

CHAPTER TWO

REVIEW OF LITERATURE

The chapter reviews the literature in 6 main areas as follows: (1) definition of junk food, (2) nutritional value of junk food, (3) harmful effects of junk food consumption, (4) parents' health concerns and control over children's consumption, (5) related study, and (6) summary.

2.1 DEFINITION OF JUNK FOOD

According to Wikipedia (2008), Junk food is defined as a kind of food ranging from sweets which provides no or less nutritional value to products for a meal that contains essential nutrients, plus ingredients causing unhealthiness if continuously consumed. Characteristics of junk food are containing high levels of refined sugar, white flour, trans fat, saturated fat, salt, and a variety of additives including preservatives and coloring agents. In addition, junk food lacks proteins, vitamins, fiber, and essential nutrients.

Although junk food, as well as fast food, is easy to make and consume, it provides consumers with no nutritional value, but fat. Junk food gives people the most attractive feature and taste, but it hardly benefits health (*Harmful Effects of Junk food*, n.d.).

Some kinds of such fast food as hamburger, pizza, and fried chicken are categorized as junk food because they full of fat as well as high calories. They also do not provide human body with any essential ingredients (“อาหารขยะ,” 2538).

Junk food is food with little nutritional value but high calories, fat, salt, or caffeine content. Many items of junk food and fast food are listed in the Encyclopedia of junk food and fast food as follows (Smith, 2006);

- **Bakery goods**

- | | |
|--------------------------|---------------|
| - Bakery Snacks | - Chips Ahoy! |
| - Chocolate Chip Cookies | - Cinnabon |
| - Cookies and Crackers | - Doughnuts |

- Dunkin' Donuts
- Girl Scout Cookies
- Little Debbie
- Mrs. Field Cookies
- Pepperidge farm
- Twinkles
- Others
- Fortune Cookies
- Krispy Kreme
- Moon Pie
- Oreos
- Pop-Tarts
- Winchell's Donut House

- **Candy**

- Baby Ruth
- Butterfinger
- Cadbury Schweppes
- Chanukah Candy
- Chocolate
- Deep-fried Mars Bars and Twinkies- Gum
- Gummy Candy
- Junior Mints
- Lollipops and Suckers
- Others
- Bit-O-Honey
- Cadbury
- Caramels
- Chewy Candy
- Chocolate Confections
- Jelly Beans
- Licorice
- M & M's

- **Fast Food**

- A&W
- Domino's Pizza
- Little Caesar's Pizza
- McDonald's
- Panda Express
- Popeyes
- Chicken
- Chicken McNuggets
- Church's Chicken
- Egg Fast Food
- Burger King
- Kentucky Fried Chicken (KFC)
- Long John Silver's
- Mexican Food
- Pizza Hut
- Subway
- Chicken Delight
- Chuck E. Cheese Pizza
- Cinnabon
- Fish and Chips

- French Fries
 - Frozen Pizza
 - Hot Dog
 - Others
- Fried Chicken
 - Hamburgers
 - Onion Rings
- **Ice Cream**
 - Baskin-Robbins
 - Drumsticks
 - Haagen-Dazs
 - Dairy Queen
 - Eskimo Pie
 - Others
- **Beverages**
 - Root Beer
 - Cola
 - Ginger Ale
 - PepsiCo
 - Soda/ Soft Drink
 - Cadbury Schweppes
 - Diet Soda
 - Mountain Dew
 - 7-Up
 - Others

2.2 NUTRITIONAL VALUE OF JUNK FOOD

Foulke (1992) mentioned that such snacks as potato chips, fast-food cheeseburgers, and fries offer high levels of fat, sugar, and salt to consumers. It is pointed out that fat, saturated fat, and cholesterol from junk food can lead to increasing level of blood cholesterol, heart disease, overweight, or even cancer. Dietitians recommended that people should consume fats less than 30% of total calories and saturated fat less than 10% of total calories in order to maintain health.

According to Samang Suebsaman (สำออง สืบสมาน, 2545), the nutritional value of fast food is shown in Table 2.1 to create a clear picture about the nutritional value of junk food or fast food. Referring to the statement that people should consume fats less than 30% of total calories and saturated fat less than 10%, it is obvious that almost all items of fast food listed below provide

consumers with an amount of fat more than 30%. This condition can lead to obesity as well as many other complications.

