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Optimistic Managers & Their Influence on Productivity & Employee Engagement in a Technology Organization

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Abstract

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Keywords

optimism, employee engagement, productivity, strengths, recognition, business, leadership, managers, teams

Disciplines

Human Resources Management

Comments

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Dana Arakawa & Margaret Greenberg
July 31, 2006



Master of Applied Positive Psychology

Abstract

The objective of this study is to investigate whether teams are more engaged and productive when led by an optimistic manager. Furthermore, we hypothesize that optimistic managers embody positive leadership—employing a strengths-based approach, maintaining a positive perspective, and frequently providing recognition and encouragement—which increases the engagement and productivity of their employees. In a cross-sectional study of 86 employees and 17 managers in an Information Technology (IT) organization, positive leadership correlated with employee optimism, engagement, and project performance. When we looked at a subset of this data prospectively, with 39 employees and 14 managers, manager optimism predicted project performance. Our data support the claim that positive leadership is correlated with employee engagement and performance, and further extends the importance of optimism in the workplace.

Optimistic Managers and Their Influence on Productivity and Employee Engagement in a Technology Organization

An optimistic explanatory style has been linked to a wide range of positive performance outcomes in academic, athletic, and work domains (cf. Kamen & Seligman, 1985; Nolen-Hoeksema, Girgus, & Seligman, 1986; Peterson & Barrett, 1987; Peterson & Seligman, 1984). Researchers have found that an optimistic explanatory style significantly correlates with and predicts successful job performance (Seligman & Schulman, 1986). According to Tombaugh (2005, p. 16), “Optimistic leaders are more likely to see problems as challenges, exert greater effort for longer periods to reach their goals, and seek out and appreciate the positive aspects of difficult situations.” On an individual-level analysis, optimism clearly influences work performance. Given that an optimistic explanatory style predicts and precedes a successful job performance, what role does a manager play in influencing employee performance?

According to Gallup researchers Kruger and Killham (2005), managers greatly influence employee well-being and engagement, which in turn play a significant role in organizational performance. Fredrickson’s (1998) broaden-and-build theory of positive emotions provides an explanation of how managers might create more engagement in employees. In this model, positive emotions “broaden an individual’s momentary thought-action repertoire, which in turn has the effect of building that individual’s physical, intellectual, and social resources,” promoting engagement and therefore productivity (Fredrickson, 1998, p.300).

Business schools have taken the lead in researching the effects of leadership style on employees. McColl-Kennedy and Anderson (2002) found that frustration and optimism fully mediate the relationship between leadership style and employee performance. This finding brings back the question of how managers can improve the productivity of their employees. We

hypothesize that the manager's own optimism can engender employee engagement via positive emotion, which then positively influences work performance.

The importance of manager optimism is supported by Popper, Amit, Gal, Mishkal-Sinai, and Lisak (2004), who found that optimism is one of three psychological capacities essential for leadership. Similarly, Humphrey (2002) argues that the emotional displays of leaders have a larger impact on employees than the content of their messages. How do optimistic managers influence the productivity of their teams? We hypothesize that optimistic managers embody a positive leadership approach, in which they are more likely to: employ a strengths-based approach to managing employees, maintain a positive perspective when difficulties arise, and provide frequent recognition of employee accomplishments.

The first component in our model of positive leadership is a strengths-based approach to managing. Over the last 30 years, The Gallup Organization has taken the lead in investigating human talents and strengths. According to Clifton and Harter (2003, p. 119), "top-performing managers have an approach to management that focuses on developing the strengths of the individuals they manage." From this research, we chose to investigate a strengths-based approach as a key component of positive leadership. As Clifton and Harter (2003, p. 119) surmise, "top-performing managers have been ahead of their time in doing what is psychologically most efficient: they affect engagement and productivity by understanding and positioning individual differences in their employees."

The second component of positive leadership we investigated is the manager's perspective during difficult times. According to Henry (2005), "Individuals with a more positive explanatory style are better able to manage the uncertainty of change. This is because these individuals exhibit greater control perceptions and implement more active coping strategies to

dampen potential downsides. Also, they often reinterpret the negative event as an opportunity for growth.” These findings align with the work of Reivich and Shatte (2002) on resiliency, which includes other components of positive perspective such as de-catastrophizing setbacks and appropriate disengagement. Taken together, positive perspective includes de-catastrophizing setbacks, accuracy around perceptions of control, appropriate disengagement, emotional coping, solution-orientation, and positive interpretation of the problem.

