

THE RELATIONSHIP OF FITNESS TRACKER USAGE IN WELLNESS
PROGRAMS WITH ORGANIZATIONAL COMMITMENT,
JOB SATISFACTION AND JOB STRESS

by

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ABSTRACT

Corporate wellness programs have become more prominent as companies have come to realize how valuable and beneficial these programs can be. Fitness trackers are a form of wearable technology that allows the user to monitor various metrics regarding personal health and fitness. This study sought to analyze the effect of fitness tracker usage in corporate wellness programs with job satisfaction, organizational commitment, and job stress. Overall, being involved in a wellness program has a significant relationship with job satisfaction, organizational commitment, and job stress, but the effect of the usage of fitness trackers was not as prominent as was expected.

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INTRODUCTION

Personal health and wellness is a topic that has been talked about more often in recent news. As public awareness of the need to become healthier has increased, one topic that has surfaced in the discussion of health and wellness is the implementation of wellness programs in a corporate setting. For a long time, companies have offered wellness programs that have the objective of improving employee health. Nonetheless, many people underestimate the impact that a healthy lifestyle can have on company performance, including the bottom line. They believe that a wellness program is a waste of funding, and that the money would be a better investment in a different part of the company. However, this could not be further from the truth. Having a healthy workforce benefits every aspect of the company and contributes to the overall financial success of the corporation.

Academic research has made only limited contributions in this area. Many researchers have focused on the fact that being healthy in every area of employees' lives has helped lower employee absenteeism as well as raise job satisfaction ratings. Numerous articles discuss the success of wellness programs that incorporate friendly competitions among employees to help encourage activity. These programs, as well as other variations of wellness programs, have found correlations between participation in the wellness program and decreased absenteeism, increased job satisfaction, and decreased health care costs that come from having unhealthy employees.

However, even with all of the research into the effects of being healthy in a holistic way, there has been very little research on the effectiveness of the use of fitness trackers as part of a wellness program. Fitness trackers are devices that can be worn on

the individuals' wrist and usually connect to an app on the user's phone. Trackers collect data on how many steps individuals take, how many flights of stairs they climb, and how much they sleep, as well as many other things. On the app, users are able to input information regarding their diet, how much sleep they get, how much exercise (if not recognized by the tracker itself), personal statistics such as height, weight, body mass index, and how much water they drink. Since tracker technologies are relatively new, many companies have not had a chance to implement them in wellness programs. Also, academic researchers have not chosen to focus on this topic as much as the overall issue of employee health and wellness, especially in relation to health insurance costs.

In this research, I hope to gain insight as to whether or not fitness trackers really are a positive addition to corporate wellness programs. There are many options for wellness program coordinators when they are developing a plan for their employees, and fitness trackers provide a new technology that companies may want to consider for greater utilization in the future. I want my research to be of use to them when they are trying to decide whether to enter into arrangements with companies such as Fitbit, Nike, Jawbone, and Garmin that provide wearable fitness trackers and software, which enable employees to gather data regarding their activity levels, diet, and sleep patterns.

Through this paper, I plan to present my findings on the relationship between the use of fitness trackers in corporate wellness programs and job satisfaction, job stress, and organizational commitment. I will start by presenting an analysis of academic sources that provide various perspectives on wellness programs and fitness trackers. Then, the data that I collected first hand from Texas Christian University employees who are enrolled in the TCU WellnessGold program will be analyzed and compared to my

hypotheses to draw conclusions. The purpose of my research is to determine whether corporate wellness programs and the use of fitness trackers are associated with employee job satisfaction, job stress, and organizational commitment.

What Are Wellness Programs?

Over the past few decades, employers have been making many changes in corporate policy to help acknowledge the fact that employees have many obligations outside of their professional lives. Society today is much more fast-paced than it has been in the past, and that can take a toll on an individual's ability to successfully accomplish all of their responsibilities. Acknowledging the need for balance and the importance of a holistic approach to employee wellness, many companies have implemented a variety of wellness programs and are starting to see the results. These wellness programs range from physical fitness competitions to stress management counseling sessions. The purpose of programs such as these is to ensure that employees are able to take care of all aspects of their lives in order to be even more successful and productive in their professional lives.

