



# **Prepared For NASA Langley Research Center**

## **NASA KEYS All Surveys**

NASA N = 1,009

Contractors N = 707

**KEYS Norm Group**

Date Scored: 27 September 2011





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# About KEYS®

KEYS is a tool designed to help leaders see a clear picture of the climate for innovation within a work group or organization. That climate, also known as the work environment, greatly influences an employee's ability to be creative. The value of KEYS lies in its capacity to accurately identify the conditions necessary for innovation to occur.

As you reflect upon this data, consider the following definitions:

- Creativity - novel ideas that are useful.
- Innovation - successful implementation of creative ideas within an organization.

KEYS can reliably distinguish between a corporate work environment that produces higher innovative results from one that does not, in both technical and non-technical work. KEYS is proven to distinguish between work environments and KEYS dimensions are significantly correlated to the norm group. Work environments that produce highly creative projects and are seen as innovative are rated higher on KEYS dimensions.

This report contains detailed information about how individuals perceive the work environment and its influence on their creativity. The report is divided into three sections:

## Dimensions and Item Level Data

This section includes graphs and descriptions depicting your group's or organization's results in comparison to a norm group. The results begin with an overview of the ten dimensions and then narrows to item-level detail. Full descriptions of each dimension and item are provided.

## Highest and Lowest Rated Items

This section includes a list of the ten highest and lowest rated items.

## Most Important Factors Affecting Creativity and Innovation

This section provides the results for three questions related to the factors that support, inhibit, and could improve creativity and innovation. Respondents were asked to choose the three most important factors for each question. The ten most frequently chosen factors, listed in order from highest to lowest percentage, along with the work context in which they appear are reported for each question.

# Key Terms

The terms in the table below are used throughout the KEYS survey. Respondents were asked to use the corresponding definitions when rating the items.

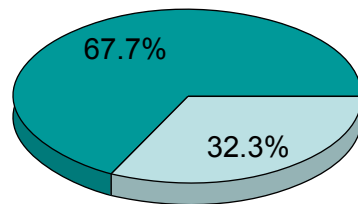
My Area of the Organization	The department, branch, division, or group within which you do most of your work
Work Environment	The setting within which you currently do most or all of your work
Work Group	The people with whom you currently work closely on a day-to-day basis; the group of people with whom you do your major project(s)
Boss	The person who manages your major project(s); the person to whom you report for most of your work
Project(s)	The major work that you do, whatever that may be
This Organization	The organization within which you currently work

# Respondent Profile

## Who completed this survey?

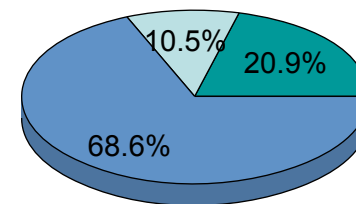
This report is based on the analysis of 1747 responses. Below are demographics about the people who responded to the survey. Due to rounding, totals may not equal 100%.

### Gender



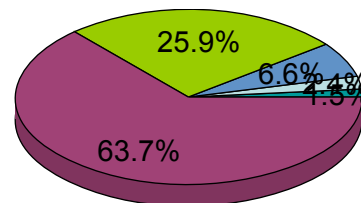
■ Male ■ Female

### Tenure



■ 0 to 5 years ■ 6 to 10 years ■ 11 years or more

### Level



■ Director ■ Deputy Director ■ Branch Head ■ Team Leadership ■ Non-Supervisory

# Guide for Interpretation

**For all dimensions and items, higher scores are preferred and are generally associated with higher levels of creativity.**

KEYS results describe a work environment—not an individual. The work environment is a result of the personalities, styles, policies, and interactions of a great many people, from top management to individual employees in work groups.

Innovation within the organization depends upon (see figure on the right):

- **Organizational Motivation** – the basic orientation of the organization toward innovation; shared vision; providing rewards and recognition; lack of internal politics, and lack of overemphasis on the status quo.
- **Resources** – everything the organization has available to aid in the area targeted for innovation, including time, funding, information and materials.
- **Management Practices** – allowing freedom and autonomy in the practice of work; providing challenge; specifying clear strategic goals and forming work teams comprised of individuals with diverse skills and perspectives.



Respondents used the options below to rate how well items described their current work environment.

**Never = 1, Sometimes = 2, Often = 3, Always = 4**



The vertical scale on the graph is labeled “Standard Scores.” Fifty (50) marks the average score of similar groups who have completed KEYS.

Standard scores on the graphs range from 20 to 80. Scores of 80 or higher are graphed at 80. Scores of 20 or lower are graphed at 20. Less than 1% of scores fall outside the 20 – 80 range.

Shaded regions are used to help define ranges of scores on the graph; these regions are listed vertically along the right-hand side of the graph:

Very High/VH = score of 61 or above

High/H = score range of 56-60

Mid-range/M = score range of 46-55

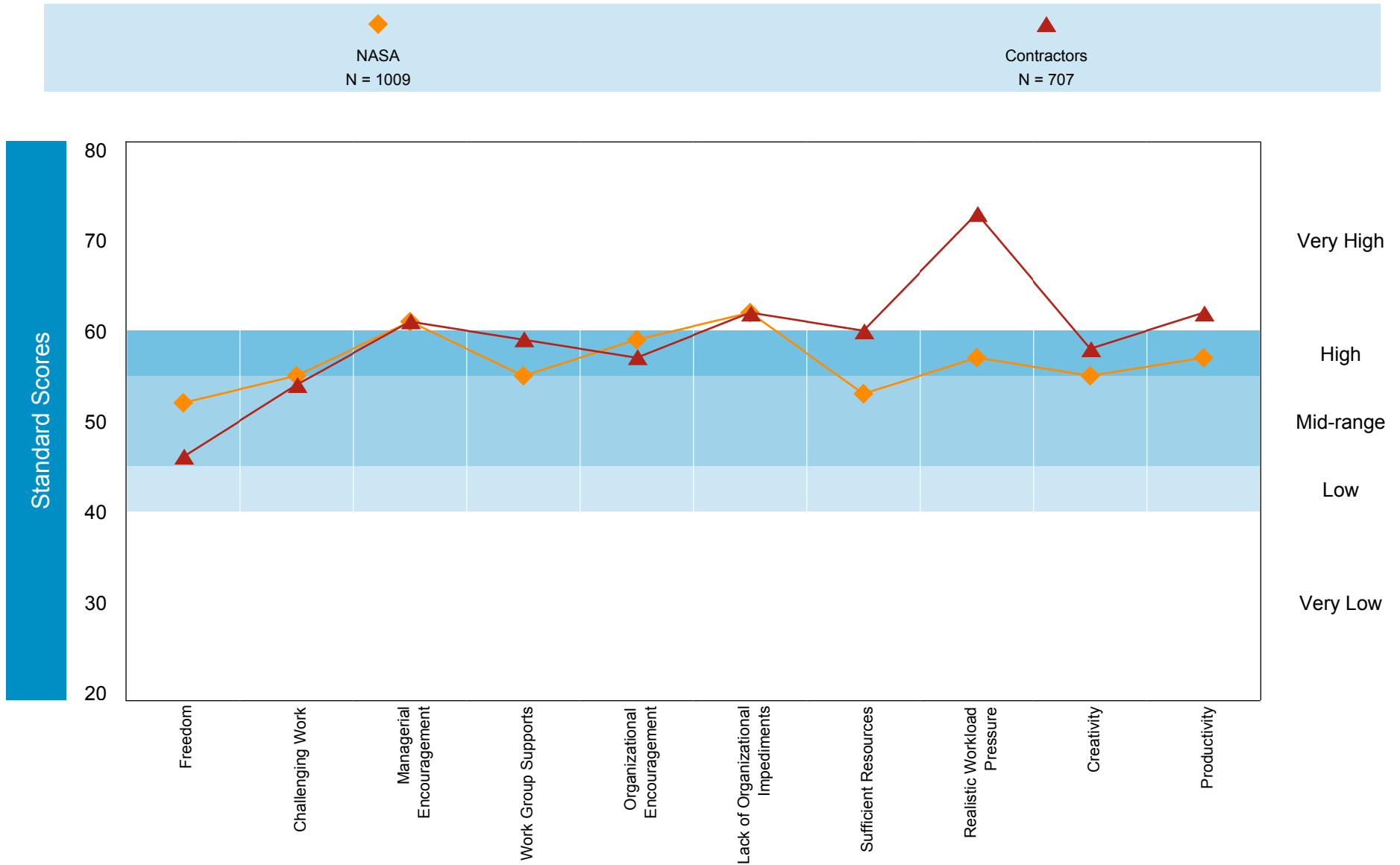
Low/L = score range of 41-45



Very Low/VL = score of 40 or below

Because KEYS scores are close to normally distributed, approximately two-thirds of all organization means in the database fall between 40 and 60.

