranged from .74 to .89 (indicating excellent reliability), and the CFA showed all items were strongly related to their scales.**

## **INSIGHTMirror 360**

**360-degree feedback** sometime referred to as *multi-rater feedback* is a method of systematically collecting opinions about a leader's performance from a wide range of people who know this leader from a work environment, and putting this feedback in a feedback report format. The 360 titled: *INSIGHTMirror 360* collects both numerical scores and written comments from the co-workers of the person being rated. The INSIGHTMirror 360 specifically uses feedback from Self, Direct Reports, Peers, Boss A, and, or, Boss B, Upper Management and "Others." The category called "Others" can be designated as: outside clients, inside clients, suppliers, or just people who know the leader's work well but don't neatly fit into any of the professional categories stated above. Not all professional categories mentioned above need to be used by Raters (people who rate the leader) for an assessment feedback report to be generated for the Ratee (person being rated).

The INSIGHTMirror 360 has 64 questions, and thirteen areas for (optional) written comments. The 360 INSIGHTMirror 360 Assessment began operations in 2002. As of September 6, 2002 up to the date May 14, 2009, 23,061 have been sold around the world.

The INSIGHTMirror 360 feedback is anonymous, and assessment forms are delivered to people who know the Ratee's professional work rather well. The Ratee doesn't know how any individual rated him/her with the exception of Boss A, and, or, Boss B's numerical scores, that are readily available to the Ratee.

The main purpose of a 360 assessment is to help the Ratee see how other people perceive him/her, and as such is often quite open to make positive changes regarding both managing their weaknesses and utilizing their strengths more effectively.

## Internal Consistency Reliability Analysis

To measure statistical reliability, Minimax used a metric called Cronbach's alpha. Cronbach's alpha measures the internal consistency of a psychometric instrument. Its described by the formula:

$$\alpha = \frac{N \cdot \bar{c}}{(\bar{v} + (N - 1) \cdot \bar{c})}$$

Where N is the number of components,  $\bar{v}$  equals the average variance and is the average of all covariance's between the components. A Cronbach's alpha of .8 or greater is considered preferable, while those values of higher than .7 are considered acceptable.

Table 1 displays Cronbach's alpha statistics for the 5000-person sample measuring the raters of an individual to test the reliability of the data. Cronbach's alpha scores ranged from .744 for the Working Relationships scale to .892 for the Coaching Skills scale. All reliability measures are quite solid except for Working Relationships, which has more questionable reliability. These results suggest that the subscales exhibit more than adequate internal consistency reliability.

**Table 1: Cronbach's Alpha Statistics for Scales for Raters of Individual**

Scale	Cronbach's Alpha	N of items
Section 1. Communication Skills	.822	11
Section 2. Decision Making	.825	7
Section 3. Promotes Innovation and Change	.837	8
Section 4. Working Relationships	.744	8
Section 5. Leadership Skills	.878	11
Section 6. Coaching Skills	.892	7
Section 7. Utilizes the Strengths of Others and Self	.888	6
Section 8. Team Development	.826	6

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<b>Section 5. Leadership Skills</b>	<b>.878</b>	<b>11</b>
<b>Section 6. Coaching Skills</b>	<b>.892</b>	<b>7</b>
<b>Section 7. Utilizes the Strengths of Others and Self</b>	<b>.888</b>	<b>6</b>
<b>Section 8. Team Development</b>	<b>.826</b>	<b>6</b>

Similarly, Table 2 displays Cronbach's alpha statistics for the 1918-person sample for the results of those being rated to test the reliability of the data. Cronbach's alpha scores ranged from .805 for the Team Development scale to .860 for the Utilizes the Strengths of Others and Self scale. All reliability measures are acceptable for these respondents.

11, items 12-18, etc.) are highly inter-correlated, and thus can be assumed to measure the same underlying construct.

### Correlation Analysis

In this section we present the results of the correlation analysis among the 8 constructs defined by the survey. All the variables in each section of the test were aggregated, with the variables from Section 1 through Section 8 of the survey being set equal to the average of the answers to all the questions on that section of the original test. These eight aggregated section scale scores were then examined to determine the correlation structure. As indicated by Table 3, there are moderate to strong statistically significant correlations among all pairs of factors, with p-values less than .001 in every single case. All correlation coefficients were positive, suggesting that individuals scoring high in one of the scales also tended to score high on the other ones.

These results indicate that it is likely that consolidating some of these factors may be beneficial in forming a more concise and accurate model. For example, some pairs with very strong correlations (higher than .7) were Leadership Skills and Coaching Skills, Leadership Skills and Utilizes the Strengths of Others and Self, and Coaching Skills and Utilizes the Strengths of Others and Self.

**Table 3: Section Correlations for Raters of Individual (N = 5000)**

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 1	1	.647**	.595**	.606**	.531**	.415**	.416**	.610**
Section 2	.647**	1	.617**	.524**	.591**	.476**	.467**	.553**
Section 3	.595**	.617**	1	.558**	.658**	.595**	.584**	.569**
Section 4	.606**	.524**	.558**	1	.604**	.513**	.489**	.613**
Section 5	.531**	.591**	.658**	.604**	1	.768**	.700**	.504**

Section 6	.415**	.476**	.595**	.513**	.768**	1	.728**	.424**
Section 7	.416**	.467**	.584**	.489**	.700**	.728**	1	.447**
Section 8	.610**	.553**	.569**	.613**	.504**	.424**	.447**	1

**\*\* Significant at the .01 level**

We repeated the same analysis on the 1918-person sample. Once again, the variables in each section of the test were aggregated, with the variables from Section 1 through Section 8 being set equal to the average of the answers to all the questions on that section of the original test. Table 4, like Table 3, demonstrates that there are moderate to strong statistically significant correlations among all pairs of factors, with p-values less than .001 in every single case. Therefore, the same consolidation suggestion as the one mentioned previously applies to this sample too.

**Table 4: Section Correlations for Results of Those Being Rated (N = 1918)**

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 1	1	.690**	.625**	.647**	.540**	.484**	.454**	.596**
Section 2	.690**	1	.650**	.574**	.570**	.473**	.526**	.570**
Section 3	.625**	.650**	1	.573**	.672**	.608**	.562**	.619**
Section 4	.647**	.574**	.573**	1	.589**	.549**	.480**	.633**
Section 5	.540**	.570**	.672**	.589**	1	.762**	.628**	.558**
Section 6	.484**	.473**	.608**	.549**	.762**	1	.618**	.575**
Section 7	.454**	.526**	.562**	.480**	.628**	.618**	1	.567**

Section 8	.596**	.570**	.619**	.633**	.558**	.575**	.567**	1
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**\*\* Significant at the .01 level**

### Test of Factor Structure Validity: Confirmatory Factor Analysis

In order to test whether the proposed factor structure fitted the collected data, a confirmatory factor analysis (CFA) was conducted through the use of Structural Equation Modeling (SEM). The 'proposed factor structure' represents the idea that questions 1 through 11 measure the same construct, questions 12 through 18 measure the same construct (and it is different from the one measured by questions 1-11), etc. It provides much richer information than the reliability analysis, which also measures whether a set of questions measure the same underlying construct.

CFA has the important advantage that it allows to explicitly model the existence of unobserved variables. In this case, the unobserved variables are Communication Skills, Decision Making, Promotes Innovation and Change, Working Relationships, Leadership Skills, Coaching Skills, Utilizes the Strengths of Others and Self, and Team Development. They are unobserved in that they are not measured directly, but through a set of specific questions, such as "Responds to other's opinions in a constructive manner."

