

The Association of Employee Engagement at Work With Health Risks and Presenteeism

Wayne N. Burton, MD, Chin-Yu Chen, PhD, Xingquan Li, MS, and Alyssa B. Schultz, PhD

Introduction: Employee engagement is a key factor in work performance and employee retention. The current study seeks to examine the relationship between employee engagement and health risks and productivity. **Methods:** In 2012, employees of a global financial services corporation participated in a health risk appraisal (HRA) which measured employee engagement, health risks, and on-the-job productivity loss (presenteeism). Three engagement categories were created. **Results:** The highest engaged employees had significantly fewer health risk factors (69.7% overall low-risk status; 1.91 average health risks) and significantly less presenteeism (7.7%) than the mid engagement (67.9% low-risk, 1.98 risks, 9.2% presenteeism) and worst engagement (55.0% low-risk, 2.53 risks, 14.0% presenteeism) groups. **Conclusions:** Work engagement appears to be good for both the organization and the individual. Organizations may wish to make use of strategies which increase employee engagement.

Employee engagement is a positive work-related state of emotional and intellectual involvement that motivates employees to do their best work.^{1,2} Engagement at work is thought to be very important for employee performance.^{3–5} A wide variety of factors are likely to be related to or cause employee engagement, such as employee benefits, company policies, adequate resources to perform work, interactions with coworkers, and many more. However, the definition of engagement and its measurement is poorly understood; there is no widely agreed-upon definition of employee engagement or method of measuring it.⁶

An early definition characterized engagement by energy, involvement, and efficacy⁷—essentially the opposite of “burnout.” Another suggested definition is “a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption.”^{4,8} The Corporate Leadership Council defines engagement as the “extent to which employees commit to something or someone in their organization and how hard they work and how long they stay as a result of that commitment.”⁹ Other definitions have also been suggested.^{10,11} Various scales⁶ have also been developed to assess engagement including the Maslach burnout inventory,⁷ the Utrecht work engagement scale,² and the Gallup Q12 questionnaire.¹²

There is growing evidence that employee engagement is associated with the performance of an organization.^{13,14} Specifically, previous research has found a positive relationship between high employee engagement within a business unit and reduced turnover, company financial results (percentage of profitability and sales dollars per month), and higher customer satisfaction.¹³ Another study using structural equation modeling found evidence to support the hypothesis that more engaged employees would have fewer

episodes of absenteeism.⁸ Given this evidence, it behooves an organization to identify its levels of employee engagement and also find ways of improving engagement, if necessary.

Engagement research has focused on four major areas, personal engagement, burnout/engagement, work engagement, and employee engagement.⁶ Personal engagement is illustrated by an employee who is physically and emotionally connected to their work. Burnout/engagement describes the employee who is exhausted from chronic job stressors. Work engagement refers to the employee who is dedicated and invigorated by his or her work. Employee engagement refers to an employee’s job satisfaction and enthusiasm for his or her work.⁶

Harter et al¹³ described four elements necessary for employee engagement including (1) clear expectations and needed equipment to do the job; (2) sense of belonging to the organization; (3) feeling of contributing to the success of the organization; and (4) feeling support for personal growth and development within the organization.

Work engagement and its motivating power has been studied in a diverse range of employees including home-care employees,¹⁵ both white- and blue-collar employees,¹⁵ hotel receptionists,¹⁴ managers,¹⁶ teachers,¹⁷ nurses,⁶ and dentists.¹⁸ Compared with the benefits to organizations, there has been comparatively less research conducted on the benefits of work engagement to individuals. One review questioned whether or not high engagement at work over time may eventually lead to burnout,¹ while other studies have found a few specific improved health-related outcomes related to breast cancer,¹⁹ cardiac markers,²⁰ depressive symptoms,²¹ and overall mental health²² among engaged employees. A study conducted by Gallup found a highly reciprocal relationship between employee wellbeing and engagement.²³

In a general sense, employees working at companies with high engagement levels (where a majority of employees report high engagement) report less job-related stress compared with those at companies with low levels of engagement. High engagement organizations also have a larger percentage of employees who are in good health compared with other organizations.²³ These results do not link an individual’s engagement level to his or her own health outcomes, however, which is an area of research still needing attention.

The current study adds to the body of knowledge on employee engagement and individual health-related measures at a US based global financial services organization. Employees participating in an annual health risk appraisal (HRA) were asked three questions regarding employee engagement. This engagement at work was then analyzed and compared with on-the-job productivity loss (presenteeism), self-reported illness days, and health risk factors to determine the associations between those characteristics. There is still some debate among researchers that employee engagement is bad for employee health (due to workaholism/burnout/poor work-life balance, etc)^{15,24} and this study seeks to elucidate the association between employee engagement and individual health risks.