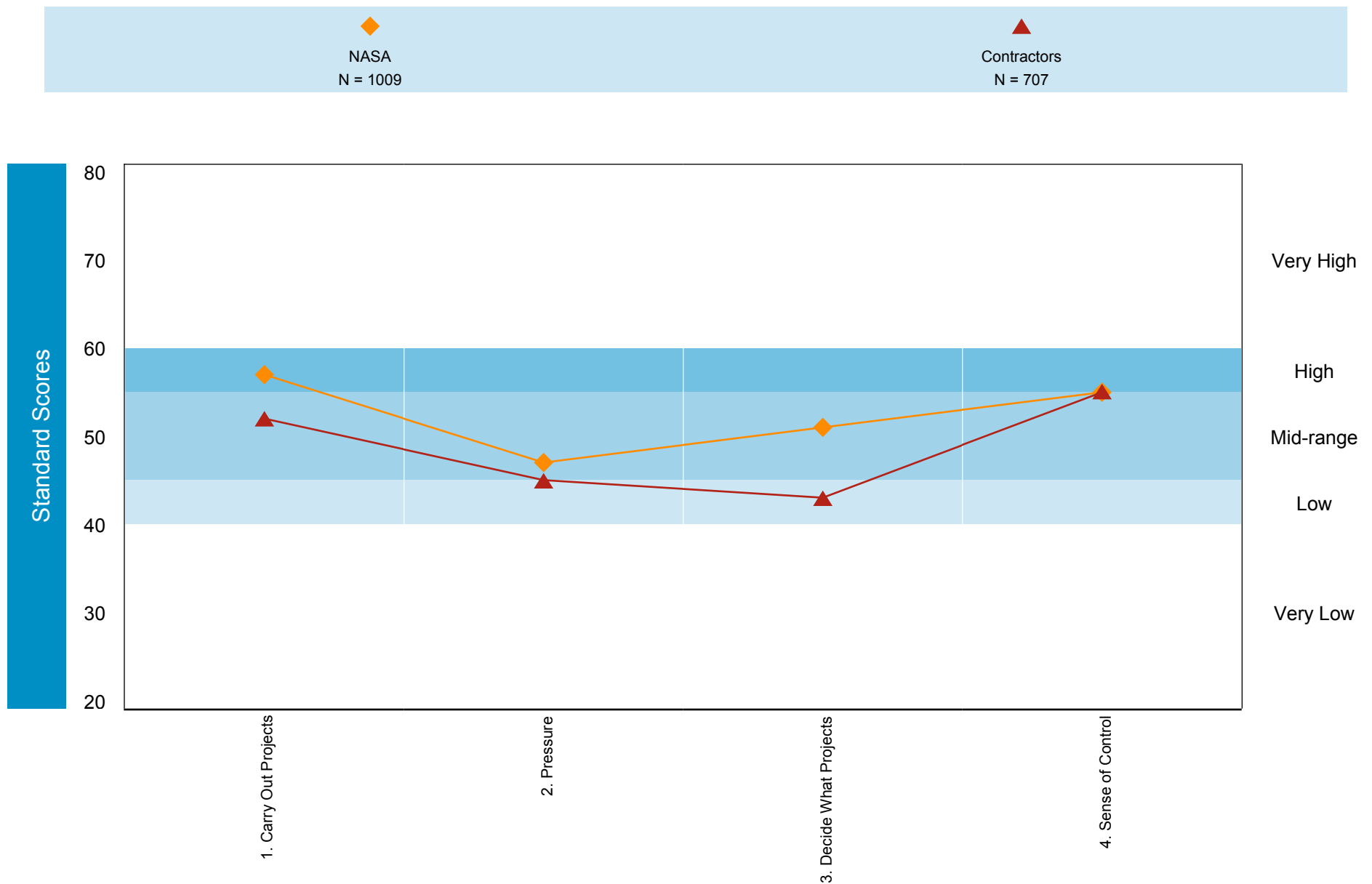
When comparing the scores of any two groups, a 10-point difference is considered a significant difference and could indicate observable differences in behavior.

# Dimensions and Outcomes - Overall





		 NASA	 Contractors		
Work Environment	Management Practices				
	Freedom: Deciding what work to do or how to do it; a sense of control over one's work	M	M		
	Challenging Work: A sense of having to work hard on challenging tasks and important projects	M	M		
	Managerial Encouragement: A boss who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions, and shows confidence in the work group	VH	VH		
	Work Group Supports: A diversely skilled work group in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing	M	H		
	Organizational Motivation				
	Organizational Encouragement: An organizational culture that encourages creativity through the fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas; an active flow of ideas; and a shared vision	H	H		
	Lack of Organizational Impediments: An organizational culture that does not impede creativity through internal political problems, harsh criticism of new ideas, destructive internal competition, an avoidance of risk, and an overemphasis on the status quo	VH	VH		
	Resources				
	Sufficient Resources: Access to appropriate resources, including funds, materials, facilities, and information	M	H		
	Realistic Workload Pressure: Absence of extreme time pressures, unrealistic expectations for productivity, and distractions from creative work	H	VH		
Outcomes	Outcomes				
	Creativity: A creative organization or unit, where a great deal of creativity is called for and where people believe they actually produce creative work	M	H		
	Productivity: An efficient, effective, and productive organization or unit	H	VH		
VH = Very High		H = High	M = Mid-range	L = Low	VL = Very Low

# Item Level Data - Freedom



## Freedom: Deciding what work to do or how to do it; a sense of control over one's work

	 NASA	 Contractors
1. I have the freedom to decide how I am going to <b>Carry Out My Projects</b> .	H	M
2. I feel little <b>Pressure</b> to meet someone else's specifications in how I do my work.	M	L
3. I have the freedom to <b>Decide What Project(s)</b> I am going to do.	M	L
4. In my daily work environment, I feel a <b>Sense of Control</b> over my own work and my own ideas.	M	M

