

Hedonic Eating among Female Students: a descriptive study

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Abstract –Obesogenic environment which characterized by a large number of cheap, easily accessible, delicious, and energy-dense foods has switch eating from energy need to pleasure. It raises the term hedonic hunger, or eats outside hunger and for pleasure. The aim of the study is to explore hedonic hunger in female students. Female students have been found as the more vulnerable when it comes about eating behaviour. N=211 in this study reported their hedonic hunger level using the Power of Food scale. The design of this study was quantitative descriptive. Data was analysed using descriptive technique. The result show that 37% participants were categorized as low in hedonic hunger, 37 % moderate, and 31.3% high. We conclude that this finding can be used as basis for healthy eating intervention that emphasizing the psychological aspect of eating.

Keywords: eating behaviour, hedonic eating, power of foods

The Healthy Living Community Movement (GERMAS) is "a systematic and planned action carried out jointly by all components of the nation with awareness, willingness and ability to behave healthy to improve the quality of life" (Ministry of Health of the Republic of Indonesia, 2018). GERMAS has several specific objectives, namely (1) increasing participation and community participation for healthy living, (2) increasing community productivity, and (3) reducing the burden of health costs (GERMAS, n.d.). While the scope of GERMAS covers six things, namely (1) improving education in healthy living, (2) improving environmental quality, (3) improving prevention and early detection of diseases, (4) providing healthy food and improving nutrition, (5) improving healthy living behavior and (6) increased physical activity (Gerakan Masyarakat Sehat, nd).

Some of the goals and scope of GERMAS are directly and indirectly related to eating and food behavior. Thousands of years ago Hippocrates said that our food could be a drug and our medicine could become food. The health of the human body depends on what it eats (Hicks & Campbell, 2011). Apparently, on the contrary to Hippocrates' opinion, food consumption is now backfire. Many diseases are caused by the wrong diet, such as obesity, high blood pressure, heart disease, and diabetes or Non Communicable Disease (NCDs). This is shown by growing number of obesity prevalence and the level of illness and death due to NCDs (Risksedas, 2013). This is caused by the fact that now we are living in the food-abundant environment.

Food-abundant environments are also called obesogenic environments, characterized by a large number of cheap, easily accessible, delicious, and energy-dense foods (Battle & Brownell, 1996; McGee, 2005; Stroebe, 2008). According to Battle and Brownell (1996), obesogenic environment is characterised by a large number of cheap, easily accessible, delicious, and energy dense foods. Now the priority now is not the nutrition behind the food but how delicious the food is. The urge to consume very tasty food is stronger than the importance of nutrition that contains in a food. And if people's eating behaviour like this is maintained, then public health cannot be maintained because most of these highly palatable foods contain high levels of oil and fat.

This condition causes the shifting meaning of eating and hunger. If in the past hunger was only interpreted as a condition of lack of energy and eating activity was done to achieve homeostasis, now eating can occur without hunger, which is called hedonic eating. This raises the term hedonic hunger, or hunger for pleasure (Avena, 2015).

Hedonic hunger is an urge to consume but outside of the need for energy fulfilment or achieving a homeostatic state in the body. Hedonic hunger can be measured using the Power of Food Scale introduced by Lowe and Butryn (2007). This scale consists of 21 items consisting of 3 dimensions: 1) food availability 2) food present, and 3) food tasted. Together with Lowe and Butryn's colleagues this measuring instrument was then re-evaluated for its psychometric components to produce a PFS scale with only 15 items (Butryn, et al., 2009; Cappelleri, et al., 2009; Lowe et al., 2009). The Power of Food Scale is proven to be reliable in providing an overview of one's response to an abundant food environment. The higher the score means the greater the response of a person to the abundant food environment.