A standard CFA produces several outputs that are very useful in evaluating the validity of the theoretical factor structure. The values that are most relevant to the present analysis are:

1. **Standardized Factor Loadings.** These values represent the strength of the relationship between the survey questions and the unobserved variables. For example, one of them would assess the relationship between the answers to "Responds to other's opinions in a constructive manner" and the unobserved variable "Communication Skills." If the factor structure is valid, then these factor loadings should be high (higher than .4 or .5). A low factor loading would indicate that the question is not related to the construct it should be measuring, and that that question should be removed from the survey, or reworded to better fit the concept of the unobserved variable.

2. **Overall model fit.** These values show how well the proposed factor structure fit the data. They are given mainly by two statistics: Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA). When CFI is higher than .9 and RMSEA is lower than .08, this provides evidence that the model fit is excellent (Byrne, 2001)
3. **Modification Indices.** These values provide information about the relationship among individual questions, and suggest ways in which the overall model fit could be improved. For example, the modification indices may reveal an abnormally high correlation between two questions. This could suggest that the two questions are essentially one and the same, and that one of them could be removed without losing information. This can be used to simplify the survey removing redundant items.
4. **Correlations among the observed variables.** This information is similar to the one presented in Tables 3 and 4, but it is based on a sounder statistical technique, because it does not assume that the underlying variables are defined as an average of the questions. This information can also be used to simplify the survey as it may show that two or more sections are actually measuring the same construct.

We first conducted a CFA examining the factor structure validity using all questions in the survey on the 5000-person sample of raters. As explained previously, the assumed factor structure was that questions 1-11 measured one construct (Communication Skills), questions 12-18 measured another one (Decision Making), etc. The results suggested that the proposed factor structure was indeed valid, although the model fit was slightly below the optimal one. The CFI of the model was .868 (very close to the cutoff value of 0.9), and the RMSEA was .053, indicating that the model fit was good. The standardized factor loadings were all positive and significant, and they also were relatively high, ranging from 0.543 through 0.841. This result suggests that the questions were indeed strongly associated to the underlying constructs they were supposed to measure.

The same analysis was repeated on the sample of rated individuals (N = 1918). The results were similar, although the model fit was slightly worse. Specifically, CFI was 0.802, and RMSEA was at 0.055. While the RMSEA was well within acceptable levels, the CFI suggests that model fit was inadequate. Therefore, this would suggest that for the sample of rated individuals, the proposed factor structure is not valid. On the

positive side, all factor loadings were positive and significant at the 0.001. They were also and relatively high (ranging from 0.429 through 0.747), which suggests that the questions were significantly and strongly related to their underlying constructs.

An inspection of the modification indices revealed that many of the questions had high correlations. This problem affected the following pairs of items (see Table 5).

**Table 5: Pairs of Questions with High Correlations**

<b>3-5</b>	<b>38-40</b>
<b>6-7</b>	<b>39-40</b>
<b>9-10</b>	<b>41-42</b>
<b>19-20</b>	<b>41-43</b>
<b>21-22</b>	<b>42-43</b>
<b>23-24</b>	<b>42-44</b>
<b>24-25</b>	<b>43-45</b>
<b>28-29</b>	<b>50-51</b>
<b>29-30</b>	<b>51-52</b>
<b>36-37</b>	<b>59-60</b>
<b>38-39</b>	<b>62-63</b>

These results suggested that many of the items were not adding useful information to the model, and that the removal of those items could improve model fit (and this would also have the added benefit of a shorter and simpler survey that provides the same information as the current one). Based on these findings, we re-ran the model eliminating the following questions: 5, 7, 10, 20, 22, 24, 26, 29, 37, 39, 40, 42, 43, 51, 69, and 63 (i.e., a total of 16 of the 64 questions).

The results for the sample of raters (N = 5000) showed some improvement from those of the original model. The standardized factor loadings were adequate for all questions. They ranged from .556 through .878, indicating a strong relationship between the underlying constructs and their indicator questions. All of them were positive and

significant at the .001 level (see complete list of factor loadings in the Appendix). The overall model fit was very good, with a CFI of .899, and a RMSEA of .052. The correlations among the constructs were still very strong, suggesting that some sections could be merged, as they are not measuring distinct constructs (such as Communication Skills and Working Relationships).

**Table 6: Correlation Coefficients among the Eight Factors, based on CFA (N = 5000)**

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
<b>Section 1</b>	<b>1</b>							
<b>Section 2</b>	<b>.79</b>	<b>1</b>						
<b>Section 3</b>	<b>.86</b>	<b>.82</b>	<b>1</b>					
<b>Section 4</b>	<b>.90</b>	<b>.73</b>	<b>.82</b>	<b>1</b>				
<b>Section 5</b>	<b>.89</b>	<b>.87</b>	<b>.89</b>	<b>.88</b>	<b>1</b>			
<b>Section 6</b>	<b>.86</b>	<b>.79</b>	<b>.86</b>	<b>.88</b>	<b>.89</b>	<b>1</b>		
<b>Section 7</b>	<b>.74</b>	<b>.72</b>	<b>.80</b>	<b>.75</b>	<b>.90</b>	<b>.89</b>	<b>1</b>	
<b>Section 8</b>	<b>.88</b>	<b>.77</b>	<b>.85</b>	<b>.89</b>	<b>.89</b>	<b>.88</b>	<b>.81</b>	<b>1</b>

All correlations were significant at the .001 level

Overall, the model experienced some improvement after the removal of the 16 aforementioned questions, and exhibited adequate factor structure validity. Since the removal of these questions would make the survey considerably simpler (25% shorter, without a clear loss of information), the possibility of removing these items should be considered. Further research with more data could be used to make an informed decision. For example, if the survey scores are supposed to be associated with 'success rate' or other outcome variable, the predictive

power of the survey with and without those questions could be examined to make a final decision of whether to remove them or not.

Once again, the analysis was repeated for the sample of rated individuals (N = 1918). In terms of model fit, the CFI was 0.846 and the RMSEA was 0.054. Notice that the CFI is still below the cutoff value of 0.90, but there is a clear improvement from the original model, which had a CFI of 0.802. Moreover, as in the previous case, factor loadings were positively and significantly related to their proposed underlying constructs, with standardized loadings ranging from 0.438 to 0.792 (see the Appendix for a complete list). Given this improvement in model fit, the same suggestion of removing the highly correlated items applies to the sample of rated individuals.

Table 7 shows the implied correlations among the factors for this model. Once again, the high correlations suggest that merging some of the sections may be more appropriate.

**Table 7: Correlation Coefficients among the Eight Factors, based on CFA (N = 1918)**

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 1	1							
Section 2	.80	1						
Section 3	.79	.78	1					
Section 4	.82	.64	.68	1				
Section 5	.87	.86	.91	.78	1			
Section 6	.77	.65	.74	.79	.82	1		
Section 7	.66	.63	.69	.61	.79	.74	1	
Section 8	.78	.65	.72	.80	.73	.73	.77	1

*All correlations were significant at the .001 level*

## Supplementary Results: Exploratory Factor Analysis

In contrast with the methodologies used in the previous sections of this report, for this section we used a purely exploratory approach. We did not assume any specific factor structure. Instead, we used a technique called principal factor analysis to examine the relationships among the items, and let that correlation structure suggest (a) the optimal number of underlying constructs and (b) the questions that are associated with those constructs. While this type of analysis is not as useful in assessing the reliability and validity of the survey, its results can be used to inform us of any potential modifications to the survey. However, any such modifications should be also supported by the theoretical framework behind the design of the survey. The following statistical results do not provide enough support on their own to make those changes.

A principal components matrix with varimax rotation was run on all 64 Likert-scale questions for the larger sample. Factor loadings of .5 or higher satisfy Nunnally's threshold of acceptable reliabilities and were listed in Table 8 (see Appendix), and were sorted from largest to smallest by component. This table shows the component to which each question is most strongly related. The list of extracted components is presented below.