Table 2: Nutritional Value of Fast Food

Kind of Fast Food	Weight (gram)	Weight of Nutrient (gram)			Energy Content of Nutrient (%)			Energy Content (kcal)	Cholesterol (mg)
		Protein	Fat	Carbohydrate	Protein	Fat	Carbohydrate		
Hamburger (Big Mc)	211.78	27.62	35.71	41.44	19.06	55.45	28.60	579.60	83.74
Cheese Burger	71.07	27.94	31.82	30.86	21.42	54.90	23.66	521.64	60.40
Chicken Sandwich	159.66	68.02	20.25	26.71	56.18	37.63	22.06	484.30	80.14
Fried Chicken Breast	106.87	26.17	17.44	10.15	34.62	51.91	13.43	302.37	91.97
Fried Chicken Drumstick	62.34	14.80	10.68	4.42	34.55	56.09	10.32	171.37	73.46
Meat Pizza	252.52	49.27	34.77	66.64	26.76	42.48	36.19	736.58	55.60
Supreme Pizza	230.04	29.05	28.06	49.00	20.57	44.71	34.70	564.79	81.78
Seafood Pizza	221.89	29.48	15.22	66.19	22.69	26.36	50.95	519.69	76.74

Table 2 shows the nutritional value of a la carte dishes. The majority of a la carte dishes provide consumers with an amount of fat that is less than 30% of total calories. The percentage of fat from a la carte dishes as listed below supports the dietarians' guidelines to maintaining health. Compared to the nutritional value of junk food, a la carte dishes give consumers less percentage of fat than junk

food although the weight a dish of both a la carte dishes and junk food is almost equal.

Table 3: Nutritional Value of A La Carte Dishes

Kind of Food	Weight/dish (gram)	Protein %	Fat %	Carbohydrate %	Energy Content/dish (kcal)
Thai glass noodle salad with shrimp and squid + rice	250	14	17	69	218
Meatball noodle (beef)	447	22	16	62	226
Fish maw in brown soup with quail egg	392	32	17	29	239
Rice with assorted vegetable served with budu sauce	189	12	24	65	248
Papaya salad + rice	250	7	3	89	255
Boiled rice with shrimp	273	45	19	36	264
Stir-fried macaroni with shrimp	267	18	26	55	264
Noodle in gravy sauce with shrimp	354	12	23	60	292
Thai spicy mixed vegetable soup + rice	388	16	4	80	294
Spicy green mango salad + rice	250	6	3	92	302
Curry with cassia leaf and flower in coconut milk + rice	300	10	5	86	304
Sour soup made of tamarind paste with shrimp and papaya + rice	399	17	14	79	307

(table continues)

Table 3 (continued)

Kind of Food	Weight/dish (gram)	Protein %	Fat %	Carbohydrate %	Energy Content/dish (kcal)
Hot and sour soup with shrimp + rice	341	18	12	68	310
Clear soup with stuffed squid + rice	311	14	19	60	319
Thai rice noodle with fish curry (with coconut milk)	435	16	26	59	332
Roasted duck + rice	281	16	13	71	337
Omelette + rice	206	11	33	57	374
Grilled chicken drumstick + sticky rice	170	20	9	71	396

2.3 HARMFUL EFFECTS OF JUNK FOOD CONSUMPTION

There are many harmful effects of junk food consumption in both the short and long term as follows; (*Harmful Effects of Junk food*, n.d.).

1. *Lack of Energy*

Lack of energy is a short-term effect, commonly resulting from excessive consumption of junk food. The human body does not get essential nutrients from junk food, so people who usually consume junk food suffer from energy deficiency.