Current Types of Wellness Programs

Currently, there are many different types of corporate wellness programs that are being offered by companies to their employees. Some are using fitness-based competitions, weight-loss competitions (similar to the Biggest Loser), store-like simulations where winners receive points that can be cashed in for prizes, group participation in fitness events such as 5k runs and marathons, and many more.

In a study by DeGroot and Kiker (2003), it was found that companies that try to offer a large number of wellness program options are not necessarily more effective.

DeGroot and Kiker (2003) suggest that the best route for companies is to focus in certain areas of wellness that the majority of employees seem to be most interested in, and to create a wellness program that focuses specifically on that sector. More focused programs are the best route to increasing the job performance of employees who choose to participate in the wellness program (DeGroot and Kiker, 2003). Such programs provide a perfect opportunity for employers to utilize new technology to help enhance the results that they already receive from having a corporate wellness program in place for their employees.

Why Use Wellness Programs?

The corporations that have already adopted wellness programs have seen significant results that have lead them to continue the use of the program. Wang and Verma (2012) conducted a two-year experiment to determine the results of the wellness programs. The results of their study suggest that “human resource practitioners may consider aligning work-life balance programs with other existing human resource practices, such as employee involvement in decision making, skill development, and pay-for-performance” (Wang and Verma, 2012, p. 426). Using wellness programs that are closely tied to the overall goal of the organization significantly increases the effectiveness of the program. The company must understand that wellness programs are not separate from the corporate culture. There needs to be a substantial amount of research and discussion with current employees as to what type of program they would like to see implemented in the company.

Companies tend to see a variety of results through time once they implement a wellness program. Pyle (1979) states that “considerable anxiety has been felt about

corporate fitness programs because of difficulty in justifying the investment for a program and its facilities to corporate stockholders” (p. 26). This makes it challenging for some companies to implement a program since stockholders do not always see immediate results.

However, companies need to give wellness programs a significant enough amount of time for the results to really become apparent. Short-term results are most important to the individuals involved in the program because otherwise they will feel like their effort is not worth the time they are putting into it. They need to have an “it’s working!” moment (Pyle, 1979, p. 29).

Intermediate results are the ones that are seen most by management. This is the area where employees are seeing some progress in the program, but managers want to be able to see more obvious results. And finally, long-term results are what are most important to the stockholders and corporate management. These are the results that affect health care costs, productivity, and absenteeism costs (Pyle, 1979, p. 29). Once long-term effects become obvious, companies meet a lot less push-back from stockholders, because the benefits are there to support the idea. This challenge makes it difficult for companies to first implement the program, but as the prevalence of these programs increases, the results become more and more convincing to stockholders.

According to a study conducted by Patel, Gaziano, et al (2011), “an increase in fitness-related activities over time amongst members of this incentive based health promotion program was associated with a lower probability of hospital admission and lower hospital costs in the subsequent two years” (p. 341). This research goes to further

prove that wellness program participation can be increasingly beneficial to both the corporation and the individuals involved.

Also, there are many negative side effects of having a sedentary workforce. Barker (2013) states, “absenteeism, poor morale, and inflated healthcare costs are just some of the consequences of sedentary employees” (p. 1). Absenteeism hurts the overall company because when employees are not showing up to work, they are not completing the jobs that are assigned to them. Also, poor morale can significantly damage a work environment. Employees start to experience more conflict and have a negative atmosphere to work in. Inflated health care costs can cause a company that is struggling to potentially fail. Health care is one of the largest expenses for corporations, and if they can easily implement a wellness program that will help to decrease those costs, they should definitely do so. Having a workplace wellness program can decrease these as well as help employees increase their productivity.

Scelsa (2001) acknowledges the fact that, “behavioral change is hard, but small changes made over time eventually will become part of a healthier lifestyle” (p. 2). It is not going to simply happen overnight, but if the company is dedicated to the program, the employees will become dedicated as well. The results will come with time, but both the company and the participants need to be patient and understand that significant results take time to become apparent.