The extracted components were assigned names based on subjective common themes underlying the questions, particularly based on the wording of the questions with higher factor loadings. For instance, the first component's highest-scoring four factor loadings were on the questions "Delegates tasks to help a subordinate's professional growth and/or increase office efficiency", "Delegates decision making to the lowest proper employee level to give that employee a true sense of empowerment and/or a chance for professional development", "When delegating, teaches others to think ahead about potential problems", and "When delegating a new task to an employee, sees to it that employee is given extra attention in successfully performing new task". A clear common theme that results from looking at these questions is "delegation of tasks to employees". The other factors were defined similarly based on some combination of the most common questions and highest-scoring factor loadings.

The components were defined as follows:

Component 1 – Delegation of tasks to employees

Component 2 – Makes the best decisions

**Component 3 – Strong communication skills**  
**Component 4 – In support of new initiatives and changes**  
**Component 5 – Able to disagree but understand the other point of view**  
**Component 6 – Ability to focus on strengths**  
**Component 7 – Working together and celebrating accomplishments as a team**  
**Component 8 – Able to find common ground**  
**Component 9 – Accepts responsibility for mistakes**  
**Component 10 – Good relationship with supervisor**  
**Component 11 – Ability to help team members develop new abilities**

Several components are similar to actual scales in the original survey. For example, Component 3 seems to correspond to the “Communication Skills” section. Half of the questions that were associated with Component 3 were within the Communication Skills section (such as “Fosters an atmosphere of open communication” and “Responds to other’s opinions in a constructive manner”). Component 4 roughly corresponds to “Promotes Innovation and Change”, and all six of its associated questions are in that section (such as “Helps others see what changes need to be made”). Component 2 seems to correspond to “Decision Making,” and all six of its questions (such as “Makes decisions in a timely manner”) are among the seven questions in this section. No other clear correspondences were identified.

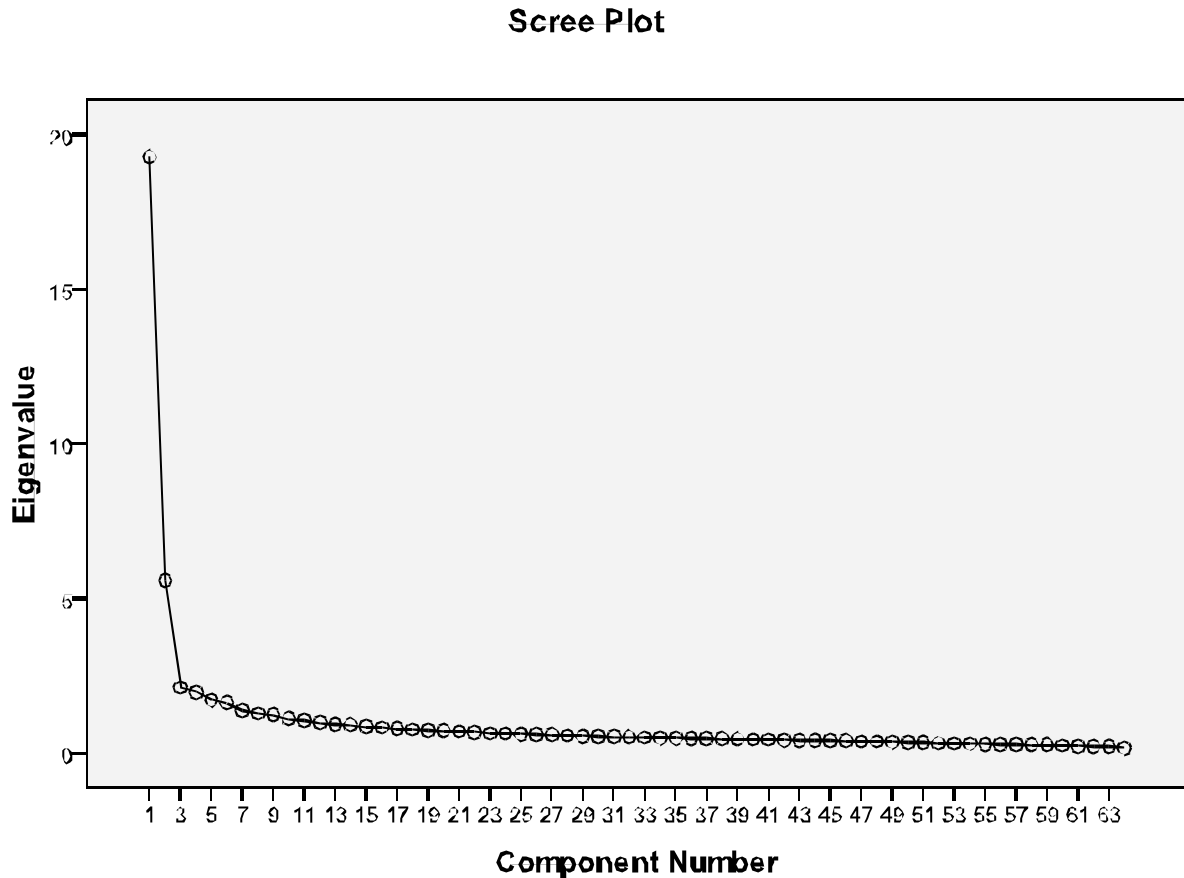
Table 9 lists the rotation sums of squared loadings for the principal components analysis in Table 8, which explain what percentage of the variance in the overall responses is explained by each factor. The factors, or components (as they are called in the table) are sorted by percentage of variance explained, and some of the later components (particularly components 7 through 11) play a minimal role in explaining the variance structure of the model.

**Table 9: Rotation Sums of Squared Loadings for Raters of Individual**

<b>Component</b>	<b>Rotation Sums of Squared Loadings</b>		
	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>
<b>1</b>	<b>9.946</b>	<b>15.540</b>	<b>15.540</b>
<b>2</b>	<b>4.603</b>	<b>7.192</b>	<b>22.732</b>
<b>3</b>	<b>4.077</b>	<b>6.371</b>	<b>29.103</b>
<b>4</b>	<b>3.353</b>	<b>5.239</b>	<b>34.342</b>
<b>5</b>	<b>2.813</b>	<b>4.395</b>	<b>38.737</b>
<b>6</b>	<b>2.797</b>	<b>4.371</b>	<b>43.108</b>
<b>7</b>	<b>2.512</b>	<b>3.926</b>	<b>47.034</b>
<b>8</b>	<b>2.270</b>	<b>3.547</b>	<b>50.581</b>
<b>9</b>	<b>2.226</b>	<b>3.479</b>	<b>54.060</b>
<b>10</b>	<b>2.189</b>	<b>3.421</b>	<b>57.481</b>
<b>11</b>	<b>1.508</b>	<b>2.356</b>	<b>59.837</b>

Figure 1 displays the scree plot roughly corresponding to Table 6, which displays the proportion of total variance explained by each component. It is based on the initial eigenvalues, not the rotation sums of squared loadings, which are of more use for interpretation of a varimax-rotation matrix. The point where the difference in eigenvalues between two components becomes difficult to determine on the graph marks the last component that plays a significant role in the factor analysis. It is very difficult to distinguish between the eigenvalues for component number 7 and 8, so it can be concluded that components 8 through 11 are most relevant on the principal components analysis. This suggests that a 7-factor solution may be appropriate (whereas the current survey is based on 8 factors)

**Figure 1: Scree Plot for Raters of Individual**



**Additionally, another principal components matrix with varimax rotation was run on all sixty-four Likert-scale questions for the results of those being rated. Once again, correlations with a coefficient of .5 or greater satisfy Nunnally’s threshold of acceptable reliabilities and were listed in the table, and were sorted from largest to smallest by component (see Table 10 in the Appendix). As before, components were assigned names based on subjective common themes underlying the questions, particularly the higher factor loadings.**