METHODS

Study Population

Study subjects were employed in 2012 by a financial services corporation with major offices across the United States. In 2012, the

From the University of Illinois at Chicago, Chicago, Illinois (Dr Burton); American Express Company, New York (Dr Burton); and University of Michigan Health Management Research Center, Ann Arbor, Michigan (Dr Chen, Mr Li, Dr Schultz).

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Address correspondence to: Wayne N. Burton, MD, American Express Company, 200 Vesey Street, MC 1-38-05, New York, NY 10285-3805 (wayneburtonmd@gmail.com).

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average age of employees ($N=23,676$) was 43 years and 60% of employees were women. Employees were eligible to enroll in a Consumer Directed Health Plan (CDHP) with a health spending account (HSA) as their only health plan option. In addition, the company offered a well-being (“wellness”) program which features best-in-class resources, a confidential HRA, health coaching, biometric screening for blood pressure, cholesterol, and blood glucose, and a supportive work environment. The program goals are to improve employee health, business productivity/performance, and to control health care cost trends.

Measures

This company offers an annual HRA to all employees as part of the health and wellness program. In 2012, 12,043 employees participated in the voluntary, confidential HRA and 11,742 (97.5%) answered all three engagement questions regarding their (1) likelihood of looking for a job at another company; (2) likelihood of recommending the company as a good place to work; and (3) willingness to work above and beyond their job description. These questions were developed based on practitioner-expert discussion and selection. For the purposes of this study, employees were divided into three engagement categories: High, Medium, and Low Engagement, based on their responses to the three questions. If respondents answered with the most positive response to all three questions, they were placed in the High Engagement category. If they responded with either of the top two responses to all questions, they were placed in the Medium Engagement category, and if they responded with any other answer, they were placed in the Low Engagement category.

The HRA also included an 8-question Work Limitation Questionnaire (WLQ)^{25,26} to assess on-the-job productivity loss, known as presenteeism. These questions evaluated the percentage of time at work that an emotional or physical problem interfered with one or more of four work domains: time management, physical work activities, mental/interpersonal activities, and overall output or productivity. Employees were asked to base their responses on their previous 2 weeks of work and to rate any impairment on a five-point scale of “all of the time (100%),” “most of the time,” “half of the time (50%),” “some of the time,” and “none of the time (0%).” Additionally, the response option “does not apply to my job” was also provided. The 8-question WLQ was scored as four subscales, representing the four work domains. A separate, dichotomous score for each subscale (yes/no) indicated whether or not any work limitations were noted for either of the two items that made up each subscale (ie, amount of limitation for either item). The response for each subscale was judged to be valid if a rating was provided for at least one of the two items in each scale. A dichotomous overall work limitation score was also constructed to indicate whether any of the four work domains were affected and a percentage of presenteeism was calculated for each subject. The questionnaire also includes self-reported biometric measurements as well as a variety of other health-related questions. Participants were asked about health risks such as tobacco use, alcohol use, and physical activity as well as medical conditions such as asthma, diabetes, allergies, and heart disease.

To further ensure strict confidentiality, a third party vendor de-identified the individual HRA responses and transmitted the data to a major US university research center for data analysis. The employer only had access to summary results and at no time to individual employee data. This study was conducted in accordance with that university’s Institutional Review Board.

Analysis

SAS 9.0 (SAS Institute; Cary, NC) was used to complete all statistical analyses. Demographic variables were tested using t test for continuous variables and chi-squared test for categorical

variables to determine differences among the three engagement categories. Generalized linear modeling was used to test for differences in continuous outcome measures by engagement category while controlling for confounding factors and differences in demographics. Multivariate logistic regression was used to test for differences in categorical outcome measures while controlling for confounding factors.

RESULTS

Demographics

Of the employees who participated in the 2012 HRA and answered all three engagement questions, 27.7% ($N=3249$) were categorized in the High Engagement group, 41.1% ($N=4825$) were in the Medium Engagement group, and 31.2% ($N=3668$) were in the Low Engagement group. Significant demographic differences were found among these three groups (see Table 1). Female employees were over-represented in the High Engagement group ($P<0.0001$). Employees in the Low Engagement group were significantly younger ($P<0.001$) than employees in the other two groups. Different distributions of ethnic groups were also found for all three engagement categories. All further analyses controlled for all demographic variables.