Successes and Failures of Current Programs

Since wellness programs are still a trend that is being refined across industries, there have been many successful and many unsuccessful programs that companies can look to for suggestions on how to frame their own corporate wellness programs. Devries

(2005) establishes a foundation of what is absolutely essential in a wellness program by stating, “essential components to a successful complementary health and wellness plan: group kickoff campaign, individual kickoff sessions with customized analysis and planning, personal coaching sessions and telephone support, member outreach and educational materials, interactive computer learning tools and trackers, access to and discounts on specialty products, discounts at local fitness clubs, incentives and rewards” (p. 36).

All of these components come together to support the various questions that employees could have as well as any challenges that could come up while participating in a wellness program. It is to the company’s advantage to follow Devries’ suggestions and ensure that these components are in place in order to make the program a success and worth the time and money that the company would be putting into it.

Using in-company competitions to incentivize employees has been very successful with multiple companies. Barker (2013) states, “most successful competitions run from four to twelve weeks” (p. 2). Having a competition among employees that is based off of physical fitness tests is a strong way to help employees see the benefits of being healthy. Prizes can range from gift cards, gym memberships, “points” to be redeemed in a gift store, or many other possible prizes.

Programs that failed in the past were ones that lacked “assistance in establishing benchmarking data, data tracking mechanisms that will gauge levels of employee participation, and data tracking that will allow comparisons two, three, and five years down the road” (Devries, 2005, p. 37). Without these components, employees were not

able to see how far they had come since the program started, and therefore they lost their enthusiasm and drive to continue in the program.

CONCEPTUAL FRAMEWORK

The study that is being proposed here focuses on the use of fitness tracker technology (particularly the Fitbit) in the context of a fitness program sponsored by an employer. More specifically, the study focuses on the relationship of fitness activities in a wellness program and the use of fitness trackers as related to organizational commitment, job satisfaction, and job stress levels. All three of these variables are items that organizations have a vested interest in understanding and being able to increase or decrease. Organizations greatly benefit from high organizational commitment and job satisfaction, as well as low stress levels among their employees.

Effects of Wellness Program Involvement

Incentivizing employees to participate in a wellness program has become the most common method for encouraging participation. Devries (2005) states that, “programs that reward rather than penalize can lower health costs, earn employee loyalty, and improve morale and productivity” (p. 37). Having a specific reward can drive employees to be more involved and to stay motivated. In Barker’s article (2013), she states that there must be a specific measurement tool, facilitated communication, and it must be fun (p. 1).

If employees are enjoying the competition, it will be much more successful than if it is a cutthroat or discouraging environment. Keeping it lighthearted, yet beneficial, will enhance participation and not scare off employees who are new to the program. The environment needs to be encouraging, not intimidating. Scelsa (2001) suggests in her

article that humor can have a very large impact on participants' dedication to a program (p. 2). If an employee knows that the competition is light-hearted and that people are in the program to help create results, they will be much more likely to encourage coworkers to join as well. They also could be motivated into a sense of competition in meeting goals that they set for themselves.

The affective events theory states that positive affective events promote a sense of wellbeing (Bono, 2013, p. 1603). The argument can be made that participation in exercise programs and wellness programs is a positive affective event and helps promote overall well being. Admittedly, participation in a program may not be an event in the sense that affective effective theory envisions. Well being is a strong contributor to job satisfaction as employees who are happy with their overall life will be more satisfied in their jobs as well. Fisher states "As predicted by affective events theory, the cumulation of momentary pleasant experiences has been shown to predict overall job satisfaction". Also, perceived organizational support (POS) theory predicts job satisfaction. When employees see that their organization has provided a wellness program, they perceive it as support and are more satisfied with their job and overall workplace environment (Cullen, 2013). This research leads to the conclusion that wellness program involvement will be positively related to job satisfaction.

Hypothesis 1a: Wellness program involvement will be positively related to job satisfaction.

Social exchange theory suggests that there is an obligation to reciprocate when a person receives something from another person or entity. This theory helps build an idea that when an organization provides a wellness program for employees, the employees

will feel more committed and more loyal to the organization (Cropanzano, 2005). If a company offers a high quality wellness program, it could potentially foster a perceived obligation to reciprocate loyalty and commitment to the organization, which would in turn increase overall organizational commitment.

Hypothesis 1b: Wellness program involvement will be positively related to organizational commitment.

