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The Benefits of Lunch Breaks
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A Thesis Submitted to Fulfill the Requirements of the Honors
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Introduction

Imagine you work in a corporate office. It is close to the time when you normally take your lunch, but you are not feeling very hungry. In addition to that, you also have a stack of paperwork to sift through before you clock out for the night. You are now faced with the choices of taking your lunch break anyway or skipping it to continue working. Under the current circumstances, you decide that it would be better if you just worked through lunch and grabbed another cup of coffee to get some more energy.

You just made the wrong decision. The small amount of time you take for your daily lunch does a world of good for you. Too many employees make the decision to skip lunch too often either due to their superiors pressuring them to work through lunch or to the unmanageable pileup of work that they have to do before the day is over. Robin Stride (2011), using data from Bupa, an international healthcare group, said that “over one-third (34%) of employees experience pressure from managers to work through their lunch hour while half feel the weight of their workload prevents them from taking a break” (p. 35). Over time, doing this has negative side-effects for one’s physical, emotional, and psychological health, actually hurting performance and productivity more than one might think.

After the lunch break is over, employees might begin to feel the end-of-the-day slump when they feel their motivation to work dwindling and their energy fading fast. About two-thirds of the 300 nurses who took a survey complained about not getting proper breaks at work. Christian Duffin (2005) said, “Energy levels were low among many of the nurses” (p. 16). This is quite common among many office-job employees as well. This is due in part because they are not having a relaxing and rejuvenating lunch break, the latter of which requires mental as well as physical disengagement. It is difficult to simply forget about how much work one has to go back

to after lunch. Maybe the employees were struggling with a problem among the many papers that pass their desks, and they cannot help but rack their brain about possible solutions while they are eating. This results in a very ineffective “break” from their work. They return to their desks without feeling refreshed and ready to work through that problem because they did not take a proper lunch break.

In regards to employees skipping their lunch breaks, Stride (2011) says that “UK companies are losing an estimated nearly £50m a day as a result” (p. 35). From an economic standpoint, not taking lunch is really bad for businesses around the UK. Granted, no single company is losing the entire £50m (approximately \$73 million) by itself, but regardless of that, money is lost because employees are facing the consequences of skipping meals. It is evident that this research is of great importance because it can improve the work environments for employees and, as a result, improve productivity and performance. The question now is, what is the best way to spend one’s lunch so that one can have the most beneficial and recuperative break? Several studies over the past decade or so have sought to answer that question. There have been different proposals as to what could be both effective for the employees and practical to implement into the workplace.

Lunch breaks are so important because they provide employees with the energy and drive they need to finish the work day with as much enthusiasm as when they arrived at work that morning provided the employees spend their lunch break in a beneficial way. Phyllis Korkki (2012) said that “taking regular breaks from mental tasks improves productivity and creativity” (para. 2). If they return to work after lunch with renewed energy, a positive attitude, and a clear and calm mind, then they will find that they are much more productive and genuinely happier.

This project aims to find the most effective ways for employees to spend their lunch

breaks so that they can experience the full benefits and recovery of that time off from work. The remainder of this paper will give a brief historical background about lunch breaks and what has been done to ensure that employees take them, discuss why taking breaks from work is so important, as well as why not taking them is bad for employees and business, how doing certain activities during the lunch break greatly improves productivity and well-being, and finally how businesses can implement the most effective of these activities into the workplace. It will also discuss the implications of the research that has been done and provide insight as to how this information will affect the future of office-job employees and their lunch breaks.

Background

Back in 1881 during the Industrial Revolution, working conditions were very poor and the health of the employees was put in jeopardy because of them. In order to combat this issue, unions began to form to regulate working conditions and to force the creation of labor laws. Some of these laws were made to regulate rest breaks and lunch breaks. The Electronic Code of Federal Regulations (2011), or eCFR, clarifies exactly what a lunch break is:

Bona fide meal periods are not worktime. . . The employee must be completely relieved from duty for the purposes of eating regular meals. . . . The employee is not relieved if he is required to perform any duties, whether active or inactive, while eating. (eCFR §785.18, 2011)

This code specifically states that employees are not supposed to be working while they are on their lunch breaks. This law only applies to federal employees, however. Private companies do not need to follow the guidelines put forth by the CFR, but most large companies have similar rules. The government recognized the importance of the lunch break and realized that some employees were not taking a real break because they were working during them. Other research

that will be discussed later supports this claim. The code also specifies regulations for rest breaks. Further, it has a very important line that cannot be overlooked: “They promote the efficiency of the employee” (eCFR §785.19, 2011). This is the basis for the proposition that rest breaks promote employee efficiency. Breaks from work are beneficial to the employee both for their health and for their work. These are not the only codes in place that reflect the importance of breaks for employees, however.

The Washington State Legislature passed the Washington Administrative Code that regulated the lunch periods and the rest periods for hourly employees. The code states that employees are not required to work for longer than five consecutive hours without being allotted time to eat. In addition to that, employees are also allotted a rest break for every four hours they work (Washington Administrative Code 296-126-092). This code and the Code of Federal Regulations are very similar in the fact that they both require employees to be given time for meals and for rest. These are simply the legal aspects of the importance of breaks at work and they vary only slightly across the fifty states. It should be noted that these codes were not simply invented for their own sake. They were made because of a study performed by a famous psychologist and industrial theorist, Elton Mayo.