VH = Very High

H = High

M = Mid-range

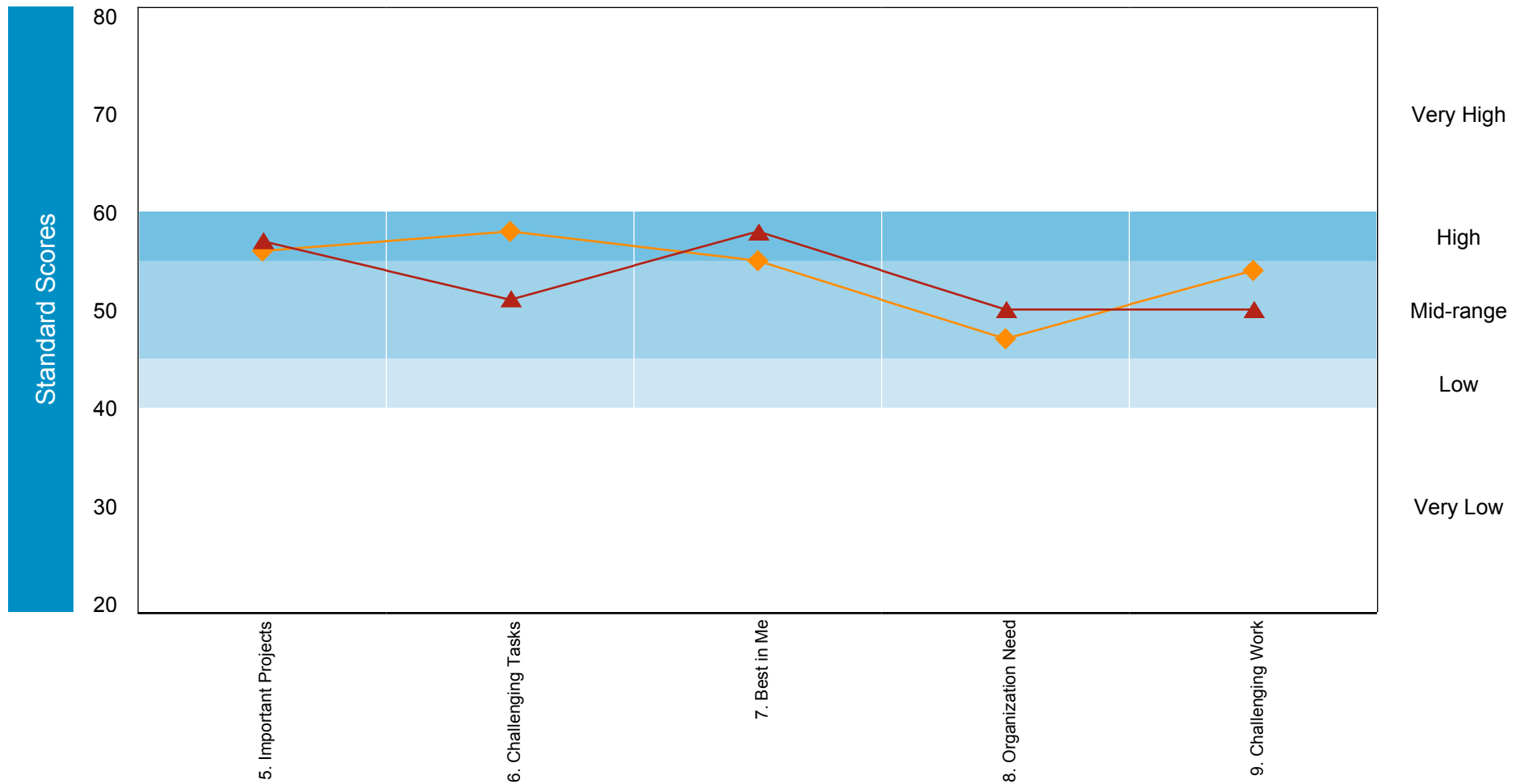
L = Low

VL = Very Low



# Item Level Data - Challenging Work

NASA  
N = 1009

Contractors  
N = 707



## Challenging Work: A sense of having to work hard on challenging tasks and important projects

	 NASA	 Contractors
5. I feel that I am working on <b>Important Projects</b> .	H	H
6. The <b>Tasks</b> in my work are <b>Challenging</b> .	H	M
7. The tasks in my work call out the <b>Best in Me</b> .	M	H
8. The <b>Organization</b> has an urgent <b>Need</b> for successful completion of the work I am now doing.	M	M
9. I feel <b>Challenged</b> by the <b>Work</b> I am currently doing.	M	M

VH = Very High

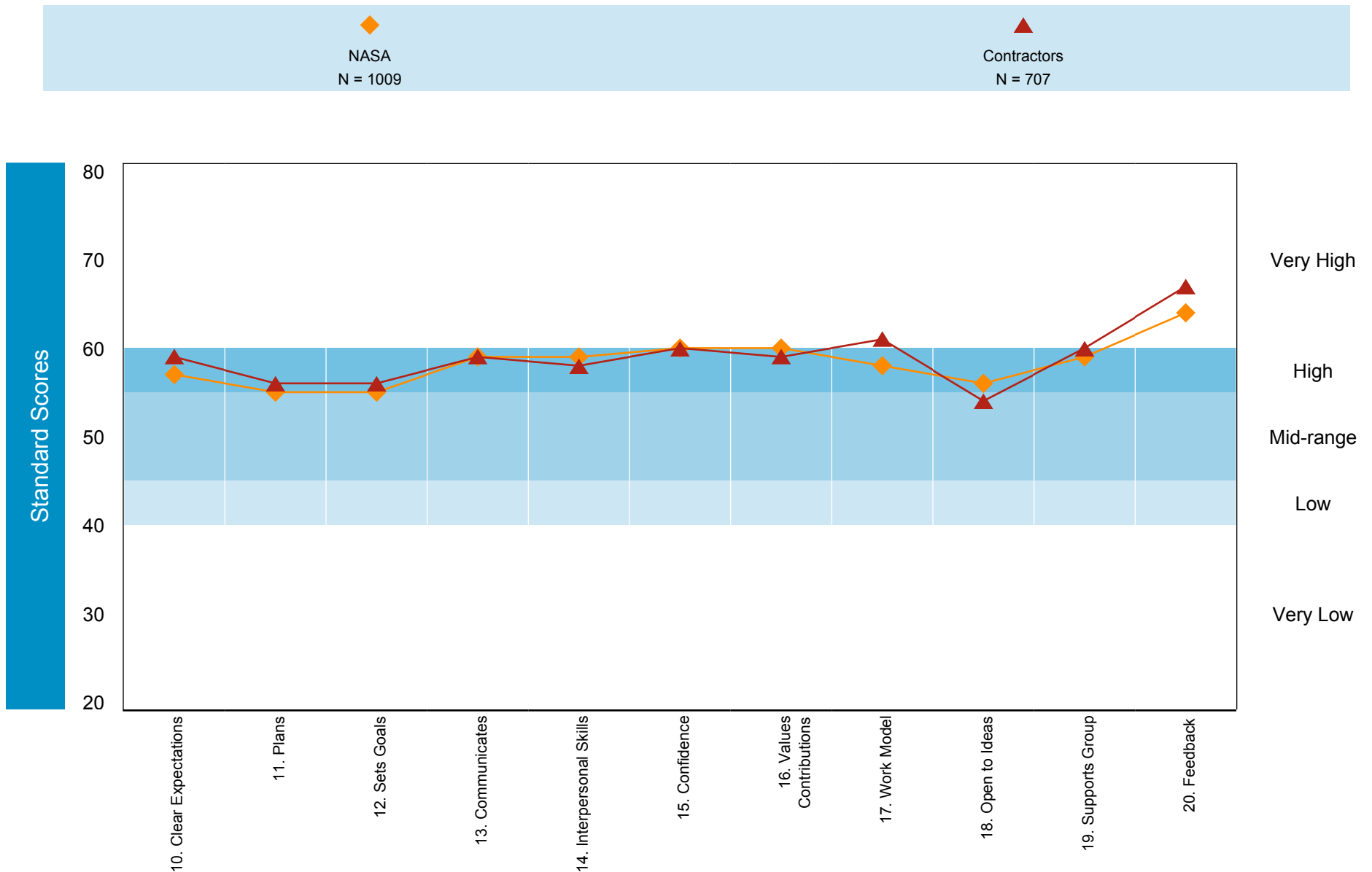
H = High

M = Mid-range

L = Low



VL = Very Low

# Item Level Data - Managerial Encouragement





**Managerial Encouragement:** A boss who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions, and shows confidence in the work group

	 NASA	 Contractors
10. My boss's <b>Expectations</b> for my project(s) are <b>Clear</b> .	H	H
11. My boss <b>Plans</b> well.	M	H
12. My boss clearly <b>Sets</b> overall <b>Goals</b> for me.	M	H
13. My boss <b>Communicates</b> well with our work group.	H	H
14. My boss has good <b>Interpersonal Skills</b> .	H	H
15. My boss shows <b>Confidence</b> in our work group.	H	H
16. My boss <b>Values</b> individual <b>Contributions</b> to project(s).	H	H
17. My boss serves as a good <b>Work Model</b> .	H	VH
18. My boss is <b>Open to</b> new <b>Ideas</b> .	H	M
19. My boss <b>Supports</b> my work <b>Group</b> within the organization.	H	H
20. I get constructive <b>Feedback</b> about my work.	VH	VH