Affective events theory applies to job stress as well. Feeling positively about an individual's overall life leads to less feelings of stress in all parts of their life, including their job and occupation. Perceived organizational support has also been found to be negatively related to stress. Having an organization that is willing to establish a wellness program for its employees shows that the organization cares about the employees and their success. Rhoades and Eisenberger concluded that perceived organizational support "could decrease employees' general level of stress at both high and low exposure to stressors" (2002, p. 702). These factors lead to an overall decrease in job stress levels for employees when they are involved in the wellness program.

Hypothesis 1c: Wellness program involvement will be negatively related to job stress.

Effects of Fitness Tracker Technology

There is currently a lack of academic studies that have been conducted around the use of fitness trackers in corporate wellness programs. Fitness trackers are products that can be worn around the users' wrist and connect with a mobile app or website to report various metrics regarding the users sleep habits, number of steps walked per day, calorie intake, amount of physical exercise each day, and many more statistics. These wearable

trackers are very high tech, some of them even offer heart rate monitors, automated sleep trackers, blood pressure monitors, and visual readouts regarding other personal health statistics.

The technology behind fitness trackers like Jawbone UP, Nike Fuelband, Fitbit, and Garmin VivoFit is relatively new, and research regarding corporate wellness program usage of fitness trackers simply has not been conducted yet. However, the fact that companies are spending large sums of money on these products for their employees suggests that they at least believe there is a strong benefit to the company when the employees have this technology at their disposal. While designing this study, it was found that the majority of the articles discussing the topic of fitness trackers in a corporate setting were coming from popular press sources, not academic researchers. This means that there is an opportunity for researchers to study whether fitness trackers can enhance the experience of being part of a corporate wellness program, and potentially impact the overall organizational culture and productivity levels.

Goal-setting theory states that having clear goals for any endeavor makes it more likely that a person will accomplish that specific endeavor (Ivancevich, 1977). Ivancevich's study concluded "assigned goal setting groups reported higher levels of work and supervision satisfaction than the comparison subjects" (1977, p. 414). Fitness trackers are a way for people to very clearly lay out their goals as well as an explicit route to achieve those goals. Having this information literally available at their fingertips makes it easier to keep track of progress to achieving those goals. Achieving goals leads to greater satisfaction. According to Locke and Latham, "self-attribution produces higher satisfaction when success is achieved than when success is attributed to external factors

such as luck, according to attribution theory”(1990, p.243). This theory solidifies the idea that having self-regulated and tracked goals leads to higher satisfaction.

Hypothesis 2a: Fitness tracker usage will be positively related to job satisfaction.

Locke and Latham concluded that “goal setting is more effective, and usually only effective when feedback allows performance to be tracked in relation to one’s goals. Goal setting without feedback appears to have little long term effect on performance” (1990, p.241). This research goes to further support the psychology behind the use of fitness trackers and the immense potential they have to increase an employee’s commitment and satisfaction with their organization.

Hypothesis 2b: Fitness tracker usage will be positively related to organizational commitment.

Bono’s research has come to many conclusions; one of which is “positive emotions broaden people’s thought and action repertoires, allowing them to consider more expansive ideas, actions, or solutions” (2013, p. 1603). This conclusion works hand-in-hand with affective events theory in that positive events lead to positive emotions and a decrease in negative emotions and psychological phenomenon, such as stress. Therefore, utilizing a fitness tracker will decrease overall job stress that an employee experiences in their workplace environment.

Hypothesis 2c: Fitness tracker usage will be negatively related to job stress.

METHODS

TCU WellnessGold

For this study, the wellness program at Texas Christian University was used for the survey sample. The WellnessGold program at Texas Christian University focuses on

the six pillars of personal wellness: physical, occupational, spiritual, emotional, social, and intellectual (wellness.tcu.edu). Each of these pillars is described to the participant as well as activities that support achieving that type of wellness. The employee is then able to work on the pillars that are most personally meaningful to them or the ones that they feel they need to work on the most. Although they are six separate pillars, they all work together to create an overall atmosphere of wellness that helps the employee be more productive and satisfied, as well as less stressed.

The physical pillar focuses on employees being physically fit and aware of what makes their body perform at the highest possible level. This includes diet, exercise, sleep, and regular visits to medical professionals.