Health Risks

Thirteen health risk factors were measured by the HRA. The prevalence of each risk factor was compared with the three engagement categories (see Fig. 1). Employees in the High Engagement category had a significantly higher prevalence of obesity (Asian body mass index [BMI] is greater than or equal to 25, all others BMI is greater than or equal to 30) than the other two groups and were also more likely to be at high risk for current tobacco use. No other significant differences were found in the biometric or behavioral

TABLE 1. Demographics of Study Employees by Engagement Category

| | High Engagement $N=3,249$ | Medium Engagement $N=4,825$ | Low Engagement $N=3,668$ |
|--------------|---------------------------------|-----------------------------------|--------------------------------|
| Female* | 69.6% | 64.3% | 62.2% |
| Male | 30.4% | 35.7% | 37.8% |
| Average age† | 42.75 | 42.27 | 41.68 |
| (Std. Dev.) | 10.79 | 10.43 | 10.33 |
| Age category | | | |
| 18–34 yrs | 26.3% | 27.3% | 28.1% |
| 35–44 yrs | 28.5% | 29.0% | 32.1% |
| 45–54 yrs | 30.2% | 29.8% | 27.2% |
| 55+ yrs | 15.1% | 13.9% | 12.6% |
| Ethnicity‡,§ | | | |
| White | 63.4% | 64.9% | 60.4% |
| Black | 12.7% | 11.3% | 14.3% |
| Hispanic | 13.5% | 11.1% | 12.6% |
| Asian | 8.7% | 11.4% | 11.4% |
| Others | 1.7% | 1.3% | 1.2% |
| Job type | | | |
| Hourly | 63.9% | 59.6% | 63.2% |
| Salaried | 36.1% | 40.4% | 36.8% |

* $P<0.0001$, Cochran-Armitage trend test of differences among three engagement groups.

† $P<0.001$, Low Engagement group is significantly younger than other two groups, generalized linear modeling, controlling for other demographics.

‡ $P<0.05$, High Engagement group is significantly different from Medium Engagement group, generalized linear modeling, controlling for other demographics.

§ $P<0.001$, Medium Engagement group is significantly different from Low Engagement group, generalized linear modeling, controlling for other demographics.

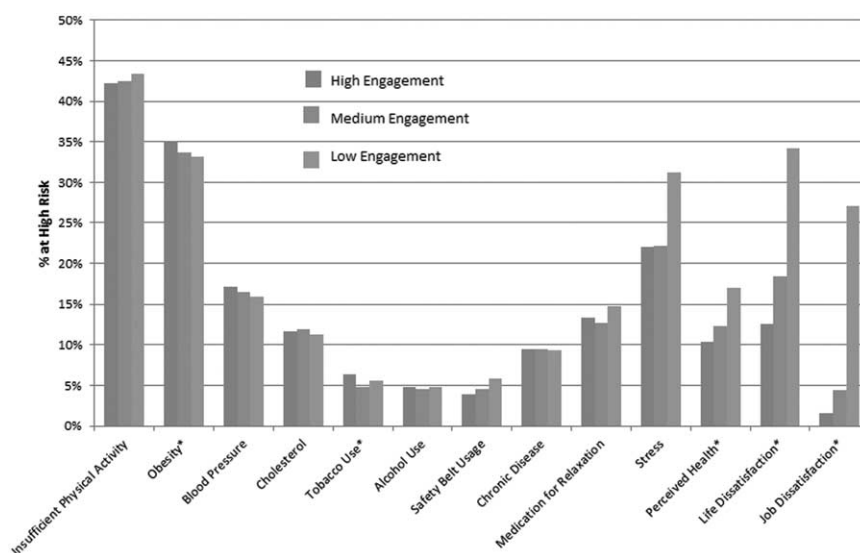


FIGURE 1. Prevalence of health risk factors by engagement category. * $P < 0.01$ generalized linear regression comparing three engagement groups, controlling for demographics and all other health risks.

risk factors. However, employees in the Low Engagement category had a significantly higher prevalence of the job dissatisfaction risk factor, life dissatisfaction risk factor, and the poor/fair perceived health risk factor. These differences were all significant, after controlling for demographics and all other health risks.

Health risk factors from the HRA were summed for each individual, and then employees were categorized as overall low (0 to 2 risk factors), medium (3 to 4 risk factors), or high (5+ risk factors) risk status. The distribution of risk status by engagement category can be seen in Fig. 2. Results showed that the High Engagement group had a significantly better risk status distribution (69.7% low risk status) than the other two groups and the Medium Engagement group had significantly better risk status distribution (67.9% low risk status) than the Low Engagement group (55.0% low risk status). Moreover, all three groups had a significantly different average number of risk factors (High Engagement: 1.91 risks; Medium Engagement: 1.98 risks; Low Engagement: 2.53 risks; $P < 0.01$ after controlling for demographics).