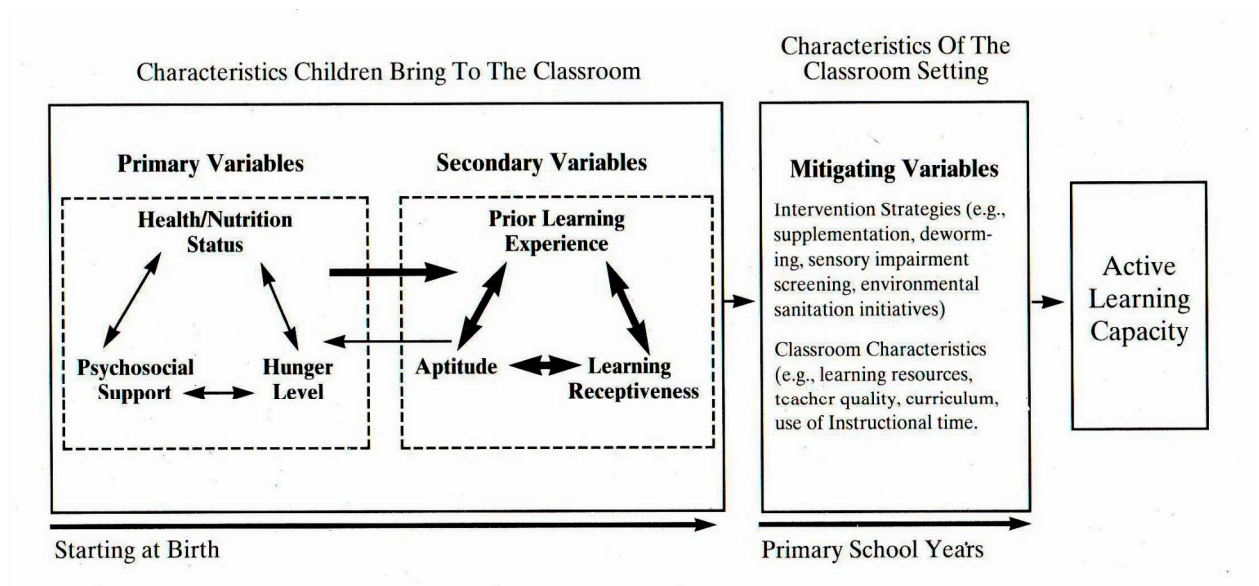
2. *Poor Concentration*

People who consume oil-rich junk food over constant periods get blood circulation drop due to fat accumulating in the inner walls of arteries. As a result, they feel drowsy, and then develop poor concentration. In addition, their grey (brain) cells are temporarily decayed because they lack essential nutrients, oxygen, and proteins.

Figure 1 presents the factors affecting the active learning capacity of primary school children. There is the relationship of characteristics children

bring to the classroom, characteristics of the classroom setting, and active learning capacity. It is apparently seen that health/ nutritional status is a primary variable and also a factor affecting the learning capacity of children (Levinger, 1994). If children consume too much junk food that they lack essential nutrition, a lower learning capacity can develop.

Figure 1: Factors affecting the active learning capacity of primary school children



3. Heart Diseases

The main cause of heart diseases is the intake of junk food. There is plaque formation in arteries; thus, the heart has to put in an extra effort to pump blood on the down stream, and the heart lacks a blood supply on the up stream. This condition causes myocardial infarction or a severe heart failure as well as heart fatigue.

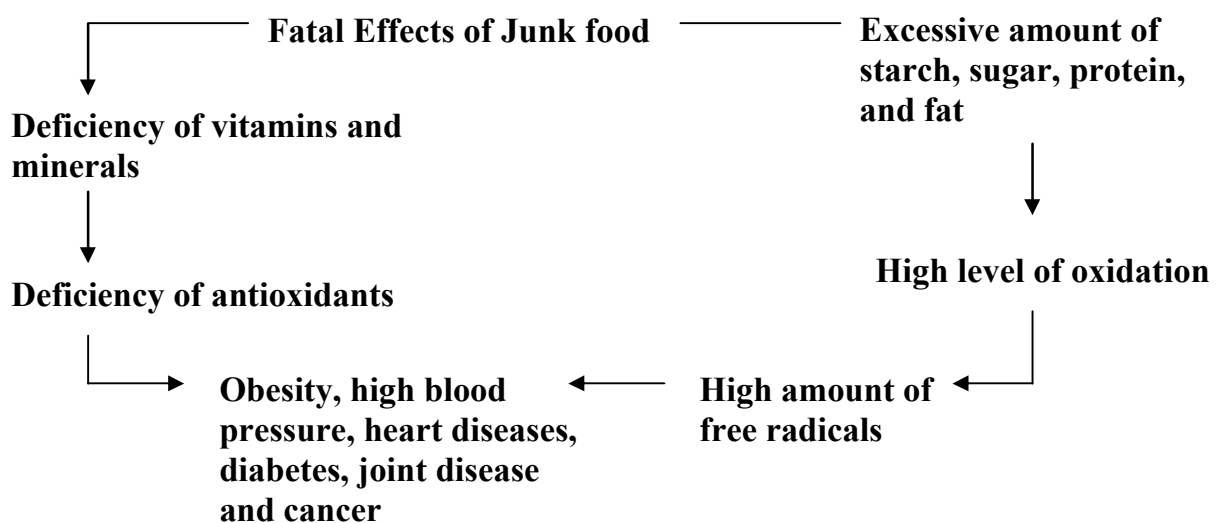
4. High Cholesterol

Most junk food contains a high level of cholesterol that directly has an impact on the function of the liver that metabolizes it. Whenever people consume junk food on a regular basis, they have high cholesterol in their body as well. As a result, the liver cannot commonly metabolize the cholesterol. For long term effects, high cholesterol from junk food can lead to severe liver damage.

Heredity and metabolic conditions such as diabetes can influence a person's high cholesterol; in addition, such nutrients as saturated fat are also a factor. High cholesterol can cause 18% of strokes and 56 % of heart disease among people who have high cholesterol throughout the world (World Health Organization, 2002).