The idea behind employee productivity dates back to the 1920s with Elton Mayo. He paved the way for the creation of Industrial and Organizational Psychology when he performed a study in a textile mill in Philadelphia to see why there was such a high rate of turnover. It was his belief that the monotonous and repetitive work within the spinning department caused mental abnormalities in the employees. In order to prevent this from happening, Mayo came up with the brilliant solution of implementing rest periods into the workday. The results showed that the rest breaks reduced turnover in the mill. Since then, more focus has been given to the organization of

the workplace in regards to how it influences the employees. The Mayo studies were the starting point for all of the studies done in recent years. They all aimed to find more ways to benefit employees while still being practical and beneficial for companies to incorporate.

Benefits and Risks Involved with Break-Taking Behaviors

Phyllis Korkki (2012) in the New York Times states, “A growing body of evidence shows that taking regular breaks from mental tasks improves productivity and creativity—and that skipping breaks can lead to stress and exhaustion” (para. 2). In regards to risks, the Federal Government, Washington State Legislature, and most states agree that taking a break from work is a good thing to do, and most people assume that doing so gives your brain time to rest. This is true, but it is only part of the big picture. There are several other factors that can negatively influence or be influenced by certain break-taking behaviors

Vigilance Decrement

A study performed by Hayden Ross, Paul Russell, and William Helton (2014) looked to find how changing tasks and taking breaks could affect the vigilance decrement. The vigilance decrement refers to the decrease in the ability of individuals to maintain focus on a task over a period of time. In the first experiment they tested how a change in activity influenced the vigilance decrement. The results showed that simply changing tasks does not reverse the decrease in vigilance. In the second study they tested how the inclusion of rest breaks during a vigilance task affected the vigilance decrement as compared to changing tasks. The addition of rest breaks in this study resulted in “a significant cubic trend in perceptual sensitivity... a reversal of the linear downward decrement in perceptual sensitivity... [and] reduced self-reported effort and temporal demand” (Ross, 2014, p. 1729). Switching from one task to another does not improve an

employee's ability to stay vigilant on their work. They need to take breaks from their work in order to replenish their mental resources. Taking breaks is also shown to reduce the amount of effort needed to complete tasks, as shown by this study.

Negative Emotional States

In regards to the risks of not taking breaks, employees may also feel on-edge or irritable because they either skipped a meal and are missing necessary nutrients that the body uses for energy or they spent their entire break worrying about their work. Stride (2011) said, "Working through their lunch makes 22% of people irritable and stressed too" (p. 36). This affects social roles that the employees have to take when dealing with customers or their coworkers, which is never good for business or personal relations. The employee's mind also did not get to rest since it was being used throughout the lunch break by focusing on work-related tasks. This does not allow the creative processes of the brain to replenish, creates a worsening mood in the employee, and ultimately causes more strain on the employee than is necessary.

Stress

Nic Paton (2010) gives some statistics regarding lunch break attendance as well as some risks regarding not taking breaks. He describes a study performed by the Chartered Society of Physiotherapy which found some surprising results:

[M]any workers did not take sufficient breaks during the working day, worked in the same position for extended periods, went to work when they were ill or stressed, or failed to take enough exercise. A third of those polled admitted they regularly worked through their lunch break, with nearly a quarter taking no lunch at all. (p. 7)

Employees have their reasons for doing these things. Sometimes they believe their jobs require them to work through their breaks in order to get their work done. The employees are then

restricted from movement and do not leave their desks for the entire workday. Based on the amount of work the employees have to do, they might come into work even if they are physically unwell. This certainly adds to the stress they already have from having too much work. Under these circumstances, it is reasonable to assume that many employees would work through their lunch or not take a lunch break at all. This may seem like a smart thing to do in order to catch up on one's work, but the Chartered Society of Physiotherapy, or CSP, argues, "Over-working in this way puts staff at greater risk of suffering chronic musculoskeletal disorders, obesity, cancer, depression, heart disease, Type 2 diabetes and stroke" (Paton, 2010, p. 7). What seemed like a good idea at first now does not sound so appealing. Not taking a lunch break and trying to work through the pain of not moving for hours on end just to catch up on work has far more potential harm than it has benefits.

Work Burnout

If employees continuously work through their lunches, then the end result can be burnout. Burnout is elaborated on by Christina Maslach, Wilmar B. Schaufeli, and Michael P. Leiter (2001) who gave the operational definition of burnout as "a prolonged response to chronic emotional and interpersonal stressors on the job, and is defined by the three dimensions of exhaustion, cynicism, and inefficacy" (p. 397). The three dimensions of burnout are later defined. Exhaustion "refers to feelings of being overextended and depleted of one's emotional and physical resources" (p. 399). These are feelings of being stretched too thin or not having enough energy or mental capacity to continue working. Maslach said that exhaustion "prompts actions to distance oneself emotionally and cognitively from one's work, presumably as a way to cope with the work overload" (p. 403). Cynicism "refers to a negative, callous, or excessively detached response to various aspects of the job" (p. 399). This means that employees simply stop caring

about their job and the consequences of their mistakes. Lastly, inefficacy “refers to feelings of incompetence and a lack of achievement and productivity at work” (p. 399). Employees feel as though they are no longer capable of doing their job well and that they are not making any major achievements with their work. Not taking lunch breaks can expedite these symptoms and contribute to burnout.

Burnout has a substantial effect on employees’ job performance as well as their physical and mental health. Maslach says that some side effects associated with burnout are: not showing up to work, intending to leave work altogether, turnover within the company, lower productivity, less effectiveness at work, less job satisfaction, and less commitment to the company. Burnout also “causes mental dysfunction—that is, it precipitates negative effects in terms of mental health, such as anxiety, depression, drops in self-esteem, and so forth” (Maslach, 2001, p. 406). There are a lot of negative effects of burnout, but what actually causes it? An obvious answer to this question is too much work. This is referred to as “overload” and can be seen in many work environments today.

