

The Connection of Breakfast on Mood Behaviour at Work

Angie Edward Daung, Nurnazirah Jamadin, and Asmahani Mahdi

Abstract— Breakfast can be defined as the first meal of the day, which is usually taken early in the morning before we start our daily routines. Previous studies found that those who took breakfast perform better at work with higher concentration and higher cognitive utilization. According to Malaysian Adults Nutrition Survey, one out of 10 Malaysian adults skipped breakfast and starting a day without breakfast have negative effects on mood, memory and energy level of the employees at work. The total number of respondents that participated in this study was 196. This study has utilized Keski-Rahkonen, Kaprio, Rissanen, Virkkunen, and Rose (2003) model to identify the effect of breakfast habit on employees' mood at work. The data were computed using Statistical Package for Social Science (SPSS) version 16.0 then was analyzed using correlation analysis to determine the relationship between breakfast eating habit and mood at work. This study has found that there is a negative relationship between breakfast eating habit and mood at work. Those who took breakfast at work perform negatively at work while those who did not take breakfast perform positively at work particularly on mood behaviour. In conclusion, this study found that breakfast eating habits are negatively correlated with employees' mood at significant level. Therefore, a future research should be conducted to determine other factors that may influence the employees' mood behaviour at work.

Keywords— Breakfast, Mood at work, Employees Performance

I. INTRODUCTION

HUMAN body is like a car whereby it needs the right fuel, Hadd extras like quality protein sources, antioxidants, healthy fats, in order to keep high-performance car engine going strong [1]. Healthy breakfasts are significantly important in order to produce optimum performance. It has been found that a lot of people tend to skip breakfast [2]. The [3] has point out that about one third of all workers regularly skip breakfast. While in Malaysia, [4] also showed that one out of 10 Malaysian adults skipped breakfast, although they know how important it is [5].

Breakfast is generally recognized as the most important meal of the day [6][7] and nutritionists often mention that breakfast is the foundation of healthy eating habits [7], that will promotes better health and better mood [8].

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Eating breakfast also helps both adults and children to pay better attention and improve mental performance. People who eat breakfast are more likely to get all the nutrients they need in a day to feel good and be healthy [9].

II. LITERATURE REVIEW

A. An overview of Breakfast

There are myriad definitions regarding the breakfast that are available in the literature. [10] defined "Breakfast" as "breaks the fast" and this is when individuals had not food or simply fasted since the day before. While [11] has introduced the breakfast similarly as a 'break the overnight fast'. According to [12], the first meal of the day is called breakfast because it breaks the fast that has lasted ten to twelve hours, since the last meal eaten the day before, usually dinner. If individual did not taken lunch until noon today, that is sixteen hours of no refueling [13]. [14] defined breakfast as a meal that "breaks" the "fast" of a period of time where the body receives no food for fuel. In most cases, this period without food is usually during sleep. Therefore, the time when individual generally "break" the "fast" is in the morning when they awake. From the definitions above, the meaning of breakfast leads to the same direction by which it can be understood that when individual not taking any meals since yesterday night until the next day morning till they wake they are breakfast. Thus, this study defined breakfast as the first meal of the day, which is usually taken early in the morning before we start our daily routines. Taking breakfast allows human body to restock the energy stores that have been depleted the whole night. Beginning the day without breakfast is like using the cordless power tool without recharging the battery [11].

B. The importance of breakfast

In the literatures, there are many articles and researches have recognized several importance of breakfast to the functions of human body; cognitively, affectively and physically. Much has been debate on the aspects of physicals and mental but not so much can be found on emotional response to breakfast [15], [16].