Figure 2 presents the harmful effects of junk food. When people consume junk food, their bodies attain an excessive amount of starch, sugar, protein, and fat that is more than the human body's actual needs. Consequently, a high level of oxidation is required to burn the excessive starch, sugar, protein, and fat. This process leads to a high amount of free radicals. Because of the high amount of free radicals, obesity, high blood pressure, heart diseases, diabetes and joint disease can develop as well as cancer. If one continuously consumes junk food, the human body will lack vitamins and minerals. This condition leads to a deficiency of antioxidants causing obesity, high blood pressure, heart diseases, diabetes, joint disease, and cancer as well. Panu Ampornbupcha (ภาณุ อัมพรบุพชา, 2535, p. 15) created the flowchart of risk effects of junk food consumption as below;

Figure 2: Fatal Effects of Junk Food



Children's junk food consumption competes with a balanced diet need for growth and healthiness. The consumption of fast food and junk food has paralleled the increase in obesity in America as well as the rise in type 2 diabetes (Smith, 2006). In *The Fast-food Diet: Quick and Healthy Eating at Home and on The Go*, Donkersloot (1991) stated the negative effects of junk food. Such fast food as burgers, pasta, sandwiches, pizza and hotdogs has been main diet of Americans. These kinds of food provide a high amount of high calories, sodium, and fat. Conversely, they lack essential fibers, vitamins, minerals, and other important micronutrients. The diet of fast food as mentioned above can lead to obesity as well as be a risk factor of heart disease and cancer.

2.4 PARENTS' HEALTH CONCERNS AND CONTROL OVER CHILDREN'S CONSUMPTION

Palmer (2008) said that, "Two thirds of British mums believe that their children should eat what they are given." It was reported that the British parents in 2008 have more control over children's consumption. Only 27% of parents in 2008 were happy to buy what children want, compared to 41% in 2005. In addition, British parents these days prepare lunchboxes which reportedly include more fruit, yoghurt, and vegetables than lunchboxes they prepared last year (Palmer, 2008).

In many developed countries such as the United Kingdom, children hardly consume five or more daily servings of fruit and vegetables that are good for optimal health and prevention of chronic diseases, but their common diets have high levels of sugar, fat, and refined carbohydrates. These diets can lead to the increasing prevalence of obesity contributing to many chronic diseases. As a result, the relationship between parental control, food neophobia, and fruit and vegetable consumption in preschool children was studied. It was reported that parental control had a relationship with children's fruit and vegetable consumption (*Parental Control Over Feeding*, 2005).

2.5 RELEVANT STUDY

Hasnita (2004) conducted research on the Nutritional Status among Public Primary School Children with and without the School Snack program in Jati Asih Sub District in Indonesia. A total of 1,260 schoolchildren in grade 1-3 from 12 schools were observed. Twelve schools included two schools with the snack program and ten schools without the snack program. The prevalence of underweight of school children in this study was 66.00%, and the children without a school snack program tended to be underweight rather than children with a school snack program. It was also found that there were various socioeconomic factors that influenced the nutritional status of children. They included the education level of father and mother, father's occupation, mother's food knowledge and status of having breakfast, and these aforementioned factors had statistically significant associations with the nutritional status of public primary school children in Jati Asih sub district in Indonesia. It should be discussed that children will have a better nutritional status if their school takes care of food they consume such as providing a school snack program. In addition, the background and role of their parents such as food knowledge are important things to improving children's nutritional status.

Samang Suebsaman (สำออง สืบสมาน, 2545) studied factors and behavior of fast food and junk food consumption in order to understand the motivation and value of fast food and junk food consumption among youths in Bangkok. The population of this research included 400 youths aged 15-19 living in Bangkok. It was pointed out that most subjects had a good knowledge of the calorie sources from food; however, their knowledge of fast food related to the risk of heart disease, hypertension, high cholesterol and overweight was still limited. Samang Suebsaman (สำออง สืบสมาน, 2545) analyzed the interesting factors of fast food and junk food consumption. The first factor was that breadwinners or parents these days hardly had time to cook for their children and take care of their children's meals. The other one was the influence of western culture that motivated Thai youths to consume much more fast food and junk food in order to socialize with

their friends. In addition, it was reported that the parents also ordered and consumed fast food, so it could make their children believe that fast food consumption did not seem strange or harmful. It was apparently shown that parents took a significant part of youths' fast food and junk food consumption. Youths were likely to imitate their parent's consumption behavior, and they should consume less amounts of junk food and fast food if their parents take care of their meals.