The third component of positive leadership we investigated is the manager’s style in providing recognition and encouragement. Kouzes and Posner (1999, p.4) found that 98% of respondents answered “yes” to the question, “When you get encouragement, does it help you perform at a higher level?” Further emphasizing the importance of providing encouragement, Fredrickson and Losada (2005) discovered that teams of employees displaying more positive than negative interactions (3:1) outperformed other teams. In addition, Ryan and Deci (2000, p. 70) found that “positive performance feedback enhanced intrinsic motivation, whereas negative performance feedback diminished it.” Together, these findings support our hypothesis that an optimistic manager may affect employee productivity by providing frequent recognition and encouragement.

From this review of previous research, we chose to investigate the influence of manager optimism on team productivity and employee engagement in an IT organization. This study is driven by two primary research questions investigated through both retrospective and prospective correlational design: 1) Do teams produce better results when led by an optimistic manager? 2) Are employees more engaged at work when led by an optimistic manager? We hypothesize that the answers to both questions will be affirmative, leading us to our secondary research objective: discovering *how* optimistic managers influence the productivity of their

teams. We hypothesize that managers embodying positive leadership—employing a strengths-based approach, maintaining a positive perspective, and frequently providing recognition and encouragement—increase the engagement and productivity of their employees.

Method

Participants

Participants in our study were recruited from a highly ranked property and casualty insurance company located in Worcester, Massachusetts. All participants are Information Technology (IT) professionals working on key IT projects within the technology organization. These employees represented various individual contributor and managerial roles such as Program and Project Managers, Business Analysts, Developers, and Architects.

The company selected projects with significant scope and duration and aligned employees with these projects in 2005 were identified as potential participants. Toward the latter part of 2005 and early 2006, the technology organization underwent a restructuring. Consequently, only a subset of the employees aligned with the 2005 projects continued to be aligned with those same projects in 2006. A total of 155 people received the survey electronically and 117 actually completed the survey for a 75% response rate.

Demographics

We assessed the following demographics on the survey: year of birth, location, gender, race/ethnicity, and length of employment with the company. 84% of the participants are Caucasian; 7.5% Asian or Pacific Islander; 4.7% Other or Unknown; 1.9% Hispanic; and .9% each of American Indian or Alaskan Native, Black (not of Hispanic origin). 97% of the participants are located in the United States. 54% are female and 46% are male. Ages ranged from 25 to 59 with a mean age of 44 ($SD = 7.59$). 55% have worked for the company 10 or

more years, 20% for one to five years, 20% for five to ten years, and 5% worked for an outsourcing firm.

Materials

We constructed two electronic surveys, one for the employees and one for the managers, by combining three separate questionnaires.

The Life Orientation Test Revised (LOT-R). The LOT-R (Scheier, Carver, & Bridges, 1994) is a ten-item scale designed to assess individual differences in generalized optimism versus pessimism. This measure is available in the public domain and its brevity made it an ideal measure for our project since two other measures were also being used. The LOT-R has demonstrated internal consistency, with a Cronbach's alpha of .78 and high test-retest reliability: .68 (4 months); .60 (12 months); .56 (24 months); .79 (28 months) (Scheier, Carver, Charles, & Bridges, 1994).

The Gallup Organization's Q¹² (Q¹²). The Q¹² is a 12-item scale that measures engagement in the workplace. According to Rath (2006), over eight million employees worldwide have taken the Q¹²; those with high Q¹² scores exhibit superior performance, such as lower turnover, higher sales growth, increased productivity, and better customer loyalty. Permission was granted by The Gallup Organization to use the Q¹² as part of our study.

Positive Leadership. We developed our own set of questions, both closed and open-ended, to investigate three components of positive leadership. Based upon our literature review we hypothesized that an optimistic manager may be more inclined to employ a strength-based approach, have more perspective when difficulties arise, and provide more recognition than pessimistic managers.

Strength-Based approach (STR). We measured the degree to which the manager employs a strength-based approach to managing by taking the mean of all strength-based questions (listed in the Appendices A and B) such as “*My Project Manager matches my talents to the tasks that need to be accomplished.*” Our definition of a strengths-based approach to management includes: appreciating employees’ strengths, matching talents to tasks, and focusing on strengths more than weaknesses.

Perspective (PER). We measured the degree to which the manager maintains a positive perspective when difficulties arise by taking the mean of all perspective-based questions such as: “*When a problem crops up on my project, my Project Manager is able to help me come up with solutions.*” Our definition of positive perspective includes: de-catastrophizing setbacks, accuracy around perceptions of control, appropriate disengagement, emotional coping, solution-orientation, and positive interpretation of the problem.

