



LEADERSHIP

Extraordinary Leader 360 Survey

Validation and Reliability

A detailed look at the data and statistical significance behind Zenger Folkman's 360-degree survey.

by **Dr. Joe Folkman**

Extraordinary Leader 360 Survey: Validation and Reliability

A detailed look at the data and statistical significance behind Zenger Folkman's 360-degree survey.

by Dr. Joe Folkman

PREDICTIVE VALIDITY

Thirty-two 360 data sets were analyzed containing results from over a hundred different companies. Table 1 provides a listing of the different data sets used in the analysis.

As is shown in the table, the analysis was completed using results from 237,123 survey responses on 26,314 leaders. Each of the different data sets represent different customized 360 surveys. A total of 1,956 items were used. Very few of the items were repeated in the different surveys. This provides an extraordinarily rich data set of competencies and items from a variety of different organizations.

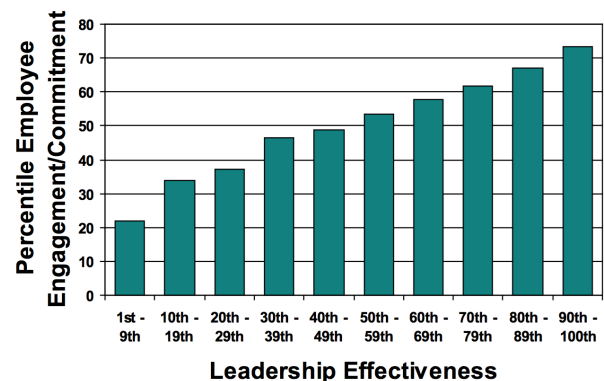
Extensive analysis was done on each data set. First, data sets were compiled into an aggregated format by computing an overall average of all responses (e.g., boss, peers, direct report, others) with the self-response excluded. This was done for each leader in the data set. Next, an overall score was computed by averaging all 360 items into an overall index. We then determined from the overall score the top 10 percent of highest scoring leaders and the bottom 10 percent of lowest scoring leaders. Using these two groups independent t-tests were performed on each item. The t-values from the t-test were then sorted for all survey items. The 10 to 15 items with the largest differences were selected from each data analysis and put into a combined set of key differentiating items. All items selected were highly significant. Once all of the analyses were completed the combined list was again sorted, selecting only those with the highest t-values.

Each of the items was put on a 3 x 5 card. The cards were sorted separately by both authors into groups. After several iterations the items were grouped into 16 different clusters. Because the survey items crossed over 32 different data sets we were not able to perform a factor analysis on the overall results, but we did perform factor analysis on individual data sets, which helped in creating the appropriate clusters.

The analysis found on the next page helps us in creating a new set of items which most effectively differentiate between the best and worst leaders. This research serves as the basis for creating an assessment tool that is highly actionable.

PREDICTION OF EMPLOYEE ENGAGEMENT AND COMMITMENT

In our original research we found that leadership effectiveness highly correlates with employee engagement and commitment. We have consistently found that leadership effectiveness highly correlates to employee engagement/commitment across a variety of assessments from different organizations. To test the effectiveness of *The Extraordinary Leader* survey, we looked at results for 1,516 managers who had completed *The Extraordinary Leader* Assessment. The managers were from a variety of different organizations, but all had at least 3 direct reports. The direct reports assessed each manager on their leadership effectiveness and indicated their personal level of engagement and commitment in the organization. We then created an overall leadership effectiveness index composed of all 360 items in the survey and broke the overall score into 10 deciles. The employee engagement and commitment index was calculated as a percentile score compared to the other managers in the study. Results of the study are contained in the graph below.



LEADERSHIP

Table 1: Composition of 32 Data Sets used in the Key Differentiator Analysis

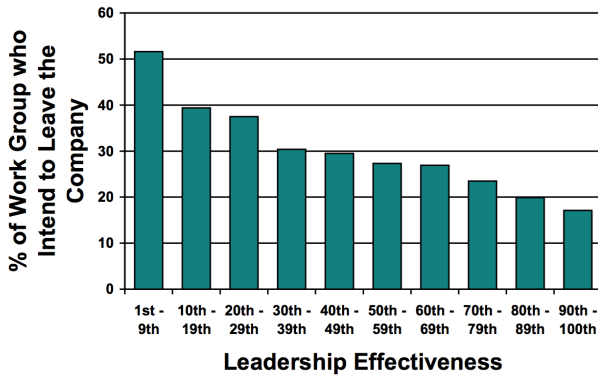
Data Set	Assessments Completed	Leaders Assessed	Survey Items	Organization(s) Description
1	2872	290	64	R&D
2	10691	762	36	Bank/Investment
3	4178	639	45	Generic Survey
4	1346	29	66	Chemicals
5	3782	486	18	Food Processing
6	6365	687	54	Food Sales
7	9395	925	47	Foods
8	137	17	86	Manufacturing
9	2670	349	48	Foods
10	21786	3022	60	High Technology
11	2573	357	61	High Technology
12	1502	147	52	Information Processing
13	3512	259	84	Publishing
14	19671	2030	61	Generic Survey
15	7290	943	60	Oil—Up Stream
16	1221	180	53	Hi-Tech Manufacturing
17	2648	276	91	Hi-Tech Development
18	2177	262	71	Hi-Tech
19	11048	1123	88	Hi-Tech Development
20	12060	1175	79	Hi-Tech Sales/Service
21	1183	165	51	Automotive
22	9323	901	50	Foods
23	1831	210	99	Foods
24	2001	194	50	Restaurant
25	7155	1009	66	R&D
26	14630	2125	70	Generic Survey
27	62919	6716	73	Generic Survey
28	2300	146	52	Forest Products
29	2174	196	60	Paper
30	4083	338	54	Banking
31	1297	130	55	Mortgage Bank
32	1303	126	50	Insurance
Total	237123	26314	1956	