The occupational pillar focuses on helping employees find a career that balances “personal interests, values, skills, and strengths (wellness.tcu.edu)”. It seeks to aid employees in finding a career that is more than just a job and has personal meaning and fulfillment to the employee.

The spiritual pillar is the sector that encourages employees to be spiritually aware, whether that is through religion, meditation, or some other awareness of peace and tolerance for people who may have different beliefs. The spiritual pillar may “involve a connection with a higher power, but it may not involve religion (wellness.tcu.edu)”. It is up to the individual to determine what constitutes spirituality in their own lives, and to work towards increasing its prevalence in their everyday activities.

The emotional pillar aims to focus employees on their own awareness of their positive and negative thoughts, feelings, and behaviors, and how to handle stress in a healthy way (wellness.tcu.edu). With a greater awareness of how their emotions affect

their daily life and behaviors, employees will be able to be more successful and handle challenging situations with more of a balanced outlook. This pillar also encourages employees to learn more about diverse topics and to study both sides of an argument to be able to greater support their own opinions.

Social wellness is the fifth pillar in TCU WellnessGold; this topic encourages the employee to “participate in and contribute to one’s community, country, and world (wellness.tcu.edu)”. This idea states that employees need to understand they are part of a larger system and that they can have a significant positive impact on the world around them if they simply make an effort to be more conscious. Working on developing positive relationships, volunteering, and developing strong communication skills are all part of this pillar.

The final pillar is intellectual wellness. To have intellectual wellness, the employee needs to participate in activities that challenge them mentally and help to increase their knowledge and skills in diverse subjects. It also encourages employees to develop a mindset that supports the ideas of “lifelong learning, openness to new ideas, a desire to question and think critically, and a motivation to master new skills and challenges (wellness.tcu.edu)”. Intellectual wellness also includes an affinity for humor and an ability to look at life creatively.

Subjects

As noted earlier, this research was conducted by surveying employees at Texas Christian University. The study included only the employees enrolled in the TCU WellnessGold program. There are a number of TCU employees in the WellnessGold program who have received Fitbits through WellnessGold. These employees were

surveyed since they are the ones that this study will focus on the most. Participation was strictly voluntary, and participants self-reported the information that will be used for analysis and conclusions. Survey data were collected through the use of a questionnaire distributed with the Qualtrics system. Dr. David Upton, the director of TCU WellnessGold program, sent it to all Texas Christian University employees enrolled in the TCU WellnessGold program. Employees could choose to participate or not. Some of the employees that were surveyed had Fitbits, and some did not have Fitbits.

The survey was sent to the 413 members of the TCU WellnessGold program. Of that 413, 297 were female (71.91%), and 116 were male (28.09%). The mean age of the population was 49.9 years old. Of the faculty and staff members who were surveyed, 192 responded, creating a response rate of 46.49%. Within the group of respondents, 76.07% were female, and 23.92% were male. The average age of the respondents was 47.86 years old. Of the respondents, 86% were staff members, and 14% were faculty.

Questionnaire

The survey questions were designed to gather data on employees' participation levels in the wellness program, involvement with fitness tracker technology, and other personal activity measures. Also, the questions surveyed the employees' job satisfaction, organizational commitment, and stress levels. These questions have all been validated by prior academic research studies.

Analysis

The results will be analyzed using various scales for measuring stress, organizational commitment, and job satisfaction. These scales have been used in previous research studies that have proven their validity in academic research. Multiple

regression will be used to analyze if there is a relationship between physical fitness and higher job satisfaction, higher organizational commitment, and lower stress levels.

Multiple regression will be also used to analyze if there is a relationship between the use of the fitness trackers and higher job satisfaction, higher organizational commitment, and lower stress levels. Questions also gathered control data on the gender, age, and faculty/staff status of the participants.

Dependent Variables

Job Satisfaction

The first dependent variable we are studying is job satisfaction. To test this dependent variable we have obtained five survey items from Brayfield and Rothe (1951). The response scale is a Likert scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree Nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree. See appendix for items. The coefficient alpha to measure internal reliability for this variable is .85.

Organizational Commitment

The second dependent variable in this study is organizational commitment. To test this variable we have obtained six survey items from Dunham, Grube, and Castaneda (1994). The response scale is a Likert scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree Nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree. See appendix for items. The coefficient alpha to measure internal reliability for the variable of organizational commitment is .85.