In the aspects of the physical response to breakfast, [17] state general importance of breakfast to human body is breakfast could give individuals mental performance and physical energy for morning activities. [17] also highlights that it is essential for individuals to take healthy breakfast because

those who took breakfast are less likely to be overweight, lose weight more successfully if overweight and have reduced risk of certain diseases such as cardiovascular disease and diabetes. In the association between breakfast and individual performance, adults have better overall work performance, while students and adolescents perform better at schools. [18] state that breakfast consumption has proved in improving school attendance and enhance the quality of students' diets. This is because the breakfast refills blood sugar levels, which help to provide energy and improve concentration. As results, individuals would become more alert and productive throughout the day. Moreover, the American Dietetic Association also states that individuals who eat breakfast are less likely to be overweight and they get sick less often than those who do not eat breakfast. In managing weight control, the American Dietetic Association further explains that many people believe that skipping breakfast helps them to lose weight. Essentially, skipping breakfast produces opposite effects because when individuals are hungry during lunch they tend to take higher amounts of meals that are not supposed to be and looking for unhealthy snacks. In relation to the consumption of unhealthy snacks, [19] have found that unhealthy snacks were strongly associated with more accidents and minor injuries at work, more minor injuries and cognitive failures outside work and also stress. Thus, individuals should understand breakfast is not just about breakfast, it is about having a healthy breakfast [17].

While in cognitive response to breakfast, it is proven breakfast could improve concentration and mood of individuals [17]. The previous study on breakfast consumption also proves that breakfast is highly associated with fewer cognitive failures [19]. [19] found that breakfast with cereal and toast are associated with the increasing of mental alertness of the individual. Furthermore, it also found that unhealthy snacking, dietary factors, high fat contained meals promote more accidents and injuries at work, stress [19]. This is particularly due to the nutrients on the food consumption are actually damaging the brain or cognitive functions of individuals that covers memory, attention and also mental capacity on action of individuals [20], [1], [19].

C. Skipping breakfast

Skipping breakfast also creates problems for individuals. [10] mentioned that individuals that skip their breakfast may result in snacking on less healthy food later on in the morning and miss out essential nutrients. The [21] further mentioned that the changing lifestyles particularly due to long commute, work demanding schedules, and time pressures are all factors that lead to unhealthy breakfast in the morning. Skipping breakfast would leave a person tired and frustrated by the afternoon [22].

D. Breakfast and Mood

Previous studies have found strong connection with the emotional response of individuals. [23] explained that food has strong influence with the changes of mood and this can be seen from the choice of food and also its mechanism such as

sensory, nutritional, and pharmacological actions of food and food constituents have effect on mood. The choice of food [23] and the quality of food [16] during breakfast should be given attention by individuals because the contents in the food consumption have effect on mood. In the study of the choice of food and mood, [23] has highlighted several food and drinks that have effect on mood. The composition of caffeine and alcohol has powerful effect on mood. Strong coffee consumed at breakfast improves alertness but at later effect it leads to increased difficulty to sleep. Secondly, carbohydrate meals consumed would increase the availability of serotonin and as consequences it decrease in alertness and facilitates sleep to a person who consumed high amount of carbohydrate. Thirdly, chocolates also found to have influence on mood via the sensory activation of a pleasure response rather than pharmacological action. The consumption of chocolates would produce direct effects such as increase pleasure, relieve boredom, relieve anxiety and depression, or as a source of comfort, calm and relaxed. The sweet taste food compositions are powerful and create direct effects. A sweet drink was tested on babies and results shows that the sucrose amount reduced the initial crying period in response to blood collection procedures.

Based on a study conducted in the United Kingdom, the results show that the consumption of a cereal bar in the morning resulted in increased alertness, happier mood and less anxiety compared to those who did not have any breakfast. Similar study conducted in Germany noted that alertness was increased in all children who had breakfast in comparison to those who did not. In addition, it was noted that boys who consumed breakfast felt more positive. Similar effects were seen in those who had mid-morning snacks, proving the fact that breakfast can have positive effects on mood [24].

Increase in alertness and a more positive mood are crucial for everyone to perform at their best. The discussion in the literature about food and happier mood ensure better work and improved performance. Those who skip breakfast may find themselves moody and irritable throughout the day [5]. Another study has demonstrated that eating breakfast is associated with an important in mental performance and those who have their breakfast has a positive impact on alertness, concentration and helps to establish a positive attitude towards school studies, workplace tasks and other activities [25]. Eating breakfast is also associated with improved strength and endurance in the late morning, along with a better attitude toward school or work [7].

Workplaces especially need to be aware of employees starting their day without breakfast. In addition, [3] stated that a healthy breakfast should be introduced at the workplace as it can help to:

- encourage employees to eat breakfast,
- improve employee concentration and performance,
- engage employees to make healthier choices,
- improve social interaction,
- and improved communication among employees in different departments.