VH = Very High

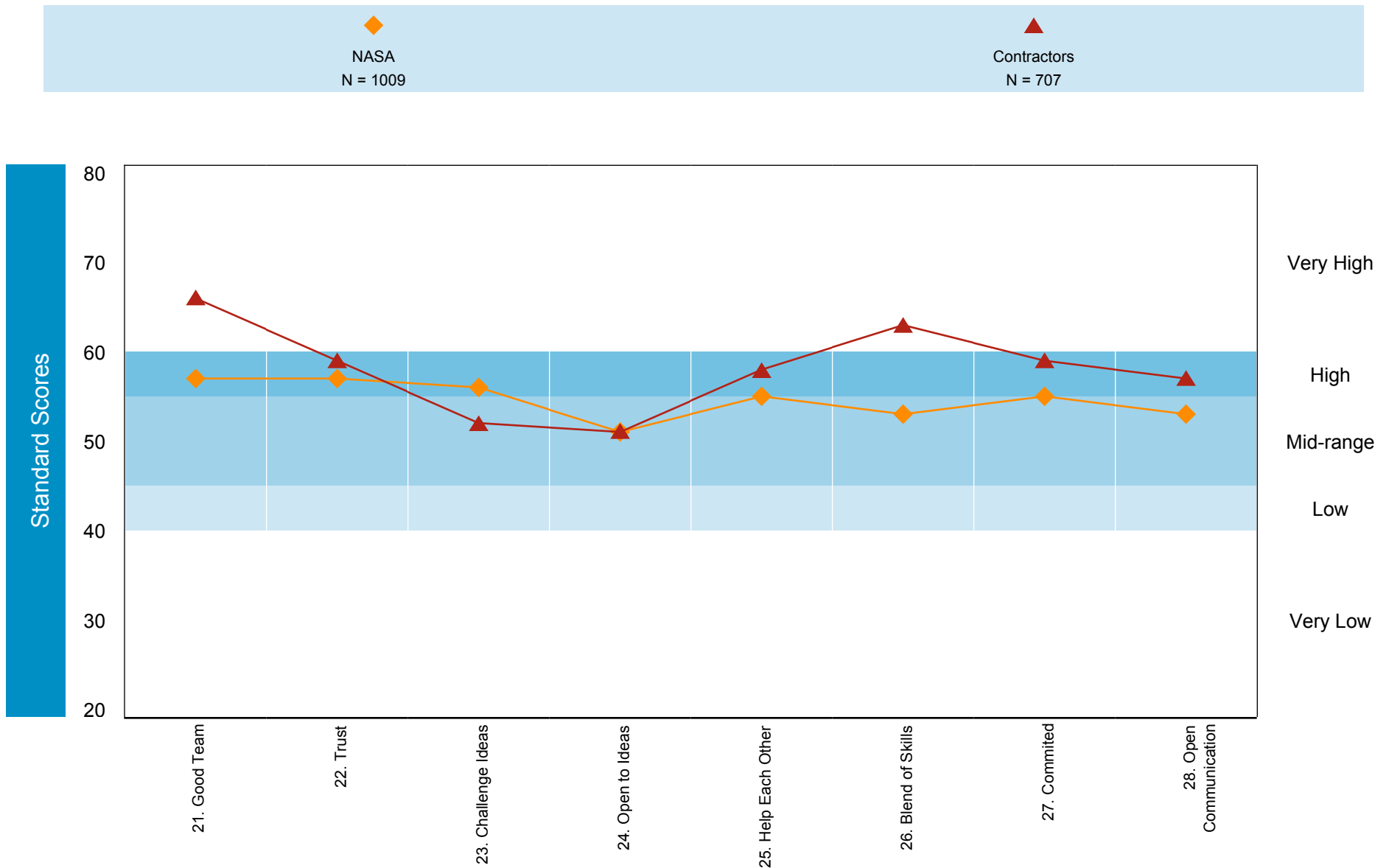
H = High

M = Mid-range



L = Low

VL = Very Low

# Item Level Data - Work Group Supports



**Work Group Supports:** A diversely skilled work group in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing

	 NASA	 Contractors
21. My co-workers and I make a <b>Good Team</b> .	H	VH
22. There is a feeling of <b>Trust</b> among the people I work with most closely.	H	H
23. Within my work group, we <b>Challenge</b> each other's <b>Ideas</b> in a constructive way.	H	M
24. People in my work group are <b>Open to</b> new <b>Ideas</b> .	M	M
25. In my work group, people are willing to <b>Help Each Other</b> .	M	H
26. There is a good <b>Blend of Skills</b> in my work group.	M	VH
27. The people in my work group are <b>Committed</b> to our work.	M	H
28. There is free and <b>Open Communication</b> within my work group.	M	H

VH = Very High

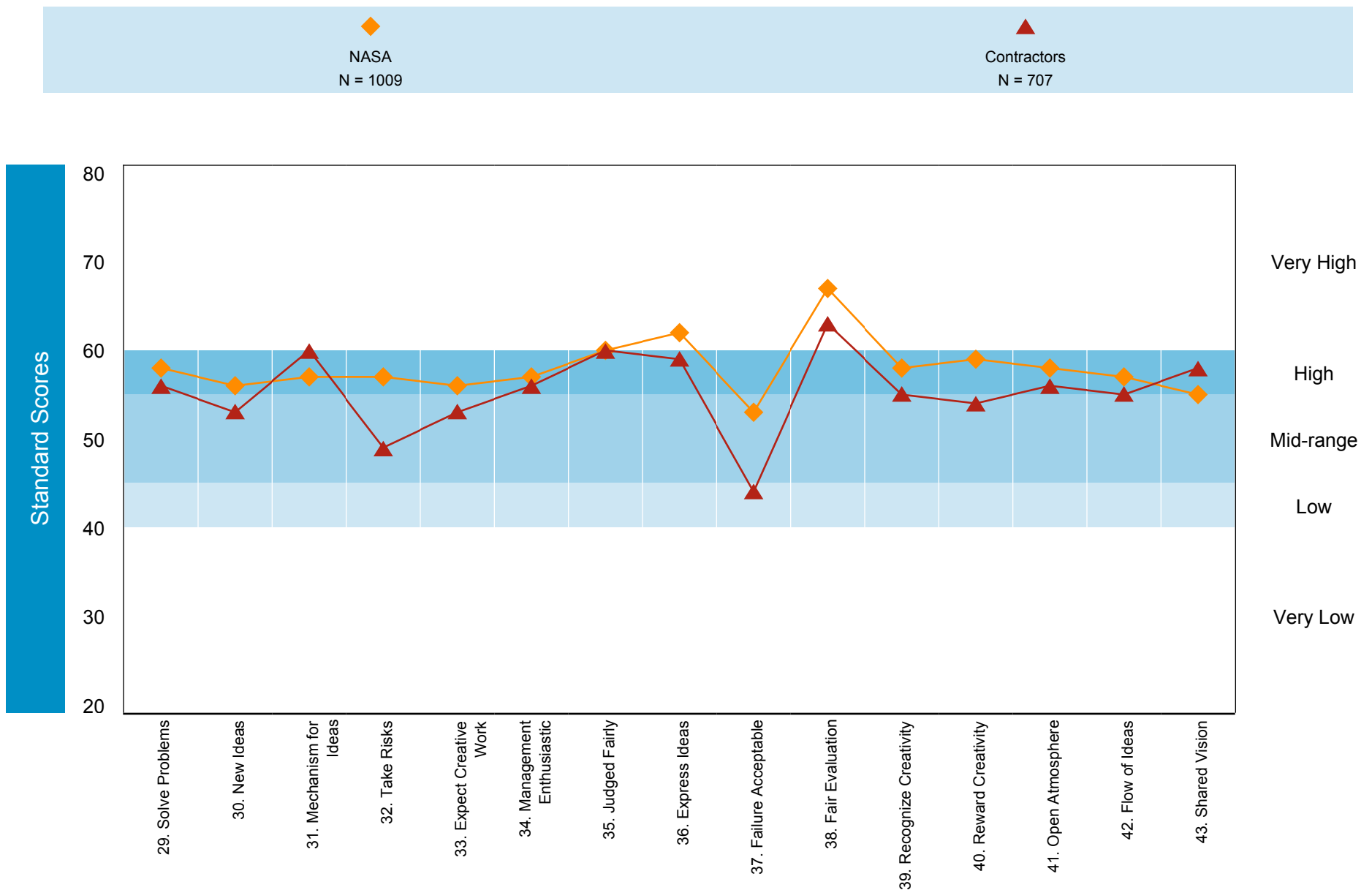
H = High

M = Mid-range



L = Low

VL = Very Low

# Item Level Data - Organizational Encouragement



**Organizational Encouragement:** An organizational culture that encourages creativity through the fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas; an active flow of ideas; and a shared vision