**The components were defined as follows:**

**Component 1 – Delegation of tasks to employees**

**Component 2 – Makes the best decisions**

**Component 3 – In support of new initiatives and changes**

**Component 4 – Good relationship with supervisor and peers**

**Component 5 – Ability to focus on strengths**

**Component 6 – Strong communication skills**

**Component 7 – Able to disagree but understand the other point of view**

**Component 8 – Accepts responsibility for mistakes**

**Component 9 – Handles criticism with poise**

**Component 10 – Adapts to the learning style of each employee**

**Component 11 – Makes clear oral presentations**

Several components are similar to actual scales in the original survey. Component 6 corresponds to the “Communication Skills” section, although those questions in Component 6 are questions 31-34, so it does not match up. Component 3 roughly corresponds to “Promotes Innovation and Change”, and indeed all four questions are between questions 19-26 (as that section is defined in the survey). Component 2 corresponds to “Decision Making”, and five of the six questions in that component do fall in that section between questions 12 and 18. Component 4 roughly relates to “Working Relationships”, and half of its questions are in the “Working Relationships” section, while the other half is found in the “Team Development Section.” Overall, the relationship between the extracted factors and the proposed sections does not seem very clear on this dataset.

Table 11 lists the rotation sums of squared loadings for the principal components analysis in Table 10, which explain what percentage of the variance is explained by each factor. The factors, or components (as they are called in the table) are sorted by percentage of variance explained, and as before, some of the later components (particularly components 8 through 11) play a minimal role in explaining the variance structure of the model.

**Table 11: Rotation Sums of Squared Loadings for Results of Those Being Rated**

<b>Component</b>	<b>Rotation Sums of Squared Loadings</b>		
	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>
<b>1</b>	<b>7.202</b>	<b>11.253</b>	<b>11.253</b>
<b>2</b>	<b>4.694</b>	<b>7.334</b>	<b>18.588</b>
<b>3</b>	<b>3.848</b>	<b>6.013</b>	<b>24.601</b>
<b>4</b>	<b>3.690</b>	<b>5.765</b>	<b>30.365</b>
<b>5</b>	<b>3.604</b>	<b>5.631</b>	<b>35.996</b>
<b>6</b>	<b>2.951</b>	<b>4.612</b>	<b>40.608</b>
<b>7</b>	<b>2.605</b>	<b>4.071</b>	<b>44.679</b>
<b>8</b>	<b>2.303</b>	<b>3.598</b>	<b>48.277</b>
<b>9</b>	<b>1.961</b>	<b>3.064</b>	<b>51.341</b>
<b>10</b>	<b>1.948</b>	<b>3.044</b>	<b>54.385</b>
<b>11</b>	<b>1.841</b>	<b>2.876</b>	<b>57.261</b>

Figure 2 displays the scree plot roughly corresponding to Table 8, which displays the proportion of total variance explained by each component. The results are similar to those of the 5000-person sample, suggesting that components 8-11 do not explain much of the variability in the responses, thus implying a 7-factor solution.

**Figure 2: Scree Plot for Results of Those Being Rated**

The results of the analysis also suggested potential improvements to the survey. For example, it seems that several questions can be dropped from the survey without reducing the amount of information obtained from the data. Moreover, given the relatively high correlations among the factors in the survey (for example, between Communication Skills and Working Relationships), it is possible that some of the sections could be merged.

It should be noted that additional and potentially very useful reliability and validity analyses could be performed if the appropriate data was provided. For example, test-retest reliability could be assessed. Test-

**retest reliability refers to the ability of an instrument to produce the same results when measuring the same subjects twice or more times. Test-retest reliability statistics could be conducted if the same subjects were administered the survey twice (or more times) and those data were available.**

**An important type of validity that could be assessed with additional data is predictive validity. For example, if it is expected that people who score higher on the INSIGHTMirror 360 assessment also tend to have a higher degree of success (or any other variable), then the actual relationship between the survey results and that variable could be examined. A significant relationship would provide evidence in favor of the predictive validity of the instrument. It would also demonstrate whether the results of the instruments have useful practical applications (e.g., maybe it could help inform promotions, projections for new employees, etc.).**

## Appendix

**Table 8: Principal Components Matrix with Varimax Rotation for Raters of Individual (N = 5000)**

		Component										
		1	2	3	4	5	6	7	8	9	10	11
<b>Component 1</b>	<b>Delegates tasks to help a subordinate's professional growth and/or increase office efficiency</b>	<b>.850</b>										
	<b>Delegates decision making to the lowest proper employee level to give that employee a true sense of empowerment and/or a chance for professional development</b>	<b>.849</b>										
	<b>When delegating, teaches others to think ahead about potential problems</b>	<b>.824</b>										
	<b>When delegating a new task to an employee, sees to it that employee is given extra attention in successfully performing new task</b>	<b>.806</b>										

	Component										
	1	2	3	4	5	6	7	8	9	10	11
<b>Gives subordinates the sense of being an integral part of something important</b>	<b>.766</b>										
<b>Develops effective working relationships with subordinates</b>	<b>.735</b>										
<b>Actively looks for assignments for subordinates that will provide avenues for career enhancement</b>	<b>.721</b>										
<b>Collaboratively develops measurable, specific, and achievable objectives with each subordinate</b>	<b>.700</b>										
<b>Has successfully separated self from prior position within the organization, and therefore is at ease delegating those tasks he/she used to perform</b>	<b>.668</b>										

	<b>Component</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Designs each person's role based on his/her strengths as that person's job description allows</b>	<b>.660</b>										
<b>Encourages direct reports to ask tough questions that may challenge the status quo</b>	<b>.638</b>										
<b>Is very comfortable discussing strategies with employees that would enhance their career goals</b>	<b>.597</b>										
<b>Helps people identify their own professional strengths so that they could spend more time using these strengths in their work environment</b>	<b>.592</b>					<b>.584</b>					
<b>Encourages people to strengthen an existing strength</b>	<b>.573</b>					<b>.561</b>					
<b>Gives constructive feedback in a timely manner</b>	<b>.567</b>										

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Component 2</b>	<b>Adapts to the learning style and experience level of each employee</b>	<b>.543</b>										
	<b>Models and teaches political savvy by identifying the internal and external factors that impact the work of the organization</b>											
	<b>Makes decisions in a timely manner</b>	<b>.742</b>										
	<b>Follows through on decisions made</b>	<b>.708</b>										
	<b>Can make the tough decision when necessary</b>	<b>.586</b>										
	<b>Gets to the heart of a problem by identifying the elements of the problem effectively</b>	<b>.579</b>										
	<b>Makes the best decisions possible under pressure of having incomplete information</b>	<b>.559</b>										

	Component										
	1	2	3	4	5	6	7	8	9	10	11
<b>Has an effective system of ensuring that actions decided at meetings are carried through</b>		<b>.539</b>									
<b>Disseminates information in a timely manner</b>											
<b>Expresses facts and ideas in writing in a clear and organized manner</b>											
<b>Is outstanding in his or her professional specialty</b>											
<b>Structures meetings in ways that maximize the possibility for concrete results</b>											
<b>Communicates the vision of desired results in ways that build commitment among team members</b>											
<b>Makes clear oral presentations to groups</b>											
<b>⇒ Is a good listener</b>											<b>.716</b>

	Component										
	1	2	3	4	5	6	7	8	9	10	11
<b>Fosters an atmosphere of open communication</b>			.665								
<b>Responds to others' opinions in a constructive manner</b>			.649								
<b>Makes time for others who seek ideas or help</b>			.611								
<b>Maintains level-headedness in the face of frustrating obstacles</b>											
<b>Creates climate where others can offer new ideas and take risks without fear of criticism or punishment</b>											
<b>Has a "can do" attitude when faced with setbacks</b>											
<b>Is sensitive to cultural differences/makes appropriate accommodations</b>											
<b>Gives others recognition for good work</b>											