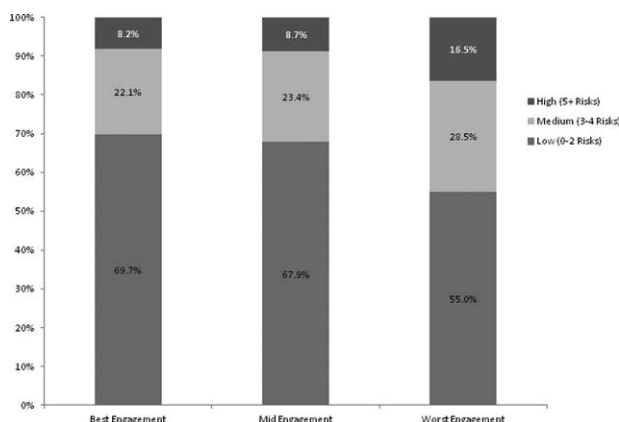


FIGURE 2. Overall health risk status by engagement category*. * $P < 0.0001$, all three groups have significantly different risk distribution, generalized linear modeling controlling for demographics. ^ $P < 0.01$, all three groups have significantly different average number of risk factors, generalized linear modeling controlling for demographics.

Productivity Measures

As described in the methods, the HRA has several measures of workplace productivity including illness days and on-the-job productivity loss, known as presenteeism. These measures were calculated for each engagement category and presented in Fig. 3.

There was no significant difference in the self-report of 6+ illness days in the past year for the three engagement categories. However, all presenteeism measures were significantly different for the three engagement categories. In each presenteeism domain (time, physical, mental, output, and any limitation overall), employees in the High Engagement category had a significantly smaller percentage reporting a workplace limitation, followed by the Medium Engagement group and then the Low Engagement group. The average presenteeism percentage for each group was as follows: High Engagement: 7.7% presenteeism; Medium Engagement: 9.2% presenteeism; Low Engagement: 14.0% presenteeism ($P < 0.001$).

DISCUSSION

Much past research on employee on-the-job productivity loss, also termed presenteeism, has focused on health risks and medical conditions,^{27–29} so the current study expands the body of research to include workplace engagement. Health risks such as physical inactivity and stress as well as medical conditions including seasonal allergies, depression, arthritis, and migraine headache have been studied in relation to presenteeism. These conditions may be successfully treated and result in improvements in productivity. For example, we have previously published research on employees in telephone call centers suffering from seasonal allergies.²⁸ It is understandable that such allergies might reduce the ability of these employees to perform optimally on their jobs. Fortunately medications are available to alleviate allergic symptoms in most people thus restoring their productivity. Employee productivity has also been shown to be impacted by other factors such as caregiving for children or other adults.³⁰ However, employees without significant health risks or medical conditions may have impaired presenteeism related to workplace characteristics. For example, the employee may be bored by the job or be unhappy with conditions at the workplace or with their leader/supervisor.^{4,5,31–33} Organizations may wish to measure the engagement level of their employees to better understand the needs of their workforce.

Airila et al⁴ reported in a population of Finnish firefighters that work engagement is related to productivity, beyond work

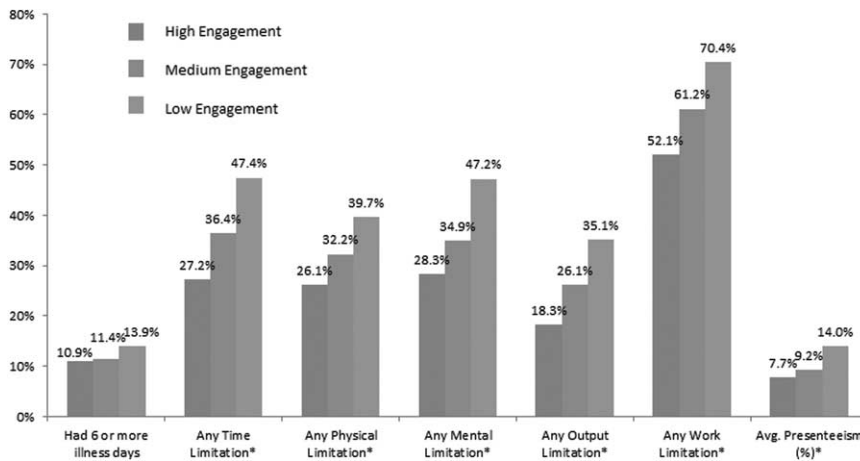


FIGURE 3. Productivity measures by engagement category. * $P < 0.001$, all three engagement groups are significantly different, generalized linear modeling controlling for demographics.