Job Stress

The third dependent variable in this study is stress. To test this variable we have obtained five survey items from Sheldon Cohen's Perceived Stress Scale (1983). The response scale is a Likert scale with 1 = Not Stressful, 4 = Somewhat Stressful, and 7 = Very Stressful. See appendix for items. The coefficient alpha to measure internal reliability for the variable of organizational commitment is .85.

Independent Variables

Fitbit Usage

A Fitbit usage variable was created by combining respondents' answers to seven questions about how many times a week they utilize each function of the application connected with their fitness tracker: the activity tracker, the calorie tracker, the food input, the sleep tracker, the step tracker, water intake, and the weight tracker. The coefficient alpha to measure internal reliability for the variable of Fitbit usage is .81.

Physical Fitness

This variable consisted of responses to questions asking the number of times a week respondents went to the gym, as well as the number of times a week respondents participated in physical activity outside of a gym (hiking, walking their dog, etc.).

Control Variables

Gender, age, and faculty/staff status were all used as control variables. Gender was coded with male = 1 and female = 0. Faculty and staff status was coded with faculty = 1 and staff = 0.

RESULTS

The survey revealed that 53% of the respondents own a fitness tracker, while 47% do not. Of those owning fitness trackers, 97% owned a Fitbit. Only 3% of the respondents who had a fitness tracker owned a tracker that was not a Fitbit. Correlations among the variables are presented in Table 1.

Table 1: Correlation Table

	Age	Gender	Faculty / Staff	Gym Time Per Week	Months Enrolled in Program	Step Tracker Function	Own Tracker	Job Satisfaction	Organizational Commitment	Job Stress
Gender	.03									
Faculty / Staff	.17*	.23**								
Gym Time Per Week	-.03	.20**	.06							
Months Enrolled in Program	.32**	-.04	-.09	.10						
Step Tracker Function	-.02	.06	-.09	.23*	.06					
Own Tracker	-.23**	.02	-.08	.19*	-.10	. ^c				
Job Satisfaction	.07	.11	.21**	.18*	.01	.18	-.02			
Organizational Commitment	-.07	-.07	-.12	.02	.06	.04	.08	.38**		
Job Stress	.01	-.05	-.04	-.22**	.11	.04	-.09	-.21*	.00	
Physical Fitness	-.02	.21**	-.03	.63**	.12	.31**	.23**	.17*	.10	-.15

* Correlation is significant at the $p < .05$ level

** Correlation is significant at the $p < .01$ level

As indicated in the table, there were several significant correlations. These included a positive correlation between months enrolled in the program and age ($p < .01$), as well as a negative correlation between owning a tracker and age ($p < .01$). Physical fitness was positively correlated with gender ($p < .01$), gym time per week ($p < .01$), use of the step tracker function ($p < .01$), owning a tracker ($p < .01$), and job satisfaction ($p < .01$). Job stress was negatively correlated with gym time per week ($p < .01$) and job satisfaction ($p < .05$). Organizational commitment and job satisfaction also had a very strong positive

correlation ($p < .01$). A few other correlations that came out as statistically significant were the positive relationship between gender and gym time per week ($p < .01$) and the positive relationship ($p < .05$) between owning a tracker and gym time per week. Finally, there was a positive correlation ($p < .01$) between faculty/staff status and job satisfaction with faculty having greater job satisfaction.

Regressions for job satisfaction are presented in Table 2.

Table 2: Job Satisfaction Regressions

	Model 1	Model 2	Model 3
Age	.06*	.08	.09
Gender	.10	.07	.02
Faculty / Staff	.19	-.17**	-.25**
Gym Time per Week	-	.17*	.25**
Months Enrolled in Program	-	-.04	.13
Step Tracker Function	-	-	-.09
Own Tracker	-	.00	-
F	3.017	2.14*	2.39**
R ²	.06	.08	.15
Adjusted R ²	.04	.04	.09
n	151	148	85

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

The table above shows the regressions that were performed with the job satisfaction dependent variable. In Model 2 the marginally significant ($p < .10$) coefficient in this model for gym time provides limited support for the hypothesis that fitness program involvement is positively related to job satisfaction (Hypothesis 1a). The coefficient for gym time in Model 2 is positive and significant ($p < .05$), which provides support for Hypothesis 1a. There was no support for the hypothesis that involvement in the fitness program was positively related to job satisfaction (Hypothesis 2a).