As the definition of burnout implies, employees are exhausted, they stop caring about certain aspects of their work, and they feel like they are unable to perform their job well so their productivity suffers. This is not the first time these symptoms have been mentioned. Korkki (2012) and Duffin (2005) found evidence that employees were exhausted after they had skipped their lunch breaks or their other breaks. The reduction in productivity was also seen in Stride’s (2011) article. The Maslach Burnout Inventory-General Survey, or MBI-GS (Maslach, 1996) was designed to measure burnout in several occupations and may be used to test this proposition.

Proposition 1: Workers that regularly take effective breaks report less burnout than those who do not.

Lower Productivity

If anything, one would think that the extra time spent working would make the company more money. According to Bupa, this is not the case. Paraphrasing Bupa, Stride said, “Nearly half (48%) of workers feel their productivity levels plummet in the mid-afternoon and they lose almost 40 minutes of their day because of this dip” (Stride, 2011, p. 35). This end-of-the-day slump can be attributed in part to working through the lunch breaks allotted to the employees. The reduction in productivity is also likely to cause a reduction in the quality of the work being done. If employees feel fatigued and have no drive to continue working, then their work is bound to suffer. Stride gives some advice from Dr. Jenny Leeser, the clinical director of occupational health at Bupa, at the end of the article: “Best practice is for employees to take breaks—often in the form of a change in activity—at regular intervals throughout the day to help stay alert and focused” (p. 35).

Proposition 2a: Workers that regularly take effective breaks have higher productive output than those who do not.

Proposition 2b: Workers that regularly take effective breaks produce higher quality work than those who do not.

Impaired Sleep

Similarly, Christian Duffin (2005) addresses the negative effects of not taking a break from work. Among the nurses who completed a questionnaire made by burnout expert Stephen Wright (2005), most of them had low energy levels. In addition to that, Duffin reported the results of the questionnaire given to the nurses:

About two thirds of almost 300 respondents said that work always exhausts them, and about the same number complained that they do not get proper breaks at work. Two

thirds also said that they generally do not get a good night's sleep. (p. 16)

The lack of proper breaks contributed to their feelings of exhaustion and lack of sleep at night. Nurses often have to work around the clock in order to aid patients in their recovery and keep up with the demands of the hospital. With all of the work they have to do, it is not surprising that they feel like they do not have any time to take a break.

A study by Leon T de Beer, Jaco Pienaar, and Sebastiaan Rothmann (2014) looked to find the effects of burnout on sleep. According to de Beer (2014), sleep "is an important effort-recovering factor in combating the development of burnout-related symptoms" (p. 455). If employees are experiencing a lack of sleep, then it is likely that they will experience the symptoms of burnout more quickly and more intensely than someone who gets enough sleep. Problems with sleep are also caused by stress. Since burnout is caused by stress at work over a prolonged period of time, it can be said that it causes more severe sleep impairment. Impaired sleep can, in turn, promote exhaustion and worsen the symptoms of burnout. The results of the survey taken by participants in the study showed that burnout was significantly related to trouble sleeping.

Some research mentioned in Duffin's (2005) article was performed by Angela Carter, an occupational psychologist at the University of Sheffield. She found that only about one third of nurses experience this kind of exhaustion and subsequent sleep difficulties. She also found that managers are more burnt out than nurses are because they have more responsibility and therefore more stress. Referring to Dr. Carter's advice, Duffin (2005) said, "Working in close-knit teams with shared objectives can reduce the likelihood of burnout" (p. 16). Basically if employees have someone or a group of people to share the work with instead of relying on themselves, then it is less likely that they will experience the effects of burnout.

Proposition 3: Workers who do not regularly take effective work breaks experience impaired sleep more often than workers who do.

Most of these effects of not taking effective breaks have been seen before, but the idea that it makes employees mentally stale, in other words not creative, is new to this review.

Maslach (1982) explains that not only is burnout affecting how well the employees work and their physical and mental health, but now it is also affecting how they go about solving problems and creating ideas. An employer wants new and innovative ideas that could be the next big thing and make the company millions but that is not going to happen if the employees cannot function properly enough to even invent a new idea or be creative with their work.

Proposition 4: Workers who regularly take effective breaks are more creative and innovative than those who do not.

Work Conditions that Influence Break-Taking Behaviors

Just as there are several detriments from skipping breaks over an extended period of time, there are also a few factors that contribute to break-taking culture. One is autonomy, the ability to be self-directing and to have the freedom to make your own choices. Work-overload is a situation in which the demands of one's work exceed the abilities of a person to accomplish them. The last of these is work engagement, which occurs when an employee has an emotional connection to their work and is committed to the organization and its goals. These three factors can all influence an employee's choice to either take a break from work or to work through it.

Autonomy

John P. Trougakos, an Associate Professor of Organizational Behavior and Human Resource Management at the University of Toronto-Scarborough, was paraphrased in Korkki's (2012) article saying, "Working over an extended period can be invigorating — if it's your

choice. What drains your energy reserves most is forcing yourself to go on” (para. 12). Thus, autonomy in one’s choice whether or not to stay at one’s desk during a break is an important component. John P. Trougakos, Ivona Hideg, Bonnie Hayden Cheng, and Daniel J. Beal (2014) performed a study on autonomy in which they found that “lunch break autonomy plays a complex and pivotal role in conferring the potential energetic benefits of lunch break activities” (p. 405). If the employees feel that it is their choice to stay at their desk during their break, then their break can have the same positive effects of less fatigue and higher relaxation as if they had left their desks. The reverse is also true; if the employees felt pressured to stay at their desks during their breaks because of their workload or their employers, then they would experience negative effects, such as worsening fatigue and increased stress. These are not the only effects that can be caused by the lack of autonomy in one’s choices.