Recognition (REC). We measured the degree to which the manager provides recognition for employee’s efforts and accomplishments by taking the mean of all recognition-based questions such as: “*My Project Manager regularly recognizes project milestones.*” Our definition of recognition includes: frequently encouraging and rewarding employee accomplishments.

These questions form three psychometrically reliable scales, with Cronbach’s alpha reliability scores above .8 and item-to-total correlations above .6.

Project Performance (PP). Project Performance was measured by examining nine key project attributes. The first six attributes listed on the next page are reviewed monthly by members of the senior leadership team and the Project Management Office (PMO); the next two are reviewed after the project is complete; and lastly, the organization considers project

complexity and degree of difficulty as another attribute in measuring and comparing projects.

The nine attributes used to measure Project Performance are:

1. Scope/Requirements Management – requirements were managed throughout project life cycle.
2. Resources – planned staffing and actual staffing closely aligned and managed throughout project life cycle.
3. Schedule – key milestones met or exceeded throughout all life cycle phases, and implementation met scheduled date.
4. Budget - actual project expenses were equal to or lower than planned project expenses.
5. Issue Management – issues identified and managed throughout project life cycle.
6. Dashboard/Review Quality – high degree of accuracy and quality in project performance data throughout life cycle.
7. Quality Defects Delivered – level of defects delivered to baseline.
8. Client Satisfaction – client or end-user satisfaction with product.
9. Degree of Difficulty – project complexity and difficulty.

A score between 1 and 5 was given to each of the nine attributes*. We calculated the mean for the first eight categories, and then multiplied this average by the Degree of Difficulty score for an overall score on Project Performance. If an employee worked on more than one project, a mean was taken for all the projects worked on. We analyzed the data at the individual employee level. If employees had more than one manager, we calculated mean scores on all measures for all managers who worked with that employee.

**The first eight attributes were scored as follows: 1=poor; 2=fair; 3=good; 4= very good; 5= excellent. The last attribute (Degree of Difficulty) was scored as follows: 1=very low; 2=low; 3=medium; 4=high; 5=very high.*

To control for suggestion effects we titled the survey “Attitudes and Beliefs in the Workplace”. The LOT-R questions were titled “Life in General”. The Gallup’s Q¹² questions were titled “Workplace”. The positive leadership questions were titled “Relationship with Project Manager” for the employee survey and “Relationship with Project Team Members” for the manager survey. Refer to Appendix A for a sample of the Employee survey and Appendix B for a sample of the Manager survey.

Procedure

We administered the survey during an eleven-day period between March 28 and April 7, 2006. To ensure a good response rate, targeted managers and employees received an email, a day before we launched the survey, from the Chief Information Officer (CIO) alerting them of our study and requesting their participation. In the letter he stressed that participation was optional and confidentiality would be assured. Refer to Appendix C for a sample of the letter from the CIO.

These managers and employees then received an email from us, which explained the purpose of the study and instructions for completing the survey online. They were informed that by clicking on the link to the survey, they would be granting their consent to participate in our study. Refer to Appendix D for a sample of the letter from us, the researchers.

Managers and employees were given one week to complete the survey. A reminder by the CIO was distributed a day before the due date and an extension was granted for an additional three days. After participants completed the survey, we gained retrospective access to the company's internal performance data for key projects in 2005. Between the time managers and employees completed the survey and the end of the quarter (April-June 2006), performance data was collected prospectively on these same projects. In addition, prospective performance data were collected for the projects that participants had been reassigned to during the restructuring.

Results

The primary question of our research study was: "Are teams led by an optimistic manager more engaged in their work, and do they produce better results than teams led by a pessimistic manager?" We hypothesized that optimistic managers would lead teams that are 1) more engaged and 2) more productive than pessimistic managers. Second, we were interested in the

other relationships among manager optimism, manager engagement, employee optimism, employee engagement and project performance. Finally, we wanted to test our model of positive leadership.

To investigate these relationships, we ran the correlations between eight variables: Manager Optimism (MO), Manager Engagement (ME), Employee Optimism (EO), Employee Engagement (EE), Project Performance (PP), Strengths-Based approach (STR), Perspective (PER), and Recognition (REC). Although this was one study, we ran the set of inter-correlations twice: once with the retrospective project performance data from 2005 and once with the prospective project performance data from April to June 2006.