Table 3 shows the regressions that were performed for the dependent variable of organizational commitment.

Table 3: Organizational Commitment Regressions

	Model 1	Model 2	Model 3	Model 4
Age	-.08*	-.08*	.03**	.04**
Gender	-.06*	-.09*	-.20	-.18
Faculty / Staff	-.08*	-.15	-	-.09*
Physical Fitness	-	-.01***	.13	.11
Own Tracker	-	-.08*	-	-
Months Enrolled in Program	-	.06*	-	-.06*
Job Satisfaction	-	.40	.43	.38
Step Tracker Function	-	-	-.08*	-.13
F	1.05	4.31	5.09	2.36
R ²	.02	.18	.23	.18
Adjusted R ²	.00	.14	.19	.10
n	153	148	89	85

* p < 0.10 ** p < 0.05 *** p < 0.01

In Model 2, physical fitness was highly significant ($p < .01$) but had an unexpected negative relationship with organizational commitment. Also in Model 2, months enrolled in the program was marginally related in a positive direction to organizational commitment ($p < .10$), which provides limited support for Hypothesis 1b. In Model 3, step tracker function utilization was marginally related with organizational commitment ($p < .10$) but unexpectedly had a negative sign. In Model 4 months enrolled in the program was marginally related ($p < .10$) with organizational commitment, but had an unexpected negative sign.

Table 4 shows the regressions for job stress.

Table 4: Job Stress Regressions

	Model 1	Model 2	Model 3
Age	-.01***	-.08*	.04**
Gender	-.04**	-.01***	.05**
Faculty / Staff	-.03**	.03*	.16
Gym Time per Week	-	-.23	-.31
Own Tracker	-	.03*	-
Months Enrolled in Program	-	.13	.19
Job Satisfaction	-	-.21	-.15
Step Tracker Function	-	-	.11
F	.17	2.87	2.11
R ²	.00	.13	.16
Adjusted R ²	-.02	.08	.08
n	150	147	85

* p < 0.10 ** p < 0.05 *** p < 0.01

While the control variables were generally related to job stress (age, gender, faculty/staff designation) the results were not nearly as meaningful for the independent variables. Owning a tracker was marginally ($p < .10$) related to job stress in a positive (and unexpected) direction. One might speculate that those using fitness trackers may be experiencing job stress and view the tracker as a means of improving their physical fitness to cope with the stress they have in their lives.

DISCUSSION

Findings

The data that were collected and analyzed in this study produced various results. Overall, the results concerning the physical fitness variables were what was to be expected. There were relationships between being physically fit and higher job satisfaction and higher organizational commitment.

The results that were somewhat surprising were the lack of statistically significant relationships between the variable of fitness tracker usage with the three dependent

variables. This study was expected to develop results that showed a significant relationship between utilizing a fitness tracker and lower job stress, higher job satisfaction, and higher organizational commitment. However, the lack of relationship in this specific research study does not mean that the relationship does not exist in general. It may be that the Fitbit acts as a moderator variable making physical fitness activity more strongly related to the dependent variables. This study was also limited by various factors; some of which will be discussed in later sections of this report.

The designation of faculty/staff was an interesting connection that was not necessarily one that was expected to stand out. Staff members reported higher levels of organizational commitment and job satisfaction. Women also reported higher levels of organizational commitment than men.

The average response for job satisfaction was a 5.99 on a 1-7 scale. This is a very high result. The average response for organizational commitment was a 6.32 on a scale of 1-7. And the average response for job stress was a 3.68 on a scale of 1-7. Overall, while there are no data to make comparisons with subjects in other organizations, these three metrics would seem to portray a very positive picture of the organizational environment that the respondents for this study operate in. Although these findings reflect positively on the Texas Christian University work environment, the respondents are a small subsample of the TCU workforce.