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Component 4</b>	<b>Helps others see what changes need to be made</b>				<b>.694</b>							
	<b>Creates buy-in and enthusiasm for change</b>				<b>.652</b>							
	<b>Introduces change, even though there is a very likely chance that this change may antagonize an important voice or voices within the organization</b>				<b>.643</b>							
	<b>Very supportive to people with new initiatives that s/he is in agreement with</b>				<b>.562</b>							
	<b>Encourages creative thinking and innovation</b>				<b>.536</b>							
	<b>Modifies plans suitably in response to changing conditions</b>				<b>.503</b>							
	<b>When in conflict with others wants to understand their point of view</b>					<b>.774</b>						

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
	<b>Resolves conflicts and disagreements in a constructive manner</b>					<b>.752</b>						
	<b>Is good at defending own point of view to resistant audience</b>					<b>.644</b>						
	<b>Handles criticism from others in the organization with poise</b>											
	<b>Encourages others to focus on their strengths</b>						<b>.674</b>					
	<b>Sees focusing on people's strengths as equally (if not more) important than assisting people in their areas of weakness</b>						<b>.629</b>					
<b>Comp. 6</b>	<b>Designs own professional work around personal strengths</b>						<b>.580</b>					
<b>Comp. 7</b>	<b>Motivates people to want to accomplish results as a team</b>							<b>.718</b>				

		Component										
		1	2	3	4	5	6	7	8	9	10	11
	<b>Sets a climate where a group of people working as a team accept mutual responsibility for their final product</b>							<b>.707</b>				
	<b>Celebrates team accomplishments</b>							<b>.696</b>				
	<b>Collaborates across boundaries and finds common ground with stakeholders</b>								<b>.700</b>			
	<b>Consistently develops and sustains cooperative working relationships throughout the organization</b>								<b>.657</b>			
<b>Comp. 8</b>	<b>Possesses the skills to influence the group dynamics so consensus can be more easily achieved even when s/he has little or no "positional" power</b>								<b>.582</b>			
<b>mp</b>	<b>Does not try to cover up mistakes</b>								<b>.799</b>			

		Component										
		1	2	3	4	5	6	7	8	9	10	11
	Accepts responsibility for own mistakes									.786		
	Tells the truth									.596		
	Develops an effective working relationship with supervisor										.839	
Comp. 10	Develops an effective working relationships with upper management										.795	
	Develops effective working relationships with peers										.549	
Comp. 11	Is patient and encouraging when helping team members develop new abilities											.527

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 Rotation converged in 8 iterations.

**Table 10: Principal Components Matrix with Varimax Rotation for Results of Those Being Rated (N = 1918)**

		Component										
		1	2	3	4	5	6	7	8	9	10	11

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Component 1</b>	<b>Delegates tasks to help a subordinate's professional growth and/or increase office efficiency</b>	<b>.778</b>										
	<b>Delegates decision making to the lowest proper employee level to give that employee a true sense of empowerment and/or a chance for professional development</b>	<b>.771</b>										
	<b>Actively looks for assignments for subordinates that will provide avenues for career enhancement</b>	<b>.716</b>										
	<b>When delegating, teaches others to think ahead about potential problems</b>	<b>.698</b>										
	<b>Gives subordinates the sense of being an integral part of something important</b>	<b>.695</b>										

	Component										
	1	2	3	4	5	6	7	8	9	10	11
<b>When delegating a new task to an employee, sees to it that employee is given extra attention in successfully performing new task</b>	<b>.665</b>										
<b>Develops effective working relationships with subordinates</b>	<b>.659</b>										
<b>Collaboratively develops measurable, specific, and achievable objectives with each subordinate</b>	<b>.640</b>										
<b>Has successfully separated self from prior position within the organization, and therefore is at ease delegating those tasks he/she used to perform</b>	<b>.625</b>										
<b>Encourages direct reports to ask tough questions that may challenge the status quo</b>	<b>.561</b>										

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Component 2</b>	<b>Is very comfortable discussing strategies with employees that would enhance their career goals</b>	<b>.539</b>										
	<b>Makes decisions in a timely manner</b>	<b>.719</b>										
	<b>Follows through on decisions made</b>	<b>.667</b>										
	<b>Has an effective system of ensuring that actions decided at meetings are carried through</b>	<b>.615</b>										
	<b>Disseminates information in a timely manner</b>	<b>.554</b>										
	<b>Can make the tough decision when necessary</b>	<b>.533</b>										
	<b>Gets to the heart of a problem by identifying the elements of the problem effectively</b>	<b>.521</b>										
	<b>Expresses facts and ideas in writing in a clear and organized manner</b>											

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Structures meetings in ways that maximize the possibility for concrete results</b>												
<b>Helps others see what changes need to be made</b>												
<b>Makes the best decisions possible under pressure of having incomplete information</b>												
<b>Is good at defending own point of view to resistant audience</b>												
<b>Modifies plans suitably in response to changing conditions</b>												
<b>Component 3</b>	<b>Encourages creative thinking and innovation</b>			<b>.644</b>								
	<b>Very supportive to people with new initiatives that s/he is in agreement with</b>			<b>.600</b>								

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
	<b>Introduces change, even though there is a very likely chance that this change may antagonize an important voice or voices within the organization</b>			<b>.567</b>								
	<b>Creates buy-in and enthusiasm for change</b>			<b>.509</b>								
	<b>Communicates the vision of desired results in ways that build commitment among team members</b>											
	<b>Creates climate where others can offer new ideas and take risks without fear of criticism or punishment</b>											
<b>+ Component 4</b>	<b>Is outstanding in his or her professional specialty</b>											
	<b>Develops an effective working relationships with upper management</b>				<b>.616</b>							

	Component										
	1	2	3	4	5	6	7	8	9	10	11
Consistently develops and sustains cooperative working relationships throughout the organization				.592							
Develops an effective working relationship with supervisor				.564							
Celebrates team accomplishments				.548							
Develops effective working relationships with peers				.540							
Sets a climate where a group of people working as a team accept mutual responsibility for their final product				.508							
Motivates people to want to accomplish results as a team											
Encourages people to strengthen an existing strength					.722						

Component

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
	<b>Helps people identify their own professional strengths so that they could spend more time using these strengths in their work environment</b>					<b>.693</b>						
	<b>Encourages others to focus on their strengths</b>					<b>.675</b>						
	<b>Sees focusing on people's strengths as equally (if not more) important than assisting people in their areas of weakness</b>					<b>.616</b>						
	<b>Designs each person's role based on his/her strengths as that person's job description allows</b>					<b>.586</b>						
	<b>Designs own professional work around personal strengths</b>					<b>.540</b>						
<b>Component 6</b>	<b>Makes time for others who seek ideas or help</b>											<b>.644</b>
	<b>Is a good listener</b>											<b>.583</b>