Maslach (2001) and Trougakos (2014) mentioned that a lack of autonomy can contribute to burnout and fatigue respectively. In her book, Christina Maslach (1982) stated it as “having no direct input on policy decisions that affect one’s job” (p. 40). This makes the employees feel helpless to change their situations of overload and exhaustion which contributes to the effects of burnout. Evidence of the effects of autonomy was seen in the study done by Trougakos (2014). Autonomy did not directly cause burnout in this study, but it did contribute to the exhaustion employees felt when they were not given the choice whether to eat at their desks or not. Maslach’s (2001) article did not offer solutions to the problem of burnout as the concept is too complex to determine exactly what causes it and how to combat it.

Proposition 5a: Workers who autonomously choose to forgo a work break experience less fatigue, i.e. tiredness from over-working that responds to rest, than those whose choice is not autonomous.

Proposition 5b: Workers who autonomously choose to forgo a work break experience less exhaustion, i.e. depletion of personal resources that does not respond to rest alone, than those whose choice is not autonomous.

Work-Overload

Work-overload has also been identified as a cause of employees not taking breaks. Maslach (1982) studied burnout and how it affects people who provide care for others, people who she refers to as helpers. The information in the book is generalizable to anyone experiencing the symptoms of burnout. She talks about how the job setting can be a source of burnout, stating:

Many different job settings that are burnout-prone have one thing in common—overload. Whether it be emotional or physical, the burden that exceeds the person’s ability to handle it is the epitome of what we mean by stress. Too much information is pouring in, too many demands are being made, and it is all occurring too fast for the person to keep up with it. (p. 38)

Overload can lead to exhaustion, one of the three components of burnout. A good way to help manage the overload is to have social support groups that may share the workload and ease the burden. If this is not available to employees, however, then it is very likely that they will fall victim to burnout. Although Maslach makes the case that employees who interact with customers all day are more susceptible to burnout, it is also true that burnout can affect any employee from any job.

One job that often requires employees to work through breaks is nursing. Robin Stride (2011) discusses why practice nurses, as well as other employees in Great Britain, are not getting proper lunch breaks and how this can affect their health negatively. Stride said that over a third of employees feel pressured by their managers to work through lunch and half feel that their

workload forces them to do so. As can be seen from Stride's article, employees are not taking lunch breaks for the same reasons that Paton's (2010) article found. It appears that two significant causes of this lack of lunch culture are pressure from work-overload and the added pressure from supervisors. These do anything but alleviate the stress the employees already have; they only worsen it. Another cause is not having social support from supervisors or coworkers. Employees may be left to their own devices to deal with their overwhelming amount of work and have no one to turn to for help. This adds to the stress and advances their level of burnout.

Proposition 6a: Work overload is negatively correlated with effective worker break-taking behavior.

Proposition 6b: Social support moderates the effects of work overload on employee experienced stress.

Work Engagement

The final concept to be discussed in regards to factors that influence break-taking is that of work engagement. Arnold B. Bakker, Wilmar B. Schaufeli, Michael P. Leiter, and Toon W. Taris (2008) define work engagement as "a positive, fulfilling, affective-motivational state of work-related well-being that is characterized by vigour, dedication, and absorption" (p. 187). This is essentially the complete opposite of burnout. People who are engaged in their work have high levels of energy and have a strong connection with their work. Work engagement is predicted by resources, both job and personal, and leads to greater job performance and customer satisfaction. In the ideal company every employee would experience work engagement, but it seems like a hopeless fantasy when employees continuously work through their breaks and deny themselves the benefits of restoring their personal resources. The job resources available vary from employee to employee and are more under the discretion of the company, so employees

should do whatever is in their power to make sure that they have adequate personal resources, namely to take breaks.

Some research by Jana Kühnel, Sabine Sonnentag, and Mina Westman (2009) looked to see how a short respite from work could improve work engagement. Two other factors were also considered: psychological detachment and job involvement. Psychological detachment refers to not thinking about work or work-related things while taking a short respite. Job involvement refers to a stable attitude toward one's job and mental identification with one's job. To clarify, a short respite in this study is two to four days in length. The study was based on questionnaires given to nurses before and after a short respite. The results were as follows:

Psychological detachment that fosters the restoration of depleted resources during a short respite plays a crucial role for work engagement. Likewise, high job involvement that promotes the investment of resources into work is of relevance for work engagement. (p. 591)

The more psychologically detached employees were from their work during the respite, the more engaged they were in their work after they returned to it. Individuals with high job involvement were more detached during the respite which inversely caused greater work engagement through the detachment component. Employees with high job involvement also experienced direct positive effects on their work engagement.

Proposition 7: Work engagement is positively correlated with effective break-taking behavior.

This study focused on improving work engagement through short respites. The results drawn from the study are also relatable to burnout. If employees experience burnout, they may be given the recommendation to take a short respite in order to counter the effects of burnout and

job stress. This is a severe situation in which multiple days of recuperation are necessary. On a smaller scale, maintaining a continuous level of work engagement could be achieved simply by taking short breaks during the workday and throughout the week. These breaks of course include lunch breaks and coffee breaks which also serve the purposes of improving mental, emotional, and physical health as well as improving motivation if they are used effectively.

This section has shown the effects of autonomy, work overload, and work engagement on certain break-taking behaviors. Autonomy allows employees to choose whether or not to take their break. Either way, since the employees had the freedom to make their own choices, they find that they have less fatigue and a higher amount of relaxation, resulting in less stress, better performance, and improved productivity. Work overload can either lead employees to form social support groups or to forgo their breaks altogether. If they form social support groups then they can share their workload with other people and ease the burden they are carrying. This results in less stress and better performance. On the other hand, if they forgo their breaks then they may become burnt out. Finally, work engagement, or rather a lack thereof, may cause employees to have to take a short respite from work. This long 2-4 day break from work restores an employee's work engagement which results in greater work performance and customer satisfaction as well as improved overall health and motivation.