III. METHODOLOGY

A sample of 127 employees of public university was selected as respondents to participate in this study. This study is made up of 57.5 percents of female and 42.5 percents of male respondents. In terms of breakfast eating habits, 74 percents of the respondents take breakfast every day, while 22 percents respondents sometimes took their breakfast everyday and only 3.9 percents respondents claimed that they did not take breakfast every day.

The sampling technique applied in this study is convenience sampling. According to [26], convenience sampling refers to the collection of information from members of the population who are conveniently available to provide it. Convenience sampling techniques is the best way of getting information quickly and efficiently for this study.

Questionnaire was used as a survey instrument in gaining feedback for this study. The questionnaire was developed will based on previous research and combined into one that suited the respondents. The questionnaire emphasized of three sections. The first section gathers demographic information of the respondents, the second section focused on breakfast eating habits among employees, and the last section was a total of 15 items on mood in relation with breakfast eating habits which was developed by [27]. The items were slightly modified in order to make sure that the worded of the statements are able to be understood from Malaysian context. The respondents were asked to rank their responses for each item a Likert Scale that range from (1) not at all, (2) very little, (3) uncertain, (4) sometimes and (5) often.

IV. RESULTS

The data was analyzed using the Statistical Package for Social Science (SPSS) version 16.0. The 15 items in the questionnaire by [27] model were tested using reliability analysis. The Cronbach's alpha (α) of the scale is 0.62, indicating that the items measured was acceptable. In order to determine the relationship between breakfast eating habits on mood, a correlation analysis has been performed. The result from the study found that there is a relationship between breakfast eating habits and employees' mood at work, in which breakfast eating habits was found significantly and correlated negatively with employees' mood ($r = -.234$, $p < 0.01$). it can be interpreted that the employees who took breakfast would have a negative effect on their mood. This study postulate the negative effect of breakfast o mood is particularly due to the choice of food and the nutrition that contain on the food affect the employees. By referring back to the Malaysian food culture, normally Malaysian employees would prefer a menu that highly contains carbohydrate and fat. Previous study such as [19] and [23] have mentioned that foods consumption that contained high fat and carbohydrate would make individuals feel increase in fatigue, decrease alertness, and facilitate sleeps. Therefore, the employees might behave negatively to the mood if they consumed high amount of fat and carbohydrate. The results of this study are contrast with [24] whereby their findings show a positive effect of relationship between breakfast eating habits on mood.

TABLE I
CORRELATION BETWEEN BREAKFAST EATING HABITS AND MOOD

		Mood
Breakfast eating habits	Spearman Correlation	-.234**
	Sig. (2-tailed)	.008

**Correlation is significant at the 0.01 level (2-tailed)

Meanwhile, the result of mean descriptive in the table below shows that the overall mean for positive mood of employees towards their work are quite high that is $m = 3.94$. While the negative statements that have been remarks explain the employees also have lower level of negative mood towards their work and responsibilities. Overall it can be conclude that the employees have slightly positive that is above moderate level mood on their work.

TABLE II

Employees' Mood at Work	Mean Score
1. Happy	4.06
2. Feel Well	4.07
3. Cheerful	4.07
4. Depression*	3.35
5. Unhappy*	3.50
6. Queasy (nauseous)*	3.80
7. Fascinating	3.72
8. Interest in information	3.91
9. Uninterested in information*	3.34
10. Calm	3.78
11. Nervous*	3.45
12. Agitated*	3.40
13. Tired*	2.86
14. Sleepy*	3.11
15. Awake	3.85

* Employees' negative mood at work (Reverse Question)

V. CONCLUSION

This paper examines the relationship between breakfast eating habits on mood at work. The findings of this study indicate that breakfast eating habits are significantly and correlated negatively with employees' mood at work, which concluded that eating breakfast does influence employees' mood negatively at the workplace. Therefore, further studies need to be conducted in order to identify other factors in which effects employees' mood at the workplace. The results of future studies may help to better understand employees and the reasons of such mood and behaviour at the workplace.

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