Retrospective: 2005

The sample size for the retrospective data was comprised of 86 employees and 17 managers. See Table 1 for a comparison of means and standard deviations for the data collected in 2005; correlations are presented in Table 2. In 2005, manager optimism did not correlate with either employee engagement ($r = .02, p = ns$) or project performance ($r = .07, p = ns$), as originally hypothesized.

Manager optimism did, however, correlate significantly with manager engagement ($r = .47$ and $p < .01$), and this correlation is statistically moderate to large (Cohen, 1998). Manager engagement had a very large and significant correlation with project performance ($r = .82$ and $p < .01$). Employee optimism correlated significantly with employee engagement ($r = .30$ and $p < .01$), and employee engagement significantly correlated with project performance ($r = .30$ and $p < .01$).

Managers who employ a strengths-based approach correlated significantly with manager engagement ($r = .25$ and $p < .05$), employee optimism ($r = .36$ and $p < .01$), employee

engagement ($r = .69$ and $p < .01$), project performance ($r = .33$ and $p < .01$), perspective ($r = .57$ and $p < .01$), and recognition ($r = .80$ and $p < .01$).

The degree to which managers maintained a positive correlated significantly with employee engagement ($r = .26$ and $p < .05$), project performance ($r = .26$ and $p < .05$), and recognition ($r = .63$ and $p < .01$).

And, the degree to which managers who frequently provide recognition correlated significantly with employee optimism ($r = .31$ and $p < .01$), employee engagement ($r = .59$ and $p < .01$), and project performance ($r = .27$ and $p < .05$).

Prospective: 2006

The prospective data were comprised of 39 employees and 14 managers: a subset of the original data with a different alignment. These data came from the same sample as the retrospective data; however, the prospective sample is smaller because some people went to different projects and could not be lined up. See Table 3 for a comparison of means and standard deviations in 2006 and Table 4 for inter-correlations. In 2006, manager optimism did not correlate with employee engagement ($r = .13$ and $p = ns$), but it did have a moderate to large significant correlation ($r = .42$ and $p < .01$) with project performance, as originally hypothesized.

Manager engagement significantly correlated with project performance ($r = .42$ and $p < .01$) and employee optimism ($r = .35$ and $p < .05$). Employee optimism significantly correlated with employee engagement ($r = .39$ and $p < .05$), and employee engagement significantly correlated with project performance ($r = .37$ and $p < .05$).

Managers who employ a strengths-based approach correlated significantly with employee optimism ($r = .46$ and $p < .01$), employee engagement ($r = .64$ and $p < .01$), project performance ($r = .33$ and $p < .01$), perspective ($r = .70$ and $p < .01$), and recognition ($r = .91$ and $p < .01$).

The degree to which managers maintain a positive perspective correlated significantly with employee optimism ($r = .41$ and $p < .05$), project performance ($r = .35$ and $p < .05$), and recognition ($r = .65$ and $p < .01$).

And, managers who frequently provide recognition correlated significantly with employee optimism ($r = .49$ and $p < .01$), employee engagement ($r = .63$ and $p < .01$), and project performance ($r = .36$ and $p < .05$).

Discussion

The primary question of our research study was: “Are teams led by an optimistic manager more engaged in their work, and do they produce better results than teams led by a pessimistic manager?” In 2005, manager optimism did not result in more engaged employees and better project performance as we expected. This finding could be due to the complexity of aligning individual employees with only one manager in a highly matrixed organization typical of today’s technology industry. According to Bell (2004), “Many employees now report to multiple bosses, team leaders, or process owners.” In 2005, employees worked with up to nine managers on as many as five projects, whereas in 2006, no one worked with more than two managers or on more than two projects. The high amount of overlap in 2005 is evident; the mean number of managers is almost triple the number in 2006. See the means and standard deviations for the number of projects and managers in both 2005 and 2006 below:

Number of projects:

2005: $M = 1.72$, $SD = .92$

2006: $M = 1.15$, $SD = .37$

Number of managers:

2005: $M = 3.28$, $SD = 1.86$

2006: $M = 1.33$, $SD = .48$

In 2006, we did find that manager optimism significantly correlated with project performance, but not employee engagement. Although our sample in 2006 was smaller than in 2005, there was less overlap on the number of projects and subsequent number of managers each employee reported to. Only five employees worked on more than one project; no one worked with more than three managers. In comparison, in 2005, employees in our sample worked on an average of three projects with two managers.