Approaches to Mitigating Risks of Ineffective Break-Taking Behaviors

The first thing to note about the following solutions is that some of them can reduce fatigue while others can alleviate exhaustion if they are performed regularly and over an extended period of time. Fatigue is caused by overuse of a particular physical or mental system and can be more easily overcome than exhaustion with the assistance of the following solutions.

Mental Disengagement

The importance of mental disengagement as an element of effective break-taking was suggested by Carver, Scheier, and Wientraub (1989) and was mentioned by de Beer. This solution was “*mental disengagement* in the form of day dreaming or excessive sleeping in order for the individual to escape from the stressors experienced in life” (de Beer, 2014, p. 456).

Although there are companies that provide employees with the opportunity to take naps at work such as Google and Nike, this solution may not be practical for all other companies. If the employees decided to take a power nap or have a daydream on one of their breaks, however, then they could easily incorporate this method into their workday. This of course shows that breaks are important not only for their temporary disengagement from work but also for what can be done during the breaks that can benefit the employees.

Katy Marquardt (2010) talked about potential activities that employees can do during their lunch break. These activities can recharge the brain and reduce fatigue. This article says that less than half of employees actually choose to leave their desks during their lunch break. This is not actually taking a break from work because the employees are still involved with their work while they have their breaks. Marquardt (2010) states that “not taking a break can be counterproductive, sapping your energy and lowering your productivity. It can also lead to higher stress levels and, as a result, poorer health” (p. 53). All of the research reviewed up to this point confirms this statement. Not taking a break has negative consequences, some worse than others, such as burnout.

She mentions some ways to spend the lunch break. In order to decrease fatigue Marquardt (2010) recommends “eating lunch, taking a walk, or reading a book” (p. 53). These are relatively simple activities to take an employee’s mind off of work and replenish their energy.

If they simply take their lunch break to eat their lunch and not worry about what awaits them back at their desks, then they will experience some positive effects and actually feel like they had time to rest and relax.

If taking a lunch is out of the question, then there is always the option of a microbreak. Charlotte Fritz, an assistant professor of industrial and organizational psychology at Portland State University, was paraphrased in this article as saying that employees who cannot take lunch could “[g]rab some coffee, run a quick errand, or listen to music” (Marquardt, 2010, p. 53) instead. These are less time consuming activities for the employees who feel rushed but still need some time to get away from their work. On the topic of longer breaks, such as the lunch break, Fritz is said to have recommended “leaving work completely, perhaps by going shopping or having lunch with a friend” (Marquardt, 2010, p. 53). Regardless of what the employees decide to do, it is important for them to take a break and relax.

Korkki (2012) also gives some specific suggestions of activities that employees could do during their breaks to mentally disengage from work and so that it feels like break time is well spent and not time wasted: “Options include walking, reading a book in another room or taking the all-important lunch break, which provides both nutritional and cognitive recharging” (para. 7). It is important to note that Korkki suggested reading in another room. It is not always beneficial for employees to remain at their desks during their break. This does not allow them to completely remove themselves, both physically and mentally, from their work. Korkki also emphasizes the importance of lunch breaks.

Proposition 8: Employees that periodically mentally disengage from work will report less stress than employees that do not periodically mentally disengage at work.

Relaxation and Replenishment Practices

Maslach (1982) discussed how breaks during the workday can be a useful tool in combating the effects of burnout and stress. These breaks can be a short pause, a coffee break, a lunch break, or any other kind of rest period that an employee can take during the day. The breaks themselves allow for mental rejuvenation and refreshment as well as a physical break from being kept in the same position for hours on end. During these breaks, employees can perform certain activities to further relax themselves and replenish their mental resources.

Maslach said,

Regular relaxation will yield a significant reduction in stress symptoms. Most relaxation techniques can be practiced easily during regular breaks in your work routine—such as lunch breaks, coffee breaks, or (for parents or childcare workers) children’s naptime. . . . ten to fifteen minutes is often the ideal amount of time for these techniques. (p. 101)

All it takes is ten to fifteen minutes to relax and replenish the mind and body. Different relaxation exercises, such as progressive muscle relaxation, have been studied by different researchers and have proven to be effective in relaxing employees and improving their productivity.

Active Workstations

There is one solution that does not pertain to breaks from work. Rather, it involves things to do while working that can reduce fatigue and otherwise promote good physical health. It is also important to note that this solution should not be used as a replacement for taking breaks from work, but instead it should be used as a supplement to be done along with the breaks. This solution is active workstations. There are many different types of active workstations, each with varying effectiveness and costs. The following article review goes into detail about the use and

effectiveness of four types of active workstations and their positive and negative effects on employee productivity and health.

Kermit G. Davis and Susan E. Kotowski (2015) wrote an article that examined the different types of active workstations available to employees. The first one they reviewed was the sit-to-stand workstation, which, as its name implies, allows employees to change the height of their desks to either a sitting or a standing height. The article says that “Sedentary work has been linked to several adverse disorders and disabilities, such as obesity, diabetes, and cardiovascular disease... Musculoskeletal disorders have also been linked to sedentary work, specifically those of the hand and wrist, neck, upper back, and low back” (Davis, 2015, p. 9). The pain caused by these adverse effects can lead to a 10-20% decrease in productivity. The sit-to-stand workstation has proven to be effective in reducing the discomfort caused by sedentary work in the upper and lower back. In addition, this method has shown that there are no decreases in productivity if the employees switch positions no more than every 30 minutes. The effectiveness of the sit-to stand workstation depends on whether or not the employees actually make the switch, so computer-prompted reminders may be useful to ensure that they do.