	 NASA	 Contractors
29. People are encouraged to <b>Solve Problems</b> creatively in this organization.	H	H
30. <b>New Ideas</b> are encouraged in this organization.	H	M
31. This organization has a good <b>Mechanism for</b> encouraging and developing creative <b>Ideas</b> .	H	H
32. People are encouraged to <b>Take Risks</b> in this organization.	H	M
33. In this organization, top management <b>Expects</b> that people will do <b>Creative Work</b> .	H	M
34. I feel that top <b>Management</b> is <b>Enthusiastic</b> about my project(s).	H	H
35. Ideas are <b>Judged Fairly</b> in this organization.	H	H
36. People in this organization can <b>Express</b> unusual <b>Ideas</b> without the fear of being called stupid.	VH	H
37. <b>Failure is Acceptable</b> in this organization, if the effort on the project was good.	M	L
38. Performance <b>Evaluation</b> in this organization is <b>Fair</b> .	VH	VH
39. People are <b>Recognized</b> for <b>Creative</b> work in this organization.	H	M
40. People are <b>Rewarded</b> for <b>Creative</b> work in this organization.	H	M
41. There is an <b>Open Atmosphere</b> in this organization.	H	H
42. In this organization, there is a lively and active <b>Flow of Ideas</b> .	H	M
43. Overall, the people in this organization have a <b>Shared Vision</b> of where we are going and what we are trying to do.	M	H

VH = Very High

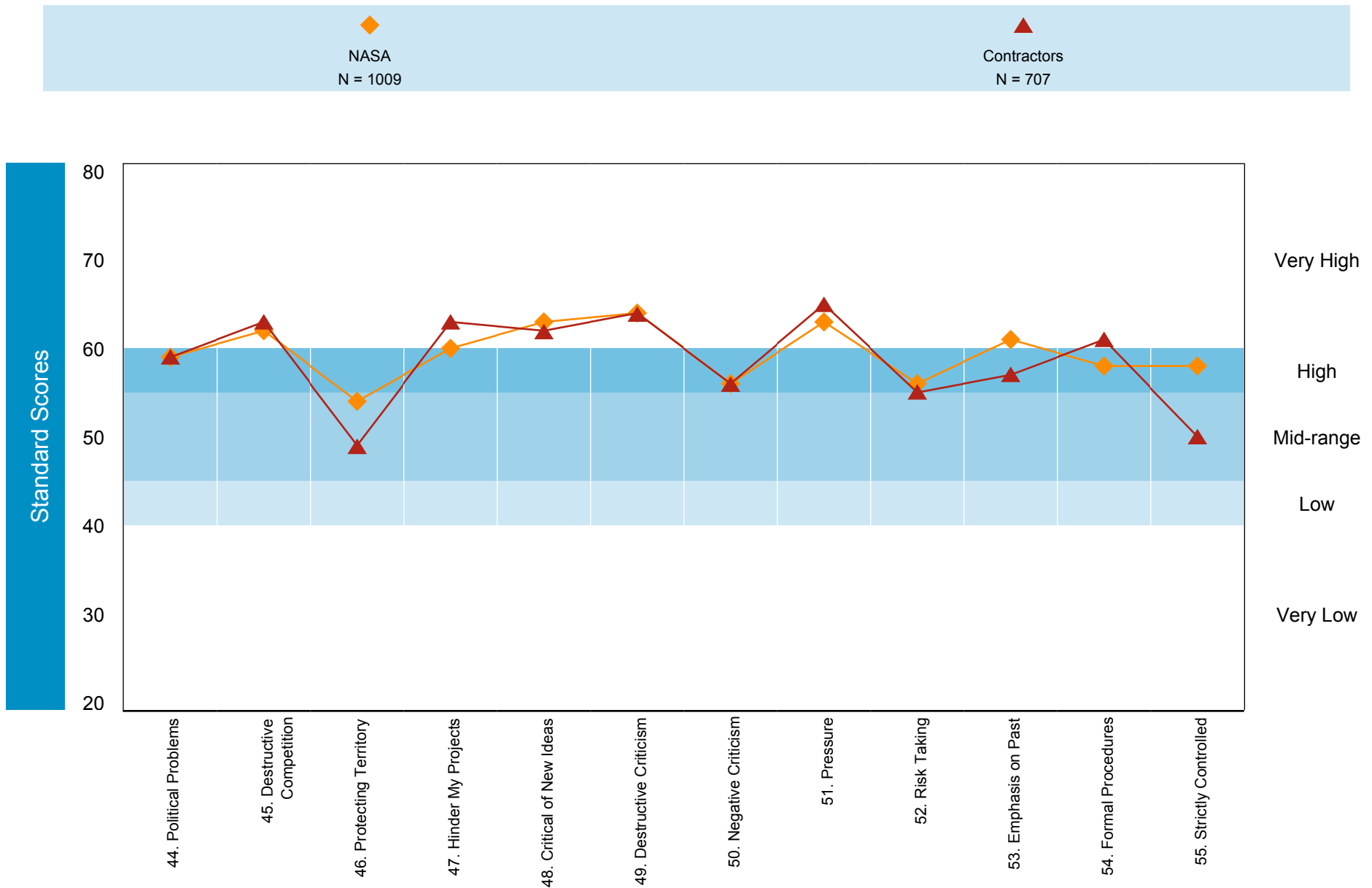
H = High

M = Mid-range



L = Low

VL = Very Low

# Item Level Data - Lack of Organizational Impediments



**Lack of Organizational Impediments:** An organizational culture that does not impede creativity through internal political problems, harsh criticism of new ideas, destructive internal competition, an avoidance of risk, and an overemphasis on the status quo

	 NASA	 Contractors
44. There are few <b>Political Problems</b> in this organization.*	H	H
45. There is no <b>Destructive Competition</b> within this organization.*	VH	VH
46. People in this organization are <b>Not</b> very concerned about <b>Protecting</b> their <b>Territory</b> .*	M	M
47. Other areas of the organization <b>Do Not Hinder My Project(s)</b> .*	H	VH
48. People are <b>Not Critical of New Ideas</b> in this organization.*	VH	VH
49. <b>Destructive Criticism is Not</b> a problem in this organization.*	VH	VH
50. People are <b>Not</b> concerned about <b>Negative Criticism</b> of their work in this organization.*	H	H
51. People in this organization <b>Do Not</b> feel <b>Pressure</b> to produce anything acceptable, even if quality is lacking.*	VH	VH
52. Top management is <b>Willing to Take Risks</b> in this organization.*	H	M
53. There is <b>Little Emphasis</b> in this organization <b>on Doing Things the Way We Have Always Done Them</b> .*	VH	H
54. <b>Procedures</b> and structures are <b>Not</b> too <b>Formal</b> in this organization.*	H	VH
55. This organization is not <b>Strictly Controlled</b> by upper management.*	H	M

\*For ease of graphical interpretation, items are phrased in an opposite manner from how they appear on the survey.