We were also interested in the other relationships among manager optimism, manager engagement, employee optimism, employee engagement and project performance. In 2005 we found that manager optimism was significantly correlated with manager engagement, which in turn significantly correlated with project performance – this correlation was also evident in the prospective data. This finding suggests that managers who are more engaged in their work are more likely to manage teams that produce better results. Our findings are consistent with prior research by Krueger & Killham (2005) and Fredrickson (1998) on the link between engagement and productivity.

In both 2005 and 2006 employee optimism was correlated with employee engagement, which in turn was correlated with project performance. Although it is difficult to determine causality, this finding suggests a link between optimism, engagement, and results, consistent with the findings of Tombaugh (2005) and Seligman and Schulman (1986). We also looked at the role the manager plays in influencing employee engagement: in both our retrospective and prospective data a statistically small to moderate trend emerged between manager and employee engagement.

Finally, we were curious about how leadership style influences optimism, engagement, and project performance, based on previous research by McColl-Kennedy & Anderson (2002),

and Popper, Amit, Gal, Mishkal-Sinai & Lisak (2004). We selected three components of positive leadership closely linked with optimism: strengths-based approach, positive perspective, and recognition. All three measures strongly correlated with each other in both the retrospective and prospective data. The large to very large correlations may suggest that these measures are in fact capturing one single component – perhaps an aggregate of leadership effectiveness.

Assuming that a strength-based approach, perspective, and recognition are all qualities of positive leadership, in both years we found that optimistic and engaged employees were more likely to report to a manager that valued their strengths, had a positive perspective and frequently provided recognition. Positive leadership also predicted higher project performance in both years. Our findings support previous research related to strengths-based leadership by The Gallup Organization; positive perspective by Reivich and Shatte (2002) and Henry (2005); and recognition by Kouzes and Posner (1994). With a larger sample size, path analysis might discover that managers who employ a positive leadership style actually facilitate employee engagement, leading to higher performance.

This finding would suggest that managers who currently embody positive leadership are contributing to the effectiveness of not only their employees, but also the organization as a whole. Managers who do not currently value employee strengths, nor maintain a positive perspective, and fail to provide frequent recognition and encouragement, might benefit from positive leadership training and development. Future research could look at the efficacy of interventions targeting these three components. Karl (1992) found that a training program, focusing on optimism, increased outcome expectations, self-efficacy, motivation, learning, and transfer, when compared to standard training. As one of our participants expressed in the open-

ended section of the survey, “*I work with many project managers and each has a different philosophy around how they recognize, reward, or show appreciation. Some are very good while others fail miserably.*” Our research suggests that managers who employ a positive leadership style will have more engaged employees and produce better results.

Study Limitations and Future Research

The main limitation in our study was overlap. It was difficult to isolate which manager the employee was thinking of when he or she completed the survey. In the retrospective 2005 data, there was a large amount of overlap between the number of managers and projects aligned with each employee. Thus, mean scores were used to calculate manager optimism, manager engagement, and project performance. Although the sample size of our prospective 2006 data is smaller, there was less overlap

Due to the highly complex nature of a matrixed organization, it was difficult to align an individual employee with just one manager. If this study was replicated, we recommend collecting a larger sample and using more sophisticated data analysis techniques to take into account the non-independence and hierarchal organization of the data. With a larger sample size it would be ideal to conduct a Hierarchical Linear Modeling analysis, in addition to simple inter-correlations, to see how different levels of management affect engagement, optimism, and productivity.

Conclusion

According to Seligman (2002, p. 83), “optimism and hope cause better resistance to depression when bad events strike, better performance at work, particularly in challenging jobs, and better physical health.” In today’s rapidly changing and uncertain business environment managers and employees need optimism more than ever before to not only cope, but to innovate

and flourish. Managers have more influence, than perhaps they realize, on their employees' engagement, optimism, and performance, and can consciously use this influence to benefit these employees and the organization as a whole.