The second active workstation reviewed was the treadmill workstation. This workstation allows employees to walk at a constant pace of no more than 1 or 2 mph while working at their desks. As can be expected, the dual demands of walking at a steady pace while trying to input information into a computer can lead to reduced productivity. On the other hand, this workstation has the potential to “increase caloric expenditure, resulting in reduced weight over time” (Davis, 2015, p. 10). But even with these added health benefits, the loss of productivity and the ineffectiveness of being able to alleviate musculoskeletal pain put the treadmill workstation a step behind the sit-to-stand workstation.

The third workstation is the cycling workstation in which a modified stationary bike is used instead of a chair and the desk is elevated to provide accessibility to the computer and plenty of knee clearance. Again we see the same problems here as were caused by the treadmill workstation. The health benefits and energy expenditure are still present, but “some concerns with this type of dynamic workstation are (a) lack of support for the back for long-term cycling, (b) dual demands of cycling and computer processing, and (c) making sure the workstation is properly adjusted to cycle-person height” (Davis, 2015, p. 10-11). It seems to be that having the ability to exercise while working at a computer only has benefits for losing weight and comes at the cost of reduced productivity.

The fourth and last active workstation is the exercise ball workstation. In this case the normal office chair is replaced by an exercise ball, making this one of the less expensive options reviewed in this article. Although it allows postural variation over the course of the workday, it does not provide relief from musculoskeletal pain. Instead, it has been found that there is “increased discomfort with the exercise ball” (Davis, 2015, p. 11). This discomfort was greater overall and greater for the lower back than is found for a typical office chair. There has been little, if any, research done as to the effects of the exercise ball workstation on employee productivity, but it is doubtful that an increase in discomfort will yield better productivity. It is also important to note that at the end of the article the authors wrote that “routine rest breaks throughout the day can effectively reduce musculoskeletal discomfort without affecting productivity, unlike the types of dynamic workstations discussed here” (Davis, 2015, p. 12). Although these active workstations may provide some benefits to the employees, there is no substitute for taking a short break from one’s work.

An article by Nicolaas P. Pronk (2015) also advocates the idea of having an active

workplace. It starts off by describing the negative effects that sedentary work has on employees, stating that employees in sedentary jobs have twice as many coronary heart disease (CHD) events as employees in more active jobs. In addition, “the prevalence of sedentary occupations has increased from approximately 50% to 80% during the past five decades” (Pronk, 2015, p. 36). That means that 80% of the working population may be suffering the consequences of working sedentary jobs. Such consequences include “obesity, diabetes, impaired glucose uptake, insulin resistance, certain cancers, CHD, and workplace productivity loss” (Pronk, 2015, p. 36). In order to combat these ailments, Pronk suggests the implementation of active workstations. Much like the review done by Davis and Kotowski (2015), Pronk found that out of all the possible active workstations, the sit-to-stand workstation was the most effective for improving performance, mood states, and selected health outcomes. He also found that the other types of active workstations such as the treadmill and cycling workstations yielded lower productivity but also increases in energy expenditure, providing support for the claims made by Davis and Kotowski (2015).

Proposition 9: Employees that use active sit-to-stand workstations will demonstrate improved overall performance and also incur various health benefits.

Cognitive Activities

The final solution for accelerating employees’ recovery from fatigue caused by repetitive manual work is to do cognitive activities during breaks. A study by Svend Erik Mathiassen, David M. Hallman, Eugene Lyskov, and Staffan Hygge (2014) aimed to identify the influences of these cognitive tasks. Each participant performed all three difficulties of the task of recalling the last, two last, or three last letters of a sequence after performing the physical task of manipulating a 300g weight to both near and far positions. It has been suggested that “fatigue

caused by physical work may be more effectively recovered during “diverting” periods of cognitive activity than during passive rest” (Mathiassen, 2014, p. 1). The results of this study provide support for this suggestion.

It was found that the most difficult level of the cognitive task provided the most recovery from fatigue. Heart rate and heart rate variability recovered the most during these cognitive activity breaks. In addition, “Perceived neck-shoulder fatigue was significantly reduced during the breaks, indicating a rapid recovery... typically from “high” fatigue to “weak” fatigue... [and] a tendency to higher alertness was, however, seen in breaks during the difficult mental task” (Mathiassen, 2015, p. 5). The more frequent the breaks are between bouts of work, the less the amount of fatigue perceived by employees is. However, since many employees in the workforce today are not given the opportunity to take many and frequent breaks during the work day it may be beneficial to them to partake in cognitive activities during the few breaks they are allotted. Though this study induces fatigue through the manipulation of a weight, it is also possible that extended use of a keyboard, which is much more common, may also cause employees to become fatigued. Therefore, performing cognitive activities during breaks is a viable solution to reducing fatigue experienced by employees in an office setting as well.

The next solutions to be discussed are more effective for dealing with exhaustion. The key to these solutions is to perform them regularly. They can prevent the onset of exhaustion and also deal with it should it occur. A difference between fatigue and exhaustion lies within the ways in which they are treated. Fatigue could be combatted with mental disengagement, walking, or reading a book, but these would have no effect on treating exhaustion because they are in-the-moment solutions and not suitable for long-term use. The following solutions appear to have a greater influence on exhaustion.