VH = Very High

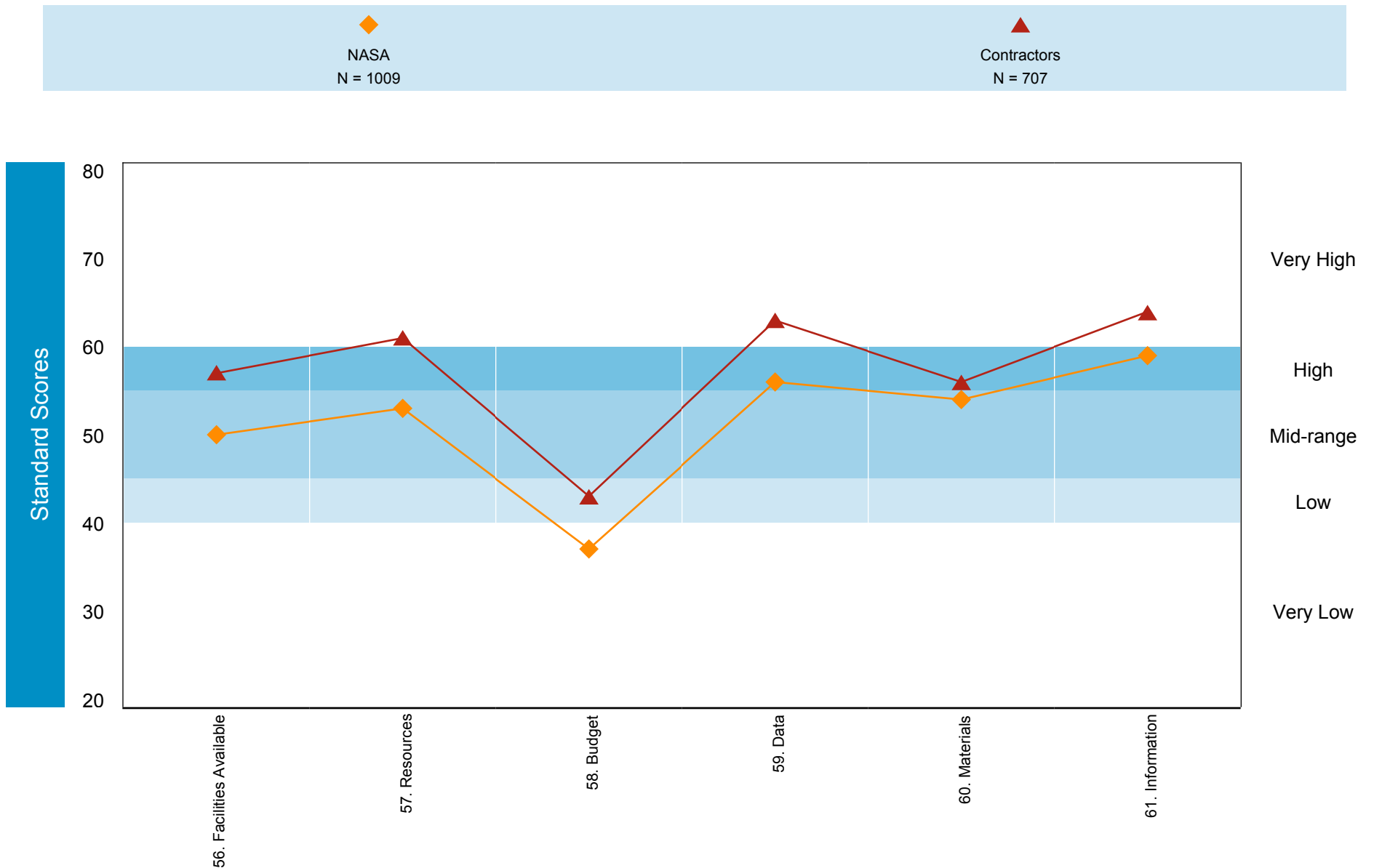
H = High

M = Mid-range

L = Low



VL = Very Low

# Item Level Data - Sufficient Resources





## Sufficient Resources: Access to appropriate resources, including funds, materials, facilities, and information

	 NASA	 Contractors
56. The <b>Facilities</b> I need for my work are readily <b>Available</b> to me.	M	H
57. Generally, I can get the <b>Resources</b> I need for my work.	M	VH
58. The <b>Budget</b> for my project(s) is generally adequate.	VL	L
59. I can get all the <b>Data</b> I need to carry out my projects successfully.	H	VH
60. I am able to easily get the <b>Materials</b> I need to do my work.	M	H
61. The <b>Information</b> I need for my work is easily obtainable.	H	VH

VH = Very High

H = High

M = Mid-range

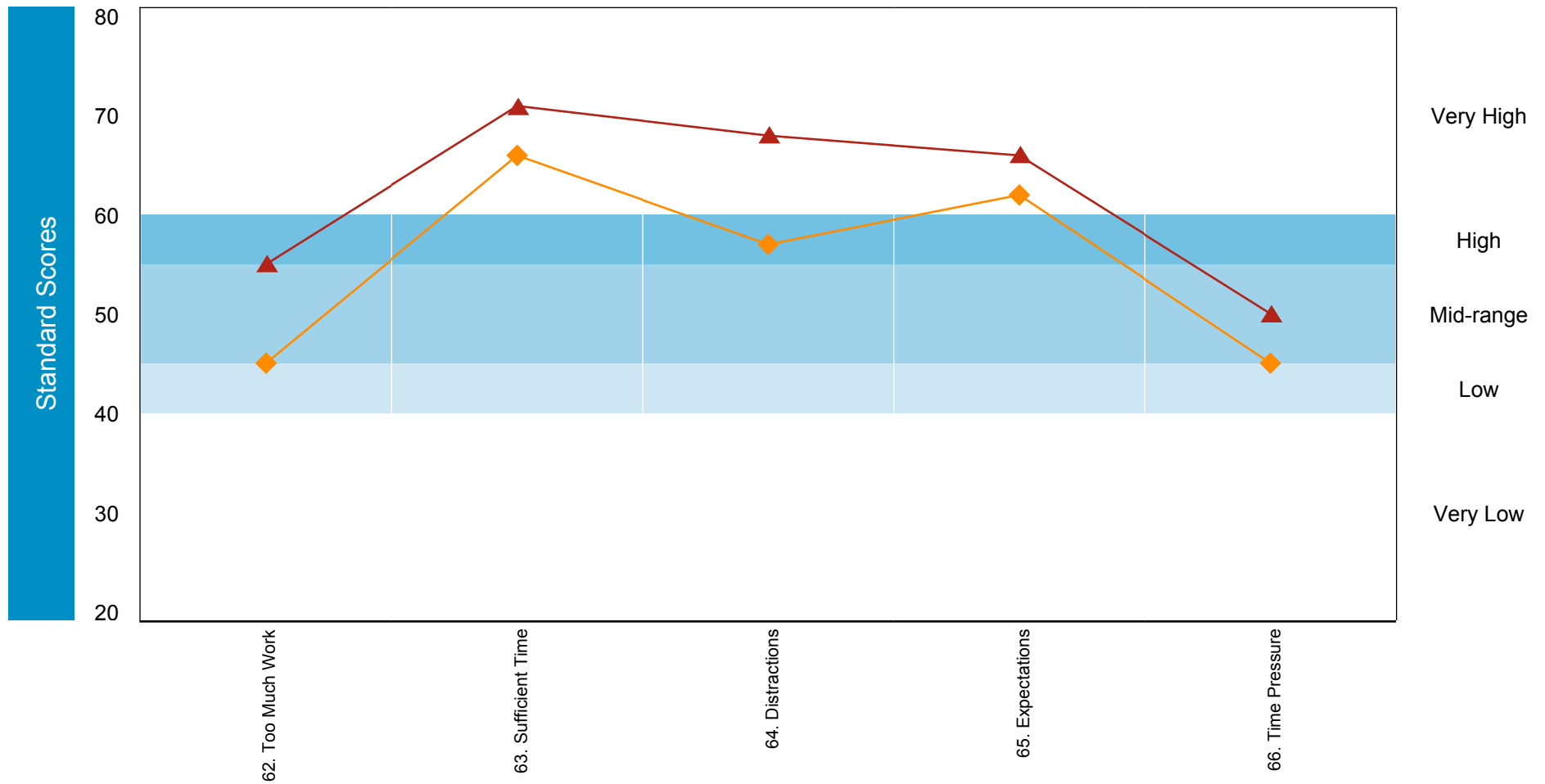
L = Low

VL = Very Low



# Item Level Data - Realistic Workload Pressure

NASA  
N = 1009

Contractors  
N = 707



## Realistic Workload Pressure: Absence of extreme time pressures, unrealistic expectations for productivity, and distractions from creative work

	 NASA	 Contractors
62. I do <b>Not</b> have too <b>Much Work</b> to do in too little time.*	L	M
63. I have <b>Sufficient Time</b> to do my project(s).*	VH	VH
64. There are not too many <b>Distractions</b> from project work in this organization.*	H	VH
65. There are realistic <b>Expectations</b> for what people can achieve in this organization.*	VH	VH
66. I do <b>Not</b> feel a sense of <b>Time Pressure</b> in my work.*	L	M

\*For ease of graphical interpretation, items are phrased in an opposite manner from how they appear on the survey.