LEADERSHIP

As is very evident from the above graph, *The Extraordinary Leader 360* shows a strong correlation between leadership effectiveness and Employee Engagement/Commitment. The Pearson Correlation between these two indices produces a correlation of .561 which is significant at the .000 level.

PREDICTION OF INTENTION TO LEAVE

In our original research we found leadership effectiveness highly correlates with the retention of employees. To validate the effectiveness of *The Extraordinary Leader Survey* we asked direct reports of 1,516 leaders the following question: "I rarely think about quitting my job to go to a different company." The graph to the right shows the percentage of direct reports in each work group who responded negatively or neutrally to the above item.

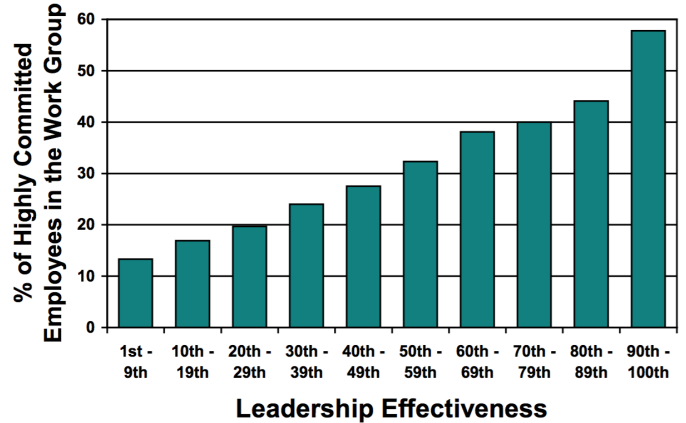


The Pearson Correlation between these two indices produces a correlation of .459 which is significant at the .000 level. The leadership effectiveness index was calculated using the same approach as was mentioned above.

PREDICTION OF HIGHLY COMMITTED EMPLOYEES

A highly committed employee is a valuable asset in any organization. We hypothesized that the effectiveness of a leader increased the percentage of highly committed employees. To test this hypothesis we ask the following item: "My work environment is a place where people want to go the extra mile." We looked at the percentage of each work group who responded "Strongly Agree." It was interesting to find that even the worst leaders (those at the 1st to the 9th percentile) had 13 percent of their work group in the highly committed category. It is, however, impressive of the impact leadership possesses on this variable. Leaders at the higher percentiles had over 40 percent of their work group members as highly committed.

The graph below shows the percentage of direct reports in each work group who responded "Strongly Agree" to the item. The Pearson Correlation between these two indices produces a correlation of .564 which is significant at the .000 level. The leadership effectiveness index was calculated using the same approach as was mentioned above.



CORRELATION OF 16 DIFFERENTIATING COMPETENCIES TO EMPLOYEE COMMITMENT INDEX

To verify the ability of each of the differentiating competency to predict employee commitment results from the aggregate employee commitment index for direct reports we correlated them to each of the 16 differentiating competencies. All correlations were highly significant.

DIFFERENCES BETWEEN TOP MANAGEMENT AND NEXT LEVEL MANAGEMENT LEADERS

Organizations take great care to promote their best leaders into top management positions. Most people would agree the top management of a company ought to exhibit better leadership than the next level of management. In this study using *The Extraordinary Leader 360* we looked at the 28 top managers of a high technology company and compared them to 205 leaders at the next two levels of the organization. The study shows a significant difference between the two groups. A t-test yielded a t-value of 1.97 with a .05 level of significance, The graph below shows that senior leaders scored at the 61st percentile overall while other leaders scored at the 49th percentile.