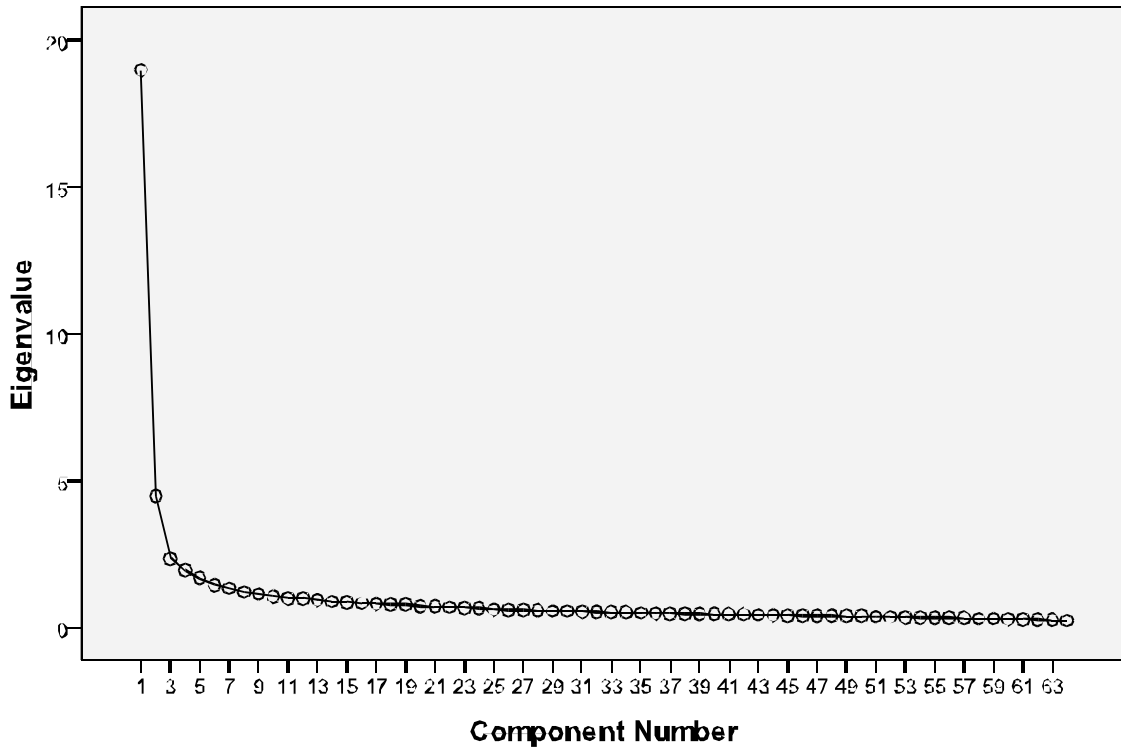
		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
	<b>Is sensitive to cultural differences/makes appropriate accommodations</b>					<b>.576</b>						
	<b>Gives others recognition for good work</b>					<b>.534</b>						
<b>Component 7</b>	<b>When in conflict with others wants to understand their point of view</b>								<b>.669</b>			
	<b>Resolves conflicts and disagreements in a constructive manner</b>								<b>.635</b>			
	<b>Responds to others' opinions in a constructive manner</b>								<b>.592</b>			
	<b>Fosters an atmosphere of open communication</b>											
<b>Comp. 8</b>	<b>Does not try to cover up mistakes</b>								<b>.712</b>			
	<b>Accepts responsibility for own mistakes</b>								<b>.672</b>			
	<b>Tells the truth</b>								<b>.663</b>			
<b>Comp. 9</b>	<b>Maintains level-headedness in the face of frustrating obstacles</b>								<b>.703</b>			

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Comp. 10</b>	<b>Has a “can do” attitude when faced with setbacks</b>									<b>.697</b>		
	<b>Handles criticism from others in the organization with poise</b>									<b>.501</b>		
	<b>Is patient and encouraging when helping team members develop new abilities</b>										<b>.592</b>	
	<b>Adapts to the learning style and experience level of each employee</b>										<b>.588</b>	
	<b>Gives constructive feedback in a timely manner</b>										<b>.549</b>	
<b>Comp. 11</b>	<b>Makes clear oral presentations to groups</b>											<b>.508</b>
	<b>Collaborates across boundaries and finds common ground with stakeholders</b>											

	<b>Component</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Models and teaches political savvy by identifying the internal and external factors that impact the work of the organization</b>											
<b>Possesses the skills to influence the group dynamics so consensus can be more easily achieved even when s/he has little or no "positional" power</b>											

**Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 Rotation converged in 12 iterations.**

Scree Plot



**The results of the analysis also suggested potential improvements to the survey. For example, it seems that several questions can be dropped from the survey without reducing the amount of information obtained from the data. Moreover, given the relatively high correlations among the factors in the survey (for example, between Communication Skills and Working Relationships), it is possible that some of the sections could be merged.**

**It should be noted that additional and potentially very useful reliability and validity analyses could be performed if the appropriate data was provided. For example, test-retest reliability could be assessed. Test-retest reliability refers to the ability of an instrument to produce the same results when measuring the same subjects twice or more times. Test-retest reliability statistics could be conducted if the same subjects were administered the survey twice (or more times) and those data were available.**

**An important type of validity that could be assessed with additional data is predictive validity. For example, if it is expected that people who score higher on the INSIGHTMirror 360 assessment also tend to have a higher degree of success (or any other variable), then the actual relationship between the survey results and that variable could be examined. A significant relationship would provide evidence in favor of the predictive validity of the instrument. It would also demonstrate whether the results of the instruments have useful practical applications (e.g., maybe it could help inform promotions, projections for new employees, etc.).**

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	When delegating a new task to an employee, sees to it that employee is given extra attention in successfully performing new task	.806										
	Gives subordinates the sense of being an integral part of something important	.766										
	Develops effective working relationships with subordinates	.735										
	Actively looks for assignments for subordinates that will provide avenues for career enhancement	.721										
	Collaboratively develops measurable, specific, and achievable objectives with each subordinate	.700										
	Has successfully separated self from prior position within the organization, and therefore is at ease delegating those tasks he/she used to perform	.668										
	Designs each person's role based on his/her strengths as that person's job description allows	.660										
	Encourages direct reports to ask tough questions that may challenge the status quo	.638										

		Component											
		1	2	3	4	5	6	7	8	9	10	11	
Component 2	Is very comfortable discussing strategies with employees that would enhance their career goals	.597											
	Helps people identify their own professional strengths so that they could spend more time using these strengths in their work environment	.592					.584						
	Encourages people to strengthen an existing strength	.573					.561						
	Gives constructive feedback in a timely manner	.567											
	Adapts to the learning style and experience level of each employee	.543											
	Models and teaches political savvy by identifying the internal and external factors that impact the work of the organization												
	Makes decisions in a timely manner		.742										
	Follows through on decisions made		.708										
	Can make the tough decision when necessary		.586										
	Gets to the heart of a problem by identifying the elements of the problem effectively		.579										
	Makes the best decisions possible under pressure of having incomplete information		.559										
	Has an effective system of ensuring that actions decided at meetings are carried through		.539										
	Disseminates information in a timely manner												
	Expresses facts and ideas in writing in a clear and organized manner												
	Is outstanding in his or her professional specialty												
	Structures meetings in ways that maximize the possibility for concrete results												
	Communicates the vision of desired results in ways that build commitment among team members												
	Makes clear oral presentations to groups												
	Is a good listener						.716						

		Component										
		1	2	3	4	5	6	7	8	9	10	11
Component 4	Fosters an atmosphere of open communication			.665								
	Responds to others' opinions in a constructive manner			.649								
	Makes time for others who seek ideas or help			.611								
	Maintains level-headedness in the face of frustrating obstacles											
	Creates climate where others can offer new ideas and take risks without fear of criticism or punishment											
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	Is sensitive to cultural differences/makes appropriate accommodations											
	Gives others recognition for good work											
	Helps others see what changes need to be made				.694							
	Creates buy-in and enthusiasm for change				.652							
Introduces change, even though there is a very likely chance that this change may antagonize an important voice or voices within the organization				.643								
Very supportive to people with new initiatives that s/he is in agreement with				.562								
Encourages creative thinking and innovation				.536								
Modifies plans suitably in response to changing conditions				.503								
Comp. 5	When in conflict with others wants to understand their point of view				.774							
	Resolves conflicts and disagreements in a constructive manner				.752							
	Is good at defending own point of view to resistant audience				.644							
	Handles criticism from others in the organization with poise											
3	Encourages others to focus on their strengths					.674						