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Table 1

Means and Standard Deviations for 2005 Scores on Manager and Employee Optimism/Engagement, Project Performance, and Positive Leadership

Measure	<i>M</i>	<i>SD</i>
Manager Optimism	20.58	3.22
Manager Engagement	3.76	0.16
Employee Optimism	17.08	4.46
Employee Engagement	3.65	0.69
Project Performance	9.40	5.00
Manager leverages Strengths	3.61	0.86
Manager has Perspective	3.73	0.85
Manager provides Recognition	3.40	0.90

Table 2

2005: Intercorrelations for Scores on Manager and Employee Optimism/Engagement, Project Performance, and Positive Leadership

Measure	MO	ME	EO	EE	PP	STR	PER	REC
Manager Optimism (MO)	-							
Manager Engagement (ME)	.47**	-						
Employee Optimism (EO)	-.11	.00	-					
Employee Engagement (EE)	.02	0.19†	.30**	-				
Project Performance (PP)	.07	.82**	-.01	.30**	-			
Manager uses Strengths (STR)	.01	.25*	.36**	.69**	.33**	-		
Manager has Perspective (PER)	-.04	.15	.20	.26*	.26*	.57**	-	
Recognition (REC)	.08	0.2†	.31**	.59**	.27*	.80**	.63**	-

Note. MO = Manager score on Life Orientation Test - Revised; ME = Manager score on Gallup's Q12 survey; EO = Employee score on Life Orientation Test - Revised; EE = Employee score on Gallup's Q12 survey; PP = Organization's rating of the project's performance; STR = Employees' rating of whether manager uses a "strengths-based approach"; PER = Employees' rating of manager's perspective; REC = Employees' rating of how frequently manager provides recognition

† .05 < p < .10. * p < .05. ** p < .01.

Table 3

Means and Standard Deviations for 2006 Scores on Manager and Employee Optimism/Engagement, Project Performance, and Positive Leadership

Measure	<u>M</u>	<u>SD</u>
Manager Optimism	17.42	2.66
Manager Engagement	3.84	0.35
Employee Optimism	17.18	4.53
Employee Engagement	3.71	0.68
Project Performance	14.96	6.59
Manager leverages Strengths	3.77	0.89
Manager has Perspective	3.83	0.77
Manager provides Recognition	3.51	0.94

Table 4

2006: Intercorrelations for Scores on Manager and Employee Optimism/Engagement, Project Performance, and Positive Leadership

Measure	MO	ME	EO	EE	PP	STR	PER	REC
Manager Optimism (MO)	-							
Manager Engagement (ME)	-.18	-						
Employee Optimism (EO)	.06	0.35*	-					
Employee Engagement (EE)	.13	0.28†	.39*	-				
Project Performance (PP)	.42**	.42**	.26	.37*	-			
Manager uses Strengths (STR)	.25	.08	.46**	.64**	.33*	-		
Manager has Perspective (PER)	.24	0.27†	.41*	0.31†	.35*	.70**	-	
Recognition (REC)	.26	.12	.49**	.63**	.36*	.91**	.65**	-

Note. MO = Manager score on Life Orientation Test - Revised; ME = Manager score on Gallup's Q12 survey; EO = Employee score on Life Orientation Test - Revised; EE = Employee score on Gallup's Q12 survey; PP = Organization's rating of the project's performance; STR = Employees' rating of whether manager uses a "strengths-based approach"; PER = Employees' rating of manager's perspective; REC = Employees' rating of how frequently manager provides recognition

† .05 < p < .10. *p < .05. **p < .01.

Authors' Note

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Appendix A – Sample Employee Survey

LOT-R Questions

This section of the survey was titled “Life in General”.

The following questions were answered using a five-point scale (I disagree a lot, I disagree a little, I neither agree nor disagree, I agree a little, I agree a lot).

1. In uncertain times, I usually expect the best.
2. It’s easy for me to relax.
3. If something can go wrong for me, it will.
4. I’m always optimistic about my future.
5. I enjoy my friends a lot.
6. It’s important for me to keep busy.
7. I hardly ever expect things to go my way.
8. I don’t get upset too easily.
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

Gallup’s Q¹² Questions

This section of the survey was titled “Workplace”.

1. On a five-point scale, where 5 is extremely satisfied and 1 is extremely dissatisfied, how satisfied are you with Hanover Technology Group as a place to work?

On a five-point scale, where 5 is strongly agree and 1 is strongly disagree, how much do you agree or disagree with the following statements?

2. I know what is expected of me at work.
3. I have the materials and equipment I need to do my work right.
4. At work, I have the opportunity to do what I do best everyday.
5. In the last seven days, I have received recognition or praise for doing good work.
6. My supervisor, or someone at work, seems to care about me as a person.
7. There is someone at work who encourages my development.
8. At work, my opinions seem to count.
9. The mission or purpose of my company makes me feel my job is important.
10. My fellow employees are committed to doing quality work.
11. I have a best friend at work.
12. In the last six months, someone at work has talked to me about my progress.
13. This last year, I have had opportunities at work to learn and grow.