Meanwhile, Indonesian Basic Health Research data in 2007 and 2013 showed that the prevalence rate of obesity in women is much higher than that of men (Riskesmas, 2007, 2013). WHO obesity is a condition of excess fat that is harmful to health (WHO, 2011). which then triggers overeating is one of the things that is often associated with obesity (reference), while in Indonesia alone there has never been a research that attempts to describe how this hedonic hunger phenomenon occurs.

Therefore this study aims to explore the hedonic eating that occurs in Indonesia, especially in DKI Jakarta and its surroundings because it is an example of an appropriate obesogenic context. This research also only involves women, especially girls. The selection of women alone because women have a higher prevalence of obesity than men. Previous research also found that women and men are different in emotion eating, which woman whom emotional eater tend to consume high-energy snack (Camilleri, et al., 2014). Selection of age in the stages of adolescence to young adulthood because research suggests that patterns of unhealthy food selection develop during young adulthood, and are likely to continue for life (Betts et al., 1997; Haberman and Luffey, 1998; Wardle, 1995; in Sharma , Harker, Harker, & Reinhard, 2009). This age is also an age with a variety of possibilities, and individual opportunities to change his life. Arnett (2006, in Santrock, 2008) explains two things; individuals are optimistic about their future, and for individuals

Method

The study used quantitative approach, which is based on measuring variable to get a score. The score obtained is numeric value and then tested on statistical analysis for summary and interpretation (Gravetter & Forzano, 2012). The aim of the study is to describe hedonic eating among female students.

Participant

This study uses a nonprobability sampling technique. This technique, according to Gravetter & Forzano (2012) is a sampling technique that has not been clearly identified how many subject populations. Specifically, convenience sampling technique was used to reach the participants and to collect the data. N=279 female students from DKI Jakarta area and its surrounding.

Measure

The measuring instrument used in this study is the The Power of Food Scale (Lowe and Butryn, 2007; Butryn, et al., 2009) to measure the level of how one is influenced by the abundant-food environment, or their hedonic hunger. The instrument has been adapted by researcher, to adjust the items to be more appropriate to be used in Indonesia.

This measuring instrument is divided into three dimensions namely three levels of food proximity. Each dimension assesses the effect of the foods: 1) food availability or the perceived effect of food: availability of food, 2) food present or the perceived effect of food: actual presence of food, and 3) food tasted: the perceived effect of food: when tasted. The instrument consisted of 15 items. The measurement using 5 points Likert scale, range from totally disagree to strongly disagree. The reliability of the instrument was tested using Alpha Cronbach. The α score was 0.88 , therefore the instrument is very reliable.

BMI was calculated with the formula: kg/m^2 . Body weight and height were obtained by the researcher using a question for their weight and height. Here, participants were classified using as underweight (BMI < 18.5); healthy weight (BMI = 18.5–25); overweight (BMI = 25.01–27); obese (BMI >27).

Procedure

The participants complete the study by completing the survey via link sent to them. Participants filled the PFS scale section and also their demographic info. Participants also filled in the informed consent form as agreement their participation in this study. Only those who complete the form were included in this study.

Statistical analysis

The study is quantitative study which aimed to explore hedonic hunger between in female students. According to Gravetter & Forzano (2012), quantitative research is a study based on measuring variables conducted on subjects to get a score, then analyzed using statistical techniques. This study used a descriptive research strategy, which according to Gravetter and Foranzo (2012) descriptive research study is a general approach used in a study to measure variables or set of variables so as to produce individual descriptions in a particular group, but in this strategy it does not explain and describe the relationship between variable.

Result

Participant

N=279 participants in the study, all female. Those whose BMI categorized as underweight was excluded from the study and those who uncompleted the surveys. As final, N=211 were included in this study. The participants age between 14-23 years old, ranging from high school students to university students. The participant are mostly from DKI Jakarta and the area surrounding (Bogor Depok Tangerang Bekasi). All participants are Indonesian.