Progressive Muscle Relaxation & Small Talk

Jarek Krajewski, Rainer Wieland, and Martin Sauerland (2010) performed a study in which participants tried two different methods of reducing their levels of cortisol, a stress hormone, during their lunch breaks. These two methods were progressive muscle relaxation (PMR) and small talk (ST). The participants in the small talk group were able to choose the coworkers who participated in this study. Small talk is essentially what employees would do during a normal lunch break, which would be to talk with their coworkers. Krajewski et al. proposed that PMR would benefit all four dimensions of strain: emotional, mental, motivational, and physical. The study found that PMR did indeed reduce strain levels in these four dimensions but it also noted, “The highest strain reduction and largest effect sizes were found for emotional and motivational strain states” (Krajewski, 2010, p. 135). The end results were that the PMR during lunch breaks was more beneficial to the employees than the ST, especially in regards to the effects on emotion and motivation. After the employees performed the PMR session they were calmer and more motivated to work than the employees who partook in the ST groups.

On an average day, employees would engage in small talk with their coworkers while eating lunch and then go back to working at their desk. This use of their breaks is not as effective as when they decided to include progressive muscle relaxation into their lunch routine. The results of this study demonstrate that this activity can reduce strain states far better than small talk can, therefore it would behoove employees to consider taking part in PMR in future lunch breaks.

Jarek Krajewski, Martin Sauerland, and Rainer Wieland (2011) used the data from their previous study to show how the PMR and ST reduced the levels of cortisol of the participants. Krajewski et al. (2011) predicted that extended activation of the hypothalamic-pituitary-adrenal

axis that produces cortisol can “suppress certain immune functions, can be detrimental to health and increase the risk of disease” (p. 382). It is evident that prolonged exposure to cortisol is detrimental to the employees. It is therefore necessary to make sure that they reduce their levels of the hormone fairly regularly so that they remain healthy and perform their jobs to the best of their abilities.

In order to do this, Krajewski et al. used this experiment to insert PMR and ST into the employees’ routines so that they could better understand which method is more beneficial for the employees. The results of the experiment concluded that the PMR was the better option to practice in order to reduce levels of cortisol. The ST was also somewhat effective, but the PMR was more so. Past laboratory research mentioned in this article has found the following:

recovery effects of PMR on the cardiovascular, neuromuscular, electrodermal, autonomous, and central nervous systems. Furthermore, PMR shows effects on a wide range of psychosomatic disorders . . . as well as on psychological variables such as increased positive moods and physical well-being. . . . Moreover, it also increases pain thresholds and decreases inner tension and stress. (p. 383)

There are many positive effects of PMR that have been demonstrated in laboratory settings. The study done by Krajewski et al. brought the use of PMR into the workplace and found that it produced the same results that were found in the laboratory. The sessions of PMR vary in length depending on how much time the employees have after they eat lunch. Even if they only have a few minutes to do the PMR, they can still generate positive results from their session. PMR promotes good health as well as increases energy and motivation. If the employees continuously miss out on this opportunity to improve their well-being, then they are more likely to become burnt out.

Proposition 10: Progressive Muscle Relaxation has a greater effect than Small

Talk on reducing workers' emotional and motivational strain.

Meditation

A possible solution for benefitting employees' performance is the use of meditation. Xiaoqian Ding, Yi-Yuan Tang, Rongxiang Tang, and Michael I. Posner (2014) performed a study in which they tested to see the influences of integrative body-mind training (IBMT), a form of meditation, on attention, stress, mood, and creativity performance. Participants in the IBMT group were compared against a relaxation training (RT) control group. RT is much like PMR in the sense that it focuses on the relaxation of certain muscles. It "involves relaxing different muscle groups from the head to abdomen and forces one to concentrate on the feelings of warmth and heaviness... [and] helps a participant achieve physical (body) and mental (mind) relaxation and calmness" (p. 2). The results of this study showed that short-term IBMT (30 minutes per day for 7 days) yielded better creativity performance, induced higher positive mood states, and induced lower negative mood states than the short-term RT. This does not eliminate PMR as a viable solution since it was not used in the control group of this study, but according to these results it seems that meditation in the form of IBMT is a more effective solution than RT.

Proposition 11: Integrative Body Mind Training (IBMT) has a greater effect than Relaxation Training (RT) and Progressive Muscle Relaxation (PMR) on creativity performance and positive mood states.

At the organizational level of analysis, a study done by Ho Li-An (2011) measured the effects of meditation on employees' self-directed learning (SDL) readiness, organizational innovative (OI) ability, and organizational performance (OP) as well as the relationship among these three aspects. The most relevant findings of this study are those pertaining to OP, which is

a measure of how well an organization achieves its goals or objectives. This is related to how well each employee performs their job. OP, as defined by Li-An, involves four areas: decreasing the learning curve of new employees, quickly responding to customer needs, reducing how often tasks are reworked and ideas are redeveloped, and creating new ideas for products and services. An employee's ability to succeed at all of these areas improves their individual performance as well as the organization's performance. Although Li-An does not specify what type of meditation the study participants practiced, this study found that meditation "significantly and positively influenced employees SDL readiness, companies' OI capability and OP" (p. 113). It was also stated that "meditation practice helps relieve pain, improves physical health, reduces stress, and supports relaxation" (Ding, 2014, p. 113). Meditation is clearly beneficial to employees not only by improving their performance at work but also by improving their physical well-being.

Proposition 12a: Employees that practice meditation demonstrate greater SDL readiness than non-meditating employees.

Proposition 12b: Organizations with a greater number of meditating employees realize greater innovation and performance capabilities.

Based on all of the information gathered on these solutions I can conclude that the most effective solutions to the various problems caused by sedentary jobs are taking breaks to either perform progressive muscle relaxation or meditation and to use sit-to-stand workstations in addition to these active breaks.

Future Research

While types of activities that lead to more effective break-taking and the influence of the organization's culture or attitude toward break-taking in general have been reviewed, some

important factors have not been considered to date. Some topics that should be considered for future studies and research are gender differences in break-taking behaviors, individual differences in these behaviors, and cultural differences in them as well.