CONCURRENT VALIDITY

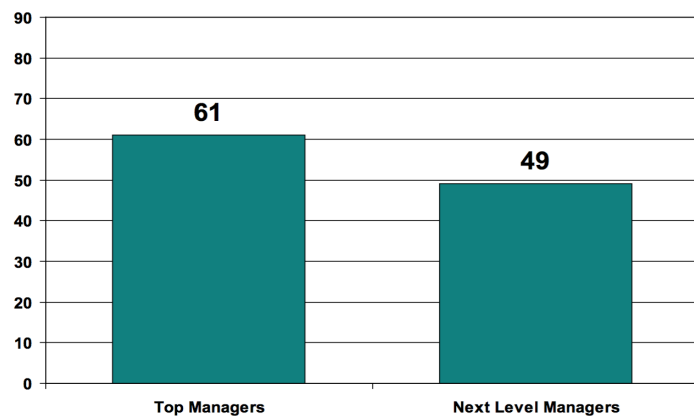
Concurrent validity tests the relationship between 360 item scores and another validated measure that essentially measures the same thing. To perform this, test data was collected on 938 managers in a large manufacturing company. A subset of items from the 16 differentiating competencies was used to assess the ability of the combined competencies to evaluate a manager's overall effectiveness.

The concurrent measure was a survey item which assessed the overall effectiveness of a manager. An overall index was created, composed of the summary of all 360 items. This index was correlated with the Mayflower survey item assessing the overall effectiveness of a manager. The Pearson Correlation between the two variables was .778, which is significant at the .000 level.

Table 2: Pearson Correlations between Employee Commitment and the 16 Differentiating Competencies

	Pearson Correlation	Sig. (2-tailed)	N
Developing Strategic Perspective	0.52	0.00	1516
Inspiring and Motivating Others to High Performance	0.52	0.00	1518
Solving Problems and Analyzing Issues	0.51	0.00	1517
Taking Initiative	0.51	0.00	1510
Displaying High Integrity and Honesty	0.51	0.00	1517
Developing Others	0.50	0.00	1517
Collaboration and Teamwork	0.50	0.00	1517
Championing Change	0.49	0.00	1516
Communicating Powerfully and Prolifcally	0.48	0.00	1517
Drive for Results	0.48	0.00	1517
Building Relationships	0.47	0.00	1516
Establishing Stretch Goals	0.47	0.00	1516
Technical/Professional Expertise	0.46	0.00	1515
Innovation	0.44	0.00	1517
Connects the Group to the Outside World – Networking	0.44	0.00	1513
Practicing Self-Development	0.43	0.00	1513

This particular study provides strong evidence that the 16 differentiating competencies provide an excellent assessment of the overall effectiveness of a manager.



RELIABILITY

An excellent measure of the effectiveness of a survey is the alpha coefficient. This measure on internal consistency indicates if the items in each category work effectively together to measure a competency. The target Alpha is .80 for an effective scale. Table 3 below lists alpha coefficients for each for the 16 differentiating competencies and the employee commitment index.

As is evident from the alpha coefficients, each of the survey categories is a well constructed scale. All categories with the exception of Championing Change and the Employee Commitment Index have three items.

CONCLUSIONS

The Extraordinary Leader 360-degree Assessment is a highly valid and reliable survey. Our experience in creating a variety of 360 assessment surveys over the past 25 years has taught us valuable lessons about what works and what does not. In the process of creating these surveys our learning curve has helped us to identify items which are most effective in differentiating leaders. Items which differentiate are also more likely to be improved. Our learning has taught us much about which items and survey categories would have the best psychometric qualities, but it has also taught us which items lead people to change. In the end, this practice is about helping people change.

Table 3: Cronbach's Alpha Coefficients for The 16 Differentiating Competencies

Survey Category	Cronbach's Alpha
1 Displaying High Integrity and Honesty	0.852
2 Technical/Professional Expertise	0.865
3 Solving Problems and Analyzing Issues	0.812
4 Innovation	0.870
5 Practicing Self-Development	0.850
6 Communicating Powerfully and Prolifically	0.872
7 Inspiring & Motivating Others to High Performance	0.885
8 Building Relationships	0.885
9 Developing Others	0.856
10 Collaboration and Teamwork	0.866
11 Drive for Results	0.837
12 Establishing Stretch Goals	0.858
13 Take Initiative	0.822
14 Developing Strategic Perspective	0.848
15 Championing Change	0.846
16 Connects the Group to Outside World — Networking	0.827
17 Employee Commitment Index	0.884



JOE FOLKMAN, Ph.D.

Joe Folkman, Ph.D., is globally recognized as a top leader in the field of psychometrics, leadership, and change. He is a consultant to some of the world's most successful organizations, a best-selling author, and a frequent keynote speaker and conference presenter. His research has been reported in numerous publications including, The Harvard Business Review, Forbes, CLO Magazine, The Wall Street Journal, Huffington Post, Business Insider, CNN, and others.

ZENGER FOLKMAN

Zenger Folkman helps organizations flourish by increasing the effectiveness of leaders at all levels. Our unique, strengths-based development methodology enables leaders to move faster and higher. Each offering is solidly grounded in research, utilizing our extensive empirical database. The end results are statistically significant improvements in how leaders lead, how their employees engage, and how their companies profit; allowing both leaders and organizations to soar to new heights.

801.705.9375
info@zengerfolkman.com
zengerfolkman.com