Hedonic hunger

The mean for PFS scores was 50.26, SD= 10.83. The means for all three dimensions of PSF as follows:

	Mean; SD	No of Item
Food available	18.94; 5.26	6
Food present	14.56; 3.39	4
Food tasted	16.75; 3.94	5

Table 1: The dimension of PFS

We also categorized the mean obtained from this study into three categories: low, moderate, and high. The result was low category 37%, moderate category 31.1%, and high 31.3%.

Body Mass Index (BMI)

Participants were classified using as underweight (BMI < 18.5); healthy weight (BMI = 18.5–25); overweight (BMI = 25.01–27); obese (BMI >27). In this study the BMI range from 18.5-36.10. The result as follows:

	Frequency	Percent
healthy weight	171	81%
overweight	19	9%
obese	21	10%

Table 2: The dimension of PFS

Physical activity

According to Indonesian Ministry of Health ideal physical activity required in one week is 150 minutes, or equivalent to 20-30 minutes per day (Kemenkes, 2014). By answering question “Have you been doing moderate intensity exercise for the past 3 months (150 minutes per week, or equivalent to 20-30 minutes per day)?”. Those who answer “yes” were categorized as active and those who answer “no” categorized as inactive. The result as follows:

	Frequency	Percent
Inactive	160	75.8%
Active	51	24.2%

Table 3: Physical activity

Media to buy foods

Media to buy foods are media in which participants mostly use to buy foods. There were four alternative answer: 1) via application (e.g. Go Food) , 2) via delivery service from the restaurant, 3) directly on the spot to buy foods, and others if the three alternative answer cannot provide the answer. The result as follows:

	Frequency	Percent
Application	90	42.7%
Delivery	16	7.6%
On the spot	103	48.8%
Others	2	0.9%

Table 4: Media to buy foods

Information about recent foods trend

Since the study was explore about hedonic eating, it cannot be separated from recent foods trend. Thus, the question about where participants got an information about foods trend was also presented. The result as follows:

	Frequency	Percent
Social Media	177	83.90%
Friends	14	6.6%
Family	20	9.5%

Table5: Information about recent foods

Others

In this study, we also tested the correlation between PFS and BMI. The result showed that the correlation between hedonic hunger and body mass index was 0.384 ($p > 0,005$). It means that there is no correlation between hedonic hunger and BMI.

Discussion

The result shows that the mean PFS score among female students in Jakarta was 50.26. The highest score for PFS is 75, from the finding we can conclude that the hedonic hunger among female student in Jakarta is relatively high. Buying foods on the spot apparently is the most popular to do, followed by purchases through applications and delivery from restaurants. The finding shows that technological advances have changed the foods purchasing activity, which is getting easier to do, just click with the fingers. In the question about physical activity, 75.8% answered that they had never exercised or moderate physical activity for 150 minutes / week as recommended. Another interesting finding is the current information section on food, 83.9% answered that they know the latest food trends from social media. The obesogenic context is more widespread, not only offline, but also online, palatable foods seem to exposed humans from all directions.

This study has limitation, the sampling technique was nonprobability random sampling. Thus, we can generate more external validity for the finding. However, results of this study provide an overview of how susceptible female student in the obesogenic context. A relatively high score in this study shows the sensitivity of female students for the drive to consume palatable food in an abundant-food environment. Whereas in some previous studies, hedonic hunger was found to stimulate binge eating (Witt & Lowe, 2014). Other studies also found that the more sensitive a person is to food environment, the higher the tendency to consume unhealthy snacks (Stock, Vet, Wardle, Chu, Wit, & De Ridder, 2015). PFS was also found to be a moderator of craving (Rejeski, Burdette, Burns, Mogran, Hayasaka, Norriss, Williamson, Laurienti (2012). The results of this study has reinforced finding from Lowe, Arigo, Sarwer, Butryn, Gilbert (2016) which found that PFS can be a risk factor for loss of control in eating among college women. Therefore, it is important to immediately develop interventions targeting on women, therefore further effects such as binge eating do not appear.

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