Gender Differences

It can be said that men and women vary greatly in the roles given to them by society. This may also be the case in the ways in which they spend their breaks at work. According to a paper written by Suzana de M. Fontenelle and George M. Zinkhan (1993), the concept of leisure time is different between men and women not because of biological sex but because of their gender roles in society. These researchers go on to say that for women, “personal leisure is not viewed as a viable option if it represents putting family and spouse in second place” (Fontenelle, 1993, p. 537). This is essentially saying that women are more prone to behaviors that attend to the needs of other people. From this it can be shown that women, either by preference or by societal roles, tend to participate in more social behaviors in their leisure time than in self-beneficial behaviors.

The same cannot be said for men. According to the research, leisure for men is “experienced independently from the needs and demands of others” (Fontenelle, 1993, p. 538). This is the complete opposite form of leisure that women partake in. It shows that men are less concerned with the social aspects of life during their leisure time. In fact, this research says that men are more concerned with their freedom to do what they want to do during their leisure time. There may be cases where men want to socialize with others, but it is much less likely than women’s preferences.

With these ideas at play, future research should study whether or not these gender differences influence employees’ decisions about which behavior is most appealing to do during

breaks from work. For women it would seem that small talk, group PMR, or group meditation would be the most beneficial behaviors to reduce their stress and rejuvenate them while they are on their breaks from work. For men the active workstations may be the most self-beneficial and least social option of the ones that have been discussed in this paper. There are, of course, other options available to each gender than the ones mentioned and since no individual is exactly like another there are bound to be widely varied individual preferences for break-taking behaviors.

Individual Differences

There are many different break-taking behaviors to engage in in a work setting. It can be postulated that there is not one single behavior that is preferable over all others and the most beneficial from the perspectives of every employee. In other words, one behavior that is significantly effective and enjoyable for one individual may have the opposite effects on another individual. Empirical studies are needed that examine the most preferential and effective break-taking behavior for a large variety of participants. Regardless of age, gender, race, religious background, social standing, etc., break-taking behaviors should provide all people with an equally preferential and effective option for spending their break time. This would require extensive research and many participants to fill the demographic requirements. Although this study would prove very difficult, it would have a significant impact on break-taking culture.

Cultural Differences

The results from studies done in America may only be relatable to the United States. The different cultures around the world may have very different results as there are most certainly many differences between United States culture and those of the rest of the world. Take Guangzhou, China for instance. A survey taken in 2012 showed that the employees of this city spent an average of 9.02 hours working every day, not including breaks. This high dedication to

working would have an impact on the amount and quality of breaks that the employees take. Some of the behaviors, like PMR or meditation, may not be viable options for these employees. In addition to that, they may not even have a significant impact on reducing the levels of stress and fatigue brought about by working these long hours. This may be just one city in one country, but it demonstrates how not all work cultures are the same as in the United States. It is important to note the differences between the various cultures of the world and not to generalize the findings of a study in the United States to all other countries around the world.

Implications

All of the research that was done for this paper contributes to the understanding of the risks of ineffective employee break-taking such as stress, work burnout, and lower productivity, organizational factors that contribute to ineffective break-taking behaviors, as well as the most effective behaviors to partake in during these breaks to obtain the maximum benefit from these breaks. In particular, various activities such as routine practices of PMR, meditation, and the use of active workstations have been proven to be significantly effective in reducing stress, fatigue, and musculoskeletal problems. In addition, my review of the literature identified the positive influence of effective break-taking practices such as these on employee creativity and self-directed learning readiness, as well as organizational innovation and performance. Maslach (1982) describes how burnout affects the employees' work performance and their creativity as such:

Basically, they do a less good job. Motivation is down, frustration is up, and an unsympathetic, "don't-give-a-damn" attitude predominates. They don't take care in making their judgments, and they don't care as much about the outcome. They 'go by the book' and are stale rather than innovative and fresh. They give the bare minimum rather

than giving their all, and sometimes they give nothing at all. (p. 77)

This finding invites further study of the relationship between the most effective forms of break-taking practices discovered to date on individual and organizational performance and innovation.

Using this knowledge going forward, companies can incorporate these behaviors and activities into their workplaces in order to benefit the employees and increase their productivity.

Finally, the formation of new ideas to consider for future research helps to promote the importance, relevance, and need to study the effects of certain additional variables such as gender and culture on break-taking behaviors.

Conclusion

In summary, the literature suggests that employees taking their lunch breaks in a way that allows them to temporarily disengage physically and mentally from their workload is beneficial to the employees in terms of their stress levels and overall well-being, and to organizations in terms of improved productivity, creativity, and motivation. Breaks from work are important for replenishing energy and motivation as well as improving productivity, mental and physical health. Not taking a break has consequences for employees which include exhaustion, cynicism, inefficacy, irritability, lower productivity and motivation, and in the worst case scenario, burnout.

The literature suggests that there are a number of activities that, if engaged in routinely, enable employees to benefit from effective break-taking. Doing activities during the lunch break such as PMR or meditation in addition to using an active workstation can greatly improve the employees' well-being and work performance. Work engagement can be improved by taking short respites and likely maintained by taking advantage of breaks during the workday.

Research in the area of effective lunch breaks has been sparse to date. The research reviewed points to the fact that taking lunch breaks and other breaks during the day are beneficial

to employees and the company they work for and should be used to their full potential for promoting good employee health and productivity. The empirical studies reviewed suggest that if a company is looking to do just that, then the most effective and least expensive ways to do so are to promote the use of sit-to-stand workstations in addition to providing employees with an area to practice PMR or meditation.

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