VH = Very High

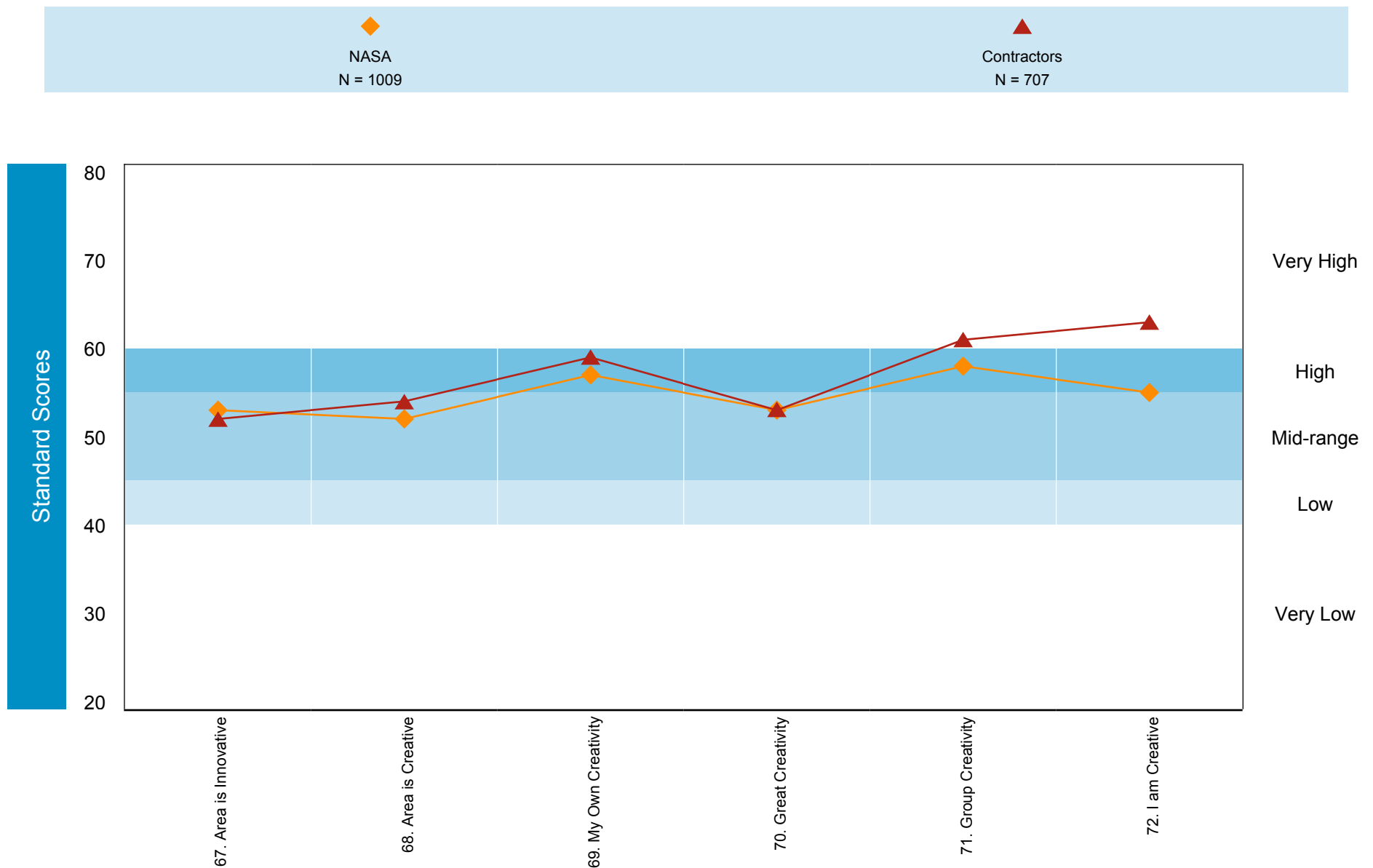
H = High

M = Mid-range



L = Low

VL = Very Low

# Item Level Data - Creativity



**Creativity:** A creative organization or unit, where a great deal of creativity is called for and where people believe they actually produce creative work

	 NASA	 Contractors
67. My <b>Area</b> of this organization <b>is Innovative</b> .	M	M
68. My <b>Area</b> of this organization <b>is Creative</b> .	M	M
69. Overall, my current work environment is conducive to <b>My Own Creativity</b> .	H	H
70. A <b>Great</b> deal of <b>Creativity</b> is called for in my daily work.	M	M
71. Overall, my current work environment is conducive to the <b>Creativity</b> of my work <b>Group</b> .	H	VH
72. I believe that <b>I am</b> currently very <b>Creative</b> in my work.	M	VH