Limitations

There are a few limitations that may have affected the results of this study. One of which is the limitation of same source data. All of the data used in the analysis came from the same survey. This has the potential to foster common method bias. Also, there

was a restricted range on levels of exercise because the general population was not surveyed. All of the people who were involved in the study were already at least somewhat health conscious since they had made the independent decision to enroll in the TCU WellnessGold program. That makes statistically significant relationships more difficult to identify.

Implications for Practice

The main implications for practice of this research are that corporations need to study and survey their employees to find out how to best meet their needs. Wellness programs have a significant impact on job satisfaction and organizational commitment. And if a corporation's leaders understand what type of program their specific employees would like to be part of, they will be able to maximize the results and effects of the wellness program. Whether or not fitness trackers should be part of that program is something that needs to be researched more.

Some corporations with employees of specific demographics might be more likely to see significant results from the incorporation of fitness trackers, while other corporations might not see as significant of results. These results are tied directly to the specific make up of the employee base of a company.

Suggestions for Future Research

Due to the limitations of this study, there are quite a few areas that can be researched further. Some of the findings that could be further investigated are why faculty had a negative association with job satisfaction, why females had a strong association with organizational commitment, and what the effect was of all of the subjects being members of TCU WellnessGold.

A few other areas would be to use a subject pool that has a more diverse population, including people not enrolled in wellness programs, employees who have more average rates of job satisfaction and organizational commitment, employees in various work environments, not just a university setting, and people who use other types of fitness trackers, not just Fitbit. All of these factors have the potential to be studied even more in order to develop more suggestions for corporations and how they can more efficiently tailor their wellness programs to most benefit their employees and the company as a whole.

CONCLUSIONS

In conclusion, being physically fit and aware of overall wellness can impact an employee's job satisfaction, organizational commitment, and job stress. However, the extent of that impact is dependent on many other factors. A fitness tracker can influence that impact, if the technology is utilized correctly and if the environment is conducive to that type of program. Employees and corporations need to work together to form wellness programs that are tailored to the specific needs of that individual corporations' employee base. Every group is going to be unique, but everyone can benefit from having a program that increases their awareness and proactivity in staying healthy and conscious of their overall wellness.

APPENDIX A: QUESTIONNAIRE ITEMS

Independent Variables

Physical Fitness

- Why did you join the TCU WellnessGold Program?
- How many months have you been enrolled in the TCU WellnessGold Program?
- How many times a week do you go to the gym?
- How many times a week do you participate in physical activity outside of a gym? (hiking, walking dog, etc)

Fitbit Usage

- Do you own a Fitness Tracker? *Yes / No*
- How many months have you had your fitness tracker?
- Which fitness tracker do you own?

Fitbit, Garmin Vivofit, Jawbone UP, Misfit, Nike Fuelband, Sony SmartBand,

Withings

- How many times a week do you check the app connected with your fitness tracker?
- How many times a week do you use each function on the app?

Interval Scale (0-6)

- | | |
|--------------------|------------------|
| - Activity tracker | - Step tracker |
| - Calorie tracker | - Weight tracker |
| - Food input | - Water intake |
| - Sleep tracker | |

Dependent Variables

Organizational Commitment (Likert Scale) – Dunham, Grube, & Castaneda (1994)

1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree Nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree

- I am willing to put in a great deal of effort beyond what is expected of me to help this organization succeed
- I speak positively of this organization to my friends as a great organization to work for.
- I feel very loyal to this organization.
- I find that my values and the organization's values align very closely
- This organization really inspired me to perform my best at my job
- I would be happy to spend the rest of my career with this organization.

Job Satisfaction (Likert Scale) – Brayfield & Rothe (1951)

1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree Nor Disagree, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree

- I feel fairly satisfied with my present job.
- Most days I am enthusiastic about my work.
- Each day at work seems like it will never end.
- I find real enjoyment in my work.
- I consider my job to be rather unpleasant.

Stress (Likert Scale) – Hendrix (1987)

1 = Not Stressful, 4 = Somewhat Stressful, and 7 = Very Stressful

- To what extent do you have a great deal of stress on the job?

- To what extent is your job stressful as a whole?
- To what extent do you have job-related stress?
- To what extent does your organization cause you stress?
- To what extent is your life away from the job stressful?

Control Variables

- What is your affiliation with Texas Christian University? *Faculty / Staff*
- What is your gender? *Male / Female*
- What is your age?

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