		Component										
		1	2	3	4	5	6	7	8	9	10	11
Sees focusing on people's strengths as equally (if not more) important than assisting people in their areas of weakness							.629					
Designs own professional work around personal strengths							.580					
Comp. 7	Motivates people to want to accomplish results as a team							.718				
	Sets a climate where a group of people working as a team accept mutual responsibility for their final product							.707				
	Celebrates team accomplishments							.696				
Comp. 8	Collaborates across boundaries and finds common ground with stakeholders								.700			
	Consistently develops and sustains cooperative working relationships throughout the organization								.657			
	Possesses the skills to influence the group dynamics so consensus can be more easily achieved even when s/he has little or no "positional" power								.582			
Comp. 9	Does not try to cover up mistakes									.799		
	Accepts responsibility for own mistakes									.786		
	Tells the truth									.596		
Comp. 10	Develops an effective working relationship with supervisor										.839	
	Develops an effective working relationships with upper management										.795	
	Develops effective working relationships with peers										.549	
Comp.	Is patient and encouraging when helping team members develop new abilities											.527

Extraction Method: Principal Component Analysis.  
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**Table 10: Principal Components Matrix with Varimax Rotation for Results of Those Being Rated (N = 1918)**

		Component										
		1	2	3	4	5	6	7	8	9	10	11
<b>Component 1</b>	<b>Delegates tasks to help a subordinate’s professional growth and/or increase office efficiency</b>	<b>.778</b>										
	<b>Delegates decision making to the lowest proper employee level to give that employee a true sense of empowerment and/or a chance for professional development</b>	<b>.771</b>										
	<b>Actively looks for assignments for subordinates that will provide avenues for career enhancement</b>	<b>.716</b>										
	<b>When delegating, teaches others to think ahead about potential problems</b>	<b>.698</b>										
	<b>Gives subordinates the sense of being an integral part of something important</b>	<b>.695</b>										
	<b>When delegating a new task to an employee, sees to it that employee is given extra attention in successfully performing new task</b>	<b>.665</b>										
	<b>Develops effective working relationships with subordinates</b>	<b>.659</b>										
	<b>Collaboratively develops measurable, specific, and achievable objectives with each subordinate</b>	<b>.640</b>										
	<b>Has successfully separated self from prior position within the organization, and therefore is at ease delegating those tasks he/she used to perform</b>	<b>.625</b>										

		Component										
		1	2	3	4	5	6	7	8	9	10	11
Component 2	Encourages direct reports to ask tough questions that may challenge the status quo	.561										
	Is very comfortable discussing strategies with employees that would enhance their career goals	.539										
	Makes decisions in a timely manner	.719										
	Follows through on decisions made	.667										
	Has an effective system of ensuring that actions decided at meetings are carried through	.615										
	Disseminates information in a timely manner	.554										
	Can make the tough decision when necessary	.533										
	Gets to the heart of a problem by identifying the elements of the problem effectively	.521										
	Expresses facts and ideas in writing in a clear and organized manner											
	Structures meetings in ways that maximize the possibility for concrete results											
	Helps others see what changes need to be made											
	Makes the best decisions possible under pressure of having incomplete information											
	Is good at defending own point of view to resistant audience											

**Table 10: Principal Components Matrix with Varimax Rotation for Results of Those Being Rated (N = 1918)**

		Component										
		1	2	3	4	5	6	7	8	9	10	11
Component	Delegates tasks to help a subordinate's professional growth and/or increase office efficiency	.778										

	<b>Component</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Delegates decision making to the lowest proper employee level to give that employee a true sense of empowerment and/or a chance for professional development</b>	<b>.771</b>										
<b>Actively looks for assignments for subordinates that will provide avenues for career enhancement</b>	<b>.716</b>										
<b>When delegating, teaches others to think ahead about potential problems</b>	<b>.698</b>										
<b>Gives subordinates the sense of being an integral part of something important</b>	<b>.695</b>										
<b>When delegating a new task to an employee, sees to it that employee is given extra attention in successfully performing new task</b>	<b>.665</b>										
<b>Develops effective working relationships with subordinates</b>	<b>.659</b>										
<b>Collaboratively develops measurable, specific, and achievable objectives with each subordinate</b>	<b>.640</b>										

		Component										
		1	2	3	4	5	6	7	8	9	10	11
<b>Component 2</b>	<b>Has successfully separated self from prior position within the organization, and therefore is at ease delegating those tasks he/she used to perform</b>	<b>.625</b>										
	<b>Encourages direct reports to ask tough questions that may challenge the status quo</b>	<b>.561</b>										
	<b>Is very comfortable discussing strategies with employees that would enhance their career goals</b>	<b>.539</b>										
	<b>Makes decisions in a timely manner</b>	<b>.719</b>										
	<b>Follows through on decisions made</b>	<b>.667</b>										
	<b>Has an effective system of ensuring that actions decided at meetings are carried through</b>	<b>.615</b>										
	<b>Disseminates information in a timely manner</b>	<b>.554</b>										
	<b>Can make the tough decision when necessary</b>	<b>.533</b>										
	<b>Gets to the heart of a problem by identifying the elements of the problem effectively</b>	<b>.521</b>										
	<b>Expresses facts and ideas in writing in a clear and organized manner</b>											
	<b>Structures meetings in ways that maximize the possibility for concrete results</b>											

											Component										
											1	2	3	4	5	6	7	8	9	10	11
<b>Helps others see what changes need to be made</b>																					
<b>Makes the best decisions possible under pressure of having incomplete information</b>																					
<b>Is good at defending own point of view to resistant audience</b>																					
<b>Modifies plans suitably in response to changing conditions</b>																					
<b>Encourages creative thinking and innovation</b>																					
<b>Very supportive to people with new initiatives that s/he is in agreement with</b>																					
<b>Introduces change, even though there is a very likely chance that this change may antagonize an important voice or voices within the organization</b>																					
<b>Creates buy-in and enthusiasm for change</b>																					
<b>Communicates the vision of desired results in ways that build commitment among team members</b>																					
<b>Creates climate where others can offer new ideas and take risks without fear of criticism or punishment</b>																					
<b>Is outstanding in his or her professional specialty</b>																					

Component 3

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Component 4</b>	<b>Develops an effective working relationships with upper management</b>				<b>.616</b>							
	<b>Consistently develops and sustains cooperative working relationships throughout the organization</b>				<b>.592</b>							
	<b>Develops an effective working relationship with supervisor</b>				<b>.564</b>							
	<b>Celebrates team accomplishments</b>				<b>.548</b>							
	<b>Develops effective working relationships with peers</b>				<b>.540</b>							
	<b>Sets a climate where a group of people working as a team accept mutual responsibility for their final product</b>				<b>.508</b>							
	<b>Motivates people to want to accomplish results as a team</b>											
<b>Component 5</b>	<b>Encourages people to strengthen an existing strength</b>					<b>.722</b>						
	<b>Helps people identify their own professional strengths so that they could spend more time using these strengths in their work environment</b>					<b>.693</b>						
	<b>Encourages others to focus on their strengths</b>					<b>.675</b>						

											<b>Component</b>							
											<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	
<b>Sees focusing on people's strengths as equally (if not more) important than assisting people in their areas of weakness</b>											<b>.616</b>							
<b>Designs each person's role based on his/her strengths as that person's job description allows</b>											<b>.586</b>							
<b>Designs own professional work around personal strengths</b>											<b>.540</b>							
<b>Makes time for others who seek ideas or help</b>											<b>.644</b>							
<b>Component 6</b>	<b>Is a good listener</b>											<b>.583</b>						
	<b>Is sensitive to cultural differences/makes appropriate accommodations</b>											<b>.576</b>						
	<b>Gives others recognition for good work</b>											<b>.534</b>						
<b>When in conflict with others wants to understand their point of view</b>														<b>.669</b>				
<b>Component 7</b>	<b>Resolves conflicts and disagreements in a constructive manner</b>														<b>.635</b>			
	<b>Responds to others' opinions in a constructive manner</b>														<b>.592</b>			
<b>Fosters an atmosphere of open communication</b>																		
<b>Comp. 8</b>	<b>Does not try to cover up mistakes</b>														<b>.712</b>			
	<b>Accepts responsibility for own mistakes</b>														<b>.672</b>			