VH = Very High

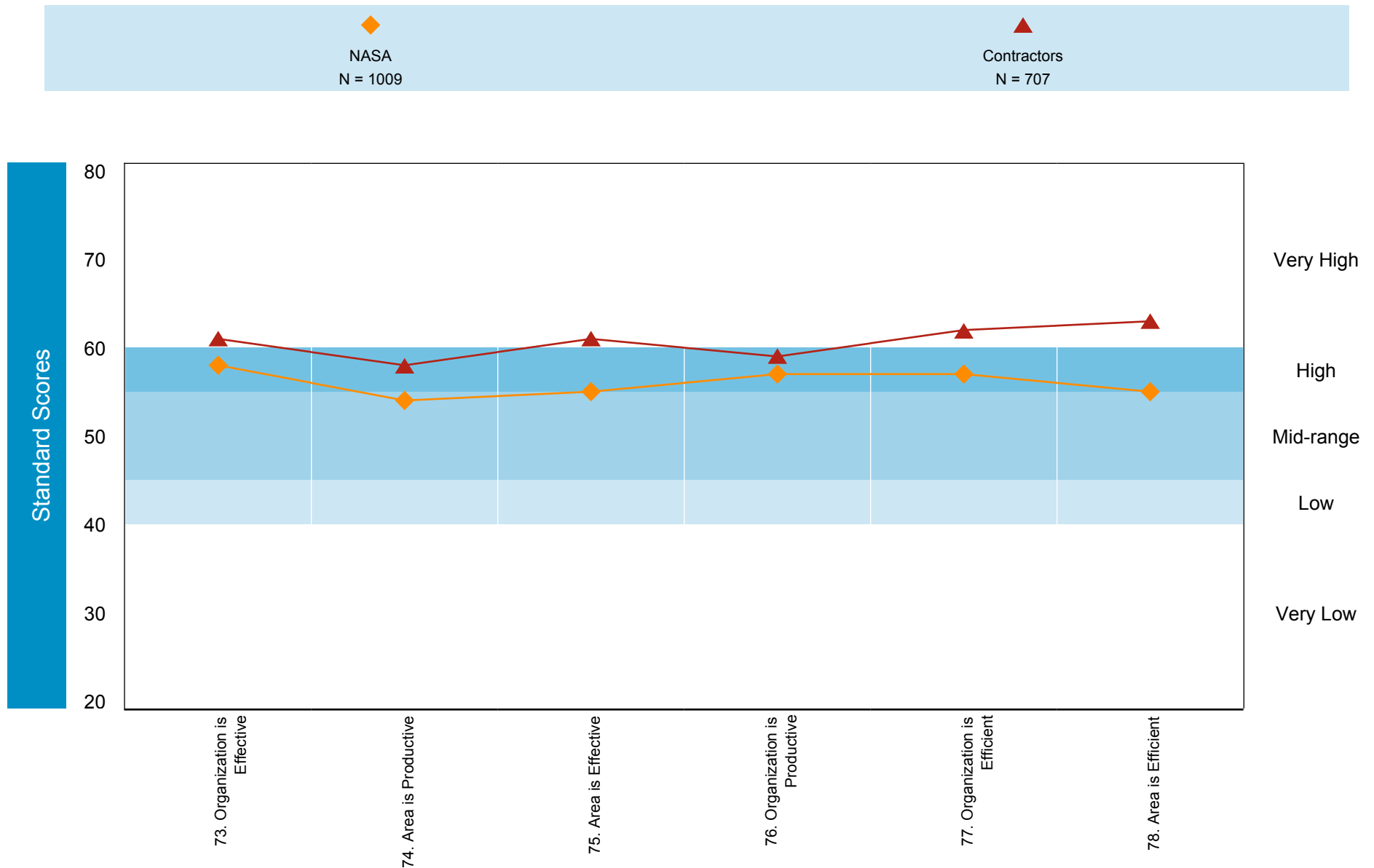
H = High

M = Mid-range



L = Low

VL = Very Low

# Item Level Data - Productivity



## Productivity: An efficient, effective, and productive organization or unit

	 NASA	 Contractors
73. Overall, this Organization is Effective.	H	VH
74. My Area of this organization is Productive.	M	H
75. My Area of this organization is Effective.	M	VH
76. Overall, this Organization is Productive.	H	H
77. Overall, this Organization is Efficient.	H	VH
78. My Area of this organization is Efficient.	M	VH

VH = Very High

H = High

M = Mid-range

L = Low

VL = Very Low

# Ten Highest Rated Items for NASA KEYS All Surveys

Listed below are the items with the highest standard scores compared to the KEYS normative group.

Item	KEYS Dimension	Standard Score / Compared to KEYS normative group	
		NASA	Contractors
63. I have sufficient time to do my project(s).	Realistic Workload Pressure	66 / VH	71 / VH
20. I get constructive feedback about my work.	Managerial Encouragement	64 / VH	67 / VH
38. Performance evaluation in this organization is fair.	Organizational Encouragement	67 / VH	63 / VH
49. Destructive criticism is not a problem in this organization.	Lack of Organizational Impediments	64 / VH	64 / VH
51. People in this organization do not feel pressure to produce anything acceptable, even if quality is lacking.	Lack of Organizational Impediments	63 / VH	65 / VH
65. There are realistic expectations for what people can achieve in this organization.	Realistic Workload Pressure	62 / VH	66 / VH
45. There is no destructive competition within this organization.	Lack of Organizational Impediments	62 / VH	63 / VH
48. People are not critical of new ideas in this organization.	Lack of Organizational Impediments	63 / VH	62 / VH
64. There are not too many distractions from project work in this organization.	Realistic Workload Pressure	57 / H	68 / VH
21. My co-workers and I make a good team.	Work Group Supports	57 / H	66 / VH

\* Additional item(s) had equivalent standard scores as the last item.

VH = Very High

H = High

M = Mid-range

L = Low

VL = Very Low



# Ten Lowest Rated Items for NASA KEYS All Surveys

Listed below are the items with the lowest standard scores compared to the KEYS normative group.

Item	KEYS Dimension	Standard Score / Compared to KEYS normative group	
		NASA	Contractors
58. The budget for my project(s) is generally adequate.	Sufficient Resources	37 / VL	43 / L
2. I feel little pressure to meet someone else's specifications in how I do my work.	Freedom	47 / M	45 / L
3. I have the freedom to decide what project(s) I am going to do.	Freedom	51 / M	43 / L
66. I do not feel a sense of time pressure in my work.	Realistic Workload Pressure	45 / L	50 / M
8. The organization has an urgent need for successful completion of the work I am now doing.	Challenging Work	47 / M	50 / M
37. Failure is acceptable in this organization, if the effort on the project was good.	Organizational Encouragement	53 / M	44 / L
62. I do not have too much work to do in too little time.	Realistic Workload Pressure	45 / L	55 / M
24. People in my work group are open to new ideas.	Work Group Supports	51 / M	51 / M
46. People in this organization are not very concerned about protecting their territory.	Lack of Organizational Impediments	54 / M	49 / M
9. I feel challenged by the work I am currently doing.	Challenging Work	54 / M	50 / M

\* Additional item(s) had equivalent standard scores as the last item.

VH = Very High

H = High

M = Mid-range

L = Low

VL = Very Low

# Most Important Factors Affecting Creativity and Innovation

## Supporting Creativity and Innovation as reported by NASA KEYS All Surveys

A. The most frequently mentioned factors **supporting** creativity and innovation in your current work environment are:

Supporting Factor	Work Content	Percent	
		NASA	Contractors
Encouragement/support from immediate boss	Management	19%	18%
Challenging work	The Work or the Project	19%	16%
Openness to new ideas	Organizational Attitudes, Structures, and Procedures	18%	13%
Good blend of skills in my team	Teams or Co-workers	15%	18%
Interesting work	The Work or the Project	13%	16%
Communication and collaboration around ideas	Organizational Attitudes, Structures, and Procedures	12%	14%
Good project leader	Management	10%	17%
Personal characteristics or abilities of my team members	Teams or Co-workers	14%	11%
Money	Resources Available	13%	10%
Good communication/openness to ideas in my team	Teams or Co-workers	11%	12%

The percent column(s) reflects the proportion of respondents who selected this item as one of the three most important factors affecting creativity and innovation.

\* Additional item(s) had equivalent standard scores as the last item.

# Most Important Factors Affecting Creativity and Innovation

## Inhibiting Creativity and Innovation as reported by NASA KEYS All Surveys

B. The most frequently mentioned factors **inhibiting** creativity and innovation in your current work environment are:

Inhibiting Factor	Work Content	Percent	
		NASA	Contractors
Insufficient money	Resources Available	36%	31%
Insufficient time for the work that must be done	Time or Workload	26%	16%
Avoidance of risk	Organizational Attitudes, Structures, and Procedures	14%	11%
Rigid processes and procedures	Organizational Attitudes, Structures, and Procedures	15%	11%
Insufficient people	Resources Available	13%	10%
Lack of clear vision for the organization by upper management	Management	11%	11%
Poor project leader	Management	8%	10%
Lack of encouragement/support from upper management	Management	7%	9%
Apathy	Organizational Attitudes, Structures, and Procedures	6%	8%
Work with no room for creativity	The Work or the Project	8%	7%

The percent column(s) reflects the proportion of respondents who selected this item as one of the three most important factors affecting creativity and innovation.

\* Additional item(s) had equivalent standard scores as the last item.

# Most Important Factors Affecting Creativity and Innovation

## Improving Creativity and Innovation as reported by NASA KEYS All Surveys

C. The most frequently mentioned suggestions for **improving** creativity and innovation in your current work environment are:

Improving Factor	Work Content	Percent	
		NASA	Contractors
More money	Resources Available	34%	28%
More time for the work that must be done	Time or Workload	22%	15%
Clearer vision for the organization by upper management	Management	13%	11%
More people	Resources Available	13%	10%
More training/development	Resources Available	7%	14%
Better communication and collaboration around ideas	Organizational Attitudes, Structures, and Procedures	8%	8%
Less fear of risk	Organizational Attitudes, Structures, and Procedures	9%	7%
Better project leaders	Management	9%	9%
More encouragement/support from upper management	Management	8%	10%
Improve processes and procedures	Organizational Attitudes, Structures, and Procedures	7%	9%

The percent column(s) reflects the proportion of respondents who selected this item as one of the three most important factors affecting creativity and innovation.

\* Additional item(s) had equivalent standard scores as the last item.