conditions, and lifestyle factors including BMI, alcohol consumption, smoking, physical exercise, and sleep problems. Rongen et al⁵ reported on 2155 employees of a plastics manufacturer and paint manufacturer who completed questionnaires at baseline and at 6-month follow-up. Health was measured using the Short-Form-12, productivity using the work ability index (WAI) and engagement using the Utrecht Work Engagement Scale which includes three dimensions: vigor, absorption, and dedication. They concluded that work engagement increased the explained variance in work ability and contributes to lost productivity beyond health behaviors such as BMI, fruit and vegetable intake, physical activity, and smoking.

The current study's measure of workplace engagement using three simple questions is highly correlated with job satisfaction. Only 1.6% of employees in the High Engagement category were high risk for job dissatisfaction, compared with 4.4% of those in the Medium Engagement category, and 27.1% of those in the Low Engagement group ($P < 0.01$, controlling for demographics and all other health risks). A meta-analysis of job satisfaction and health was published in 2005.³⁴ After examining 485 studies with a combined sample size of more than 267,000 individuals, strong correlations were found between job satisfaction and mental/psychological problems, such as self-esteem, depression, and anxiety. These authors reported a more modest correlation ($r = 0.287$) was found between job satisfaction and physical illness.³⁴ The current study found similar results in that health risk prevalence was significantly different for only two of the physical health risks: obesity (High Engagement was more at risk) and tobacco use (High Engagement was more at risk); and very large differences were observed in the psychological risk factors: poor/fair perceived health (Low Engagement was more at risk), and life dissatisfaction (Low Engagement was more at risk).

When health risk factors were summed to create an overall health risk status, it was clear that employees in the High Engagement category were the healthiest employees (69.7% in the low-risk status and an average of 1.91 health risk factors). Therefore, there is no evidence to suggest that engagement at work is somehow dangerous to one's health as has been suggested by some researchers who equate workplace engagement with workaholism.^{35–37} On the contrary, employees in the Low Engagement category have the highest average number of health risk factors (2.53 risks) and percent in the overall high-risk status (16.5%). A European study has found similar results in that workaholism and work engagement are two distinct work styles and that work engagement can have a positive association with general health.³⁸ Similarly, a study of 1196 employees in Japan found that workaholism and work engagement were related but separate and that workaholism was related to ill

health and decreased life satisfaction from T1 to T2 while work engagement was related to better health, life satisfaction, and job performance.

The final analysis, which compared measures of productivity loss for the three engagement categories, shows that employee engagement is also associated with presenteeism. Employees in the Low Engagement category had the largest percentage reporting workplace limitations on all four domains (time, physical, mental, and output) as well as the calculated percentage of presenteeism overall (14.0%). This result is in line with past research suggesting that engaged employees are also more productive, as well as the intuitive nature of that relationship.^{13,39,40}

This study provides evidence that there is an association between employee engagement, workplace presenteeism, and individual health risks. However, the causal direction of that relationship is not known. Future studies of engagement and health risks over time might elucidate whether improvements in health might prompt improvements in engagement or vice versa. Of course, those characteristics and qualities are complex, as are the employees themselves. Organizations might investigate ways in which to improve employee engagement which have been suggested in the business literature such as: workplace leaders displaying respect for employees,⁴¹ creating a transparent culture at work, regularly showing gratitude for employee effort,⁴² and allowing flex time or place.

Limitations

This study is based on self-reported productivity and health risks. However numerous studies have demonstrated that self-reported productivity is validated and is associated with health risks.^{25–27,43,44} Engagement was self-reported using non-validated questions. However, the analysis using the three engagement questions showed significant associations with productivity and health risks including job satisfaction. In addition, we found significant correlations with a validated engagement questionnaire which is not in the public domain. The current study was conducted at a financial services company. We don't know if the results of this study, using the three engagement questions, are generalizable to other types of employers (eg, manufacturing, healthcare, etc). The present study does not demonstrate causality between health and productivity and engagement, only an association.

CONCLUSIONS

This study of employee engagement at a large financial services organization categorized employees into three levels of engagement at work: High, Medium, and Low. Significant

demographic differences existed between those three groups. The High Engaged employees had significantly fewer health risk factors and the highest percentage of employees in the overall low health risk status compared with the other two engagement groups. The Low Engaged employees had significantly greater on-the-job work limitations (“presenteeism”) compared with the better engaged employees. Efforts which enhance workforce engagement may yield benefits both for the individual and the organization.

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