		<b>Component</b>										
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Tells the truth</b>									<b>.663</b>			
<b>Comp. 9</b>	<b>Maintains level-headedness in the face of frustrating obstacles</b>									<b>.703</b>		
	<b>Has a “can do” attitude when faced with setbacks</b>									<b>.697</b>		
	<b>Handles criticism from others in the organization with poise</b>									<b>.501</b>		
<b>Comp. 10</b>	<b>Is patient and encouraging when helping team members develop new abilities</b>										<b>.592</b>	
	<b>Adapts to the learning style and experience level of each employee</b>										<b>.588</b>	
	<b>Gives constructive feedback in a timely manner</b>										<b>.549</b>	
<b>Comp. 11</b>	<b>Makes clear oral presentations to groups</b>											<b>.508</b>
	<b>Collaborates across boundaries and finds common ground with stakeholders</b>											
	<b>Models and teaches political savvy by identifying the internal and external factors that impact the work of the organization</b>											
	<b>Possesses the skills to influence the group dynamics so consensus can be more easily achieved even when s/he has little or no “positional” power</b>											

	Component										
	1	2	3	4	5	6	7	8	9	10	11

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**Rotation converged in 12 iterations.**

Factor Loadings for Reduced Model, on Raters Sample (N = 5000)

Relationship	Factor Loading
question1 <--- COMMUNICATION SKILLS	.777
question2 <--- COMMUNICATION SKILLS	.620
question3 <--- COMMUNICATION SKILLS	.604
question4 <--- COMMUNICATION SKILLS	.779
question6 <--- COMMUNICATION SKILLS	.757
question8 <--- COMMUNICATION SKILLS	.556
question9 <--- COMMUNICATION SKILLS	.755
question11 <--- COMMUNICATION SKILLS	.720
question12 <--- DECISION MAKING	.718
question13 <--- DECISION MAKING	.755
question14 <--- DECISION MAKING	.735
question15 <--- DECISION MAKING	.741
question16 <--- DECISION MAKING	.772
question17 <--- DECISION MAKING	.781
question18 <--- DECISION MAKING	.749
question19 <--- PROMOTES INNOVATION AND CHANGE	.732
question21 <--- PROMOTES INNOVATION AND CHANGE	.742
question23 <--- PROMOTES INNOVATION AND CHANGE	.661
question25 <--- PROMOTES INNOVATION AND CHANGE	.770
question26 <--- PROMOTES INNOVATION AND CHANGE	.818
question34 <--- WORKING RELATIONSHIPS	.804
question33 <--- WORKING RELATIONSHIPS	.748
question32 <--- WORKING RELATIONSHIPS	.759
question31 <--- WORKING RELATIONSHIPS	.728
question30 <--- WORKING RELATIONSHIPS	.693
question28 <--- WORKING RELATIONSHIPS	.798
question27 <--- WORKING RELATIONSHIPS	.810

<b>Relationship</b>	<b>Factor Loading</b>
question44 <--- LEADERSHIP SKILLS	.675
question41 <--- LEADERSHIP SKILLS	.694
question39 <--- LEADERSHIP SKILLS	.657
question38 <--- LEADERSHIP SKILLS	.722
question36 <--- LEADERSHIP SKILLS	.790
question35 <--- LEADERSHIP SKILLS	.717
question52 <--- COACHING SKILLS	.745
question50 <--- COACHING SKILLS	.758
question49 <--- COACHING SKILLS	.797
question48 <--- COACHING SKILLS	.789
question47 <--- COACHING SKILLS	.787
question46 <--- COACHING SKILLS	.799
question53 <--- UTILIZES THE STRENGTH...	.828
question54 <--- UTILIZES THE STRENGTH...	.878
question55 <--- UTILIZES THE STRENGTH...	.863
question56 <--- UTILIZES THE STRENGTH...	.871
question57 <--- UTILIZES THE STRENGTH...	.713
question58 <--- UTILIZES THE STRENGTH...	.845
question64 <--- TEAM DEVELOPMENT	.783
question62 <--- TEAM DEVELOPMENT	.816
question61 <--- TEAM DEVELOPMENT	.737
question60 <--- TEAM DEVELOPMENT	.820

Factor Loadings for Reduced Model, on Rated Individuals Sample (N = 1918)

<b>Relationship</b>	<b>Factor Loading</b>
question1 <--- COMMUNICATION SKILLS	.589
question2 <--- COMMUNICATION SKILLS	.521
question3 <--- COMMUNICATION SKILLS	.498
question4 <--- COMMUNICATION SKILLS	.614
question6 <--- COMMUNICATION SKILLS	.501
question8 <--- COMMUNICATION SKILLS	.470
question9 <--- COMMUNICATION SKILLS	.524
question11 <--- COMMUNICATION SKILLS	.518
question12 <--- DECISION MAKING	.665
question13 <--- DECISION MAKING	.700

<b>Relationship</b>	<b>Factor Loading</b>
question14 <--- DECISION MAKING	.700
question15 <--- DECISION MAKING	.679
question16 <--- DECISION MAKING	.668
question17 <--- DECISION MAKING	.646
question18 <--- DECISION MAKING	.660
question19 <--- PROMOTES INNOVATION AND CHANGE	.684
question21 <--- PROMOTES INNOVATION AND CHANGE	.590
question23 <--- PROMOTES INNOVATION AND CHANGE	.568
question25 <--- PROMOTES INNOVATION AND CHANGE	.634
question26 <--- PROMOTES INNOVATION AND CHANGE	.700
question34 <--- WORKING RELATIONSHIPS	.606
question33 <--- WORKING RELATIONSHIPS	.664
question32 <--- WORKING RELATIONSHIPS	.663
question31 <--- WORKING RELATIONSHIPS	.629
question30 <--- WORKING RELATIONSHIPS	.625
question28 <--- WORKING RELATIONSHIPS	.703
question27 <--- WORKING RELATIONSHIPS	.688
question44 <--- LEADERSHIP SKILLS	.560
question41 <--- LEADERSHIP SKILLS	.508
question39 <--- LEADERSHIP SKILLS	.438
question38 <--- LEADERSHIP SKILLS	.561
question36 <--- LEADERSHIP SKILLS	.710
question35 <--- LEADERSHIP SKILLS	.581
question52 <--- COACHING SKILLIS	.593
question50 <--- COACHING SKILLIS	.661
question49 <--- COACHING SKILLIS	.676
question48 <--- COACHING SKILLIS	.696
question47 <--- COACHING SKILLIS	.670
question46 <--- COACHING SKILLIS	.659
question53 <--- UTILIZES THE STRENGTH...	.721
question54 <--- UTILIZES THE STRENGTH...	.756
question55 <--- UTILIZES THE STRENGTH...	.763
question56 <--- UTILIZES THE STRENGTH...	.792
question57 <--- UTILIZES THE STRENGTH...	.654
question58 <--- UTILIZES THE STRENGTH...	.695
question64 <--- TEAM DEVELOPMENT	.624
question62 <--- TEAM DEVELOPMENT	.644

<b>Relationship</b>	<b>Factor Loading</b>
question61 <--- TEAM DEVELOPMENT	.700
question60 <--- TEAM DEVELOPMENT	.722

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