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Appendix A – continued

Researchers' Questions to Measure Positive Leadership

This section of the survey was titled "Relationship With Project Manager". Parenthetical notes were not visible in the survey. They are for measurement purposes only.

The following questions were answered using a five-point scale (I disagree a lot, I disagree a little, I neither agree nor disagree, I agree a little, I agree a lot).

1. My Project Manager spends more time focusing on my weaknesses than focusing on my strengths. *
2. My Project Manager appreciates my strengths. (Strength-Based question)
3. My Project Manager matches my talents to the tasks that need to be accomplished. (Strength-Based question)
4. My Project Manager encourages high performance by helping me fix my weaknesses.
5. My Project Manager encourages high performance by building on my strengths. (Strength-Based question)
6. In what ways does your Project Manager help you develop your strengths? (Open-ended Strength-Based question)
7. When a problem crops up on my project, I usually go to my Project Manager for help. (Perspective question)
8. When I have a problem, I avoid going to my Project Manager. *
9. When a problem crops up on my project, my Project Manager is able to help me come up with solutions. (Perspective question)
10. My Project Manager can manage his/her emotions. (Perspective question)
11. My Project Manager tells me to move on when a particular path is a dead-end. (Perspective question)
12. What steps does your Project Manager take when a problem on your project arises? (Open-ended Perspective question)
13. My Project Manager recognizes my accomplishments regularly. (Recognition question)
14. My Project Manager regularly recognizes project milestones. (Recognition question)
15. I would describe my Project Manager as a "cheerleader". (Recognition question)
16. My Project Manager notices even "little" accomplishments. (Recognition question)
17. I know exactly what my Project Manager expects from me. (Recognition question)
18. I know that my Project Manager will recognize my hard work/devotion. (Recognition question)
19. My Project Manager regularly provides encouragement to me. (Recognition question)
20. How frequently and in what ways does your Project Manager offer encouragement and/or recognize accomplishments? (Open-ended Recognition question)

*Reverse-scored

Appendix B – Sample Manager Survey

LOT-R Questions

This section of the survey was titled “Life in General”.

The following questions were answered using a five-point scale (I disagree a lot, I disagree a little, I neither agree nor disagree, I agree a little, I agree a lot).

1. In uncertain times, I usually expect the best.
2. It’s easy for me to relax.
3. If something can go wrong for me, it will.
4. I’m always optimistic about my future.
5. I enjoy my friends a lot.
6. It’s important for me to keep busy.
7. I hardly ever expect things to go my way.
8. I don’t get upset too easily.
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

Gallup’s Q¹² Questions

This section of the survey was titled “Workplace”.

1. On a five-point scale, where 5 is extremely satisfied and 1 is extremely dissatisfied, how satisfied are you with Hanover Technology Group as a place to work?

On a five-point scale, where 5 is strongly agree and 1 is strongly disagree, how much do you agree or disagree with the following statements?

2. I know what is expected of me at work.
3. I have the materials and equipment I need to do my work right.
4. At work, I have the opportunity to do what I do best everyday.
5. In the last seven days, I have received recognition or praise for doing good work.
6. My supervisor, or someone at work, seems to care about me as a person.
7. There is someone at work who encourages my development.
8. At work, my opinions seem to count.
9. The mission or purpose of my company makes me feel my job is important.
10. My fellow employees are committed to doing quality work.
11. I have a best friend at work.
12. In the last six months, someone at work has talked to me about my progress.
13. This last year, I have had opportunities at work to learn and grow.

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Appendix B – continued

Researchers' Questions to Measure Positive Leadership

This section of the survey was titled "Relationship With Project Team Members". Parenthetical notes were not visible in the survey. They are for measurement purposes only.

The following questions were answered using a five-point scale (I disagree a lot, I disagree a little, I neither agree nor disagree, I agree a little, I agree a lot). Questions in this portion of the survey were not labeled as they are below. This is for future research purposes only.

1. I spend more of my time with high performing project team members than with low performing project team members. (Strength-Based question)
2. I encourage high performance by fixing weaknesses. * (Strength-Based question)
3. I encourage high performance by building on project team member strengths. (Strength-Based question)
4. I match tasks to the unique talents of project team members. (Strength-Based question)
5. I look for the strengths of my project team members. (Strength-Based question)
6. When a project team member comes to me with a problem, I am a calming influence. (Perspective question)
7. When a project team member comes to me with a problem, I am able to defuse the situation. (Perspective question)
8. When a project team member comes to me with a problem, I am able to focus on solutions. (Perspective question)
9. I know when to give up a particular course of action, and try another path. (Perspective question)
10. I know what is under my control and what is not. (Perspective question)
11. I can manage the emotions of my project team members. (Perspective question)
12. I regularly recognize the accomplishments of my project team members. (Recognition question)
13. I regularly recognize project milestones. (Recognition question)
14. People often describe me as a "cheerleader" for my project teams. (Recognition question)
15. I recognize even "little" accomplishments. (Recognition question)
16. I regularly give encouragement and/or praise to my project team members. (Recognition question)
17. I set clear standards and recognize people for meeting these standards. (Recognition question)
18. I set clear expectations and am confident that my project team members can reach them. (Recognition question)
19. How frequently and in what ways do you offer encouragement and/or recognize accomplishments of your project team members? (Open-ended Recognition question)

* Reverse-scored

Appendix C – Sample Letter From Chief Information Officer

Greetings.

I'm sending this request to ask a favor of you.

Many of you may remember Margaret Greenberg, who conducted a number of management forums for HIG over the past few years. Her efforts in those forums have been instrumental in helping us to mature as an organization. Margaret and fellow colleague Dana Arakawa are collaborating on a research study for their master's thesis about attitudes and beliefs in the workplace. They have asked to survey a group of managers and employees within HIG for the data they need.

Although your participation in this survey is totally voluntary, I would encourage you to consider their request for our participation in their research a complement to our organization. I believe it is a testament to the caliber of individuals we have in our organization that Margaret and Dana have chosen us. They know that the information they receive from you will be thoughtful, truthful, and valuable. You can be assured of confidentiality regarding your responses. While we will receive a copy of their report and findings, we will not receive any of the responses.

Tomorrow you will receive e-mail from Margaret and Dana with information about the study and how to access the on-line survey, should you decide to participate. The time commitment from you is approximately 15 minutes to respond to the survey.

I would be immensely pleased if you give this serious consideration and decide to participate in the study.

Sincerely,

CIO

Appendix D – Sample Letter From Researchers

Dear [FirstName],

As (CIO) has already informed you, we (Margaret Greenberg and Dana Arakawa) are collaborating on a research study about attitudes and beliefs in the workplace. This study is our thesis for a Master's program at the University of Pennsylvania. Greg has been gracious to allow us to conduct this study at HIG.

You are being asked to take part in this research study. Your participation is voluntary which means you can choose whether or not to participate and either decision will not adversely impact you or your employment at HIG. We want to be sensitive to your busy schedules, so your time commitment is minimal (see details below). Your responses remain anonymous to Hanover Insurance Group and we assure you that we will maintain your confidentiality.

The purpose of this study is to learn more about the attitudes and beliefs of both managers and employees and their impact on productivity and engagement.

You were asked to participate in this study because we want to study managers and their respective teams in an organization that has implemented sound principles and practices of the software development lifecycle.

Your time commitment is minimal. We are asking you to complete an on-line survey, requiring approximately 15 minutes of your time. This on-line survey can be completed at your leisure, as long as it is completed by Tuesday, April 4, 2006.

This study does not present any risks to you, other than a possible breach of confidentiality. However, we assure you that we will adhere to strict rules of confidentiality and honor your confidentiality at all times. Your survey results will be combined with others and only we will have access to this data.

Your participation in this study will not directly benefit you; however, you will be contributing to the growing body of research on attitudes and beliefs in the workplace. If you are interested, we will be happy to share the results of this study with you.

If you have questions about the research study, please contact Margaret (margaret@thegreenberggroup.org, 860-742-2380), Dana (danarei@sas.upenn.edu, 808-291-1800), or James Pawelski at the University of Pennsylvania (pawelski@psych.upenn.edu). If you have technical difficulties with the survey, please contact Margaret or Dana. If you have questions about your rights and welfare as a volunteer in the research study, please contact the Office of Regulatory Affairs at the University of Pennsylvania at 215-898-2614.

BY CLICKING ON THE LINK BELOW YOU ARE CONSENTING TO THE TERMS OF THIS STUDY OUTLINED ABOVE. REMEMBER, IT TAKES APPROXIMATELY 15 MINUTES:

Appendix D - continued

[SurveyLink]

IF YOU HAVE ANY QUESTIONS OR ARE UNSURE THAT YOU WANT TO PARTICIPATE, DO NOT CLICK ON THE LINK.

Thank you in advance for your participation,

Margaret Greenberg
Dana Arakawa

If you choose not to participate in our study, please click the link below.

[RemoveLink]