

The Association of the Nutrition Transition and the Development of Eating
Disorders

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Project Proposal: The Association of the Nutrition Transition and the Increase of Eating Disorders

Eating disorders are becoming more and more common. There are several factors that influence a disordered relationship with food. The most common knowledge of eating disorders is that it stems from media and popular culture's idea of beauty. This is absolutely the case, however there are other factors that have the ability to cause a disorder. One of the more recent ideas is the notion that as diets change along with demographics of nation a shift occurs away from traditional eating causes confusion over what is healthy to eat. This confusion has implications that cause shame over eating things that are deemed bad, or even misconceptions as to what is actually healthy and necessary to eat. Most likely eating disorders are caused by a combination of factors. It is important to be able to evaluate all of these factors in order to understand how to better treat and prevent them.

In order to understand the broad spectrum of eating disorders, it will be important to first describe and research their diagnosis as a basis for how eating disorders will be discussed in the paper. The explanation and interpretation of the demographic transition will be crucial as it is foundational for the nutrition transition. A detailed analysis of the nutrition transition will be implemented, as it is a part of the focal point of the paper. After the nutrition transition is discussed it would be best to analyze how it influences the rise in eating disorders in newly developing regions. It will also be important to recognize how globalization as a whole influences eating disorders, for example how the media also effects their

increased prevalence. The discussion of treatment cross culturally as well as how to shift back to traditional eating habits will be researched and suggested as a conclusion to the paper.

Annotated Bibliography

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC.

The Diagnostic and Statistical Manual describes two main types of eating disorders. The first is Anorexia Nervosa. Anorexia Nervosa is defined as the fear of gaining or maintaining appropriate body weight. Individuals diagnosed with Anorexia Nervosa refuse to eat appropriate amounts of food, out of fear of gaining weight, and often take extreme measures to lose weight such as take laxatives or participate in large amounts of exercise. The second clearly defined eating disorder is Bulimia Nervosa, defined as compulsive binge eating usually followed by excessive exercise, improper use of laxatives, or self-induced vomiting. Individuals can also be diagnosed with eating disorder unspecified. Individuals who fall into this category usually have certain key characteristics of those with either Anorexia Nervosa or Bulimia Nervosa, but do not meet all of the criteria.

Becker, A. E. (2004). Television, Disordered Eating, and Young Women in Fiji: Negotiating Body Image and Identity during Rapid Social Change. *Culture, Medicine & Psychiatry*, 28(4), 533-559.

Becker's study on the impact of television on the bodily ideals of individuals in nations undergoing rapid social change shows that individuals experiencing a change in their culture's traditions are more vulnerable than before. Becker discusses the importance of learning about global norms from television and the impact it has on those who are grasping for new guidelines as their tradition values are being phased out. Becker interviewed women and girls in Fiji, a nation experiencing rapid social change, to test her hypothesis. Becker discovered that due to the ideas about body image portrayed by popular media, Fijian females are experiencing a newfound dissatisfaction with their bodies. Becker recorded that this bodily dissatisfaction is causing a rise in disordered eating ideas.

Bender, R. L. & Dufour, D. L. (2012) Nutrition Transition: A view from anthropology. In Dufour, D. L., Goodman, A. H., & Pelto, G. H. *Nutritional Anthropology: Biocultural perspectives on food and nutrition*. (pp. 372-382). USA: Oxford University Press.

Dufour and Bender review the nutrition transition proposed by Barry Popkin from an anthropological standpoint. They review each stage of the nutrition transition in the context of anthropology. The first stage is analyzed with a look at the typical hunter gather diet. They conclude that this stage is marked by variability and flexibility that allow the hunters and gatherers to be in their healthiest condition. The second and third stages are framed in both a prehistoric and a contemporary context. The conclusion of this analysis is that famine and receding famine occur primarily in agriculturist societies and less so in hunter-gatherer populations. The fourth stage is examined as our current state, or the stage that the

world at large is moving toward or into. This stage is defined by unevenly distributed resources and industrialized food resources.

Denny, K., Loth, K., Eisenberg M. K., Neumark-Sztainer, D. (2003) Intuitive eating in young adults. Who is doing it, and how is it related to disordered eating behaviors? *Appetite*, 60(1), 13-19

This study shows the correlation between intuitive eating practices and decreased chance for disordered eating habits. The study states that individuals who trust their body for hunger cues are 40% less likely to experience disordered eating. The study was organized as a part of the Eating and Activity in Teens and Young Adults program in Minnesota. The study notes that socio-economic status does not have a significant correlation with eating disorders, but rather intuitive eating practices do. It was found that external messages about eating are commonly the cause of non-intuitive eating practices. Such external factors include family pressures and media. Intuitive eating is also associated with a lower BMI. Individuals with higher BMI are more likely to try dieting to lose weight rather than being attentive to hunger cues.

Franko, D. L., Becker, A. E., Thomas, J. J., & Herzog, D. B. (2007). Cross-ethnic differences in eating disorder symptoms and related distress. *International Journal Of Eating Disorders*, 40(2), 156-164.

This study investigated the possibility of differences of symptomology of individuals with eating disorders from varying ethnic backgrounds. The study took place amongst college students in the United States. There was significance found in the correlation between ethnic background and eating disorder symptoms. The study identifies that there are specific symptoms that show greater severity and frequency amongst specific ethnic groups. The significance of this study recognizes the importance of having multicultural competence for the understanding and treatment of eating disorders.

Hawkes, C. (2006). Uneven dietary development: linking the policies and processes of globalization with the nutrition transition, obesity and diet-related chronic diseases. *Globalization & Health*, 24-18.

This article describes the economic drive behind globalizing food distribution. It discusses the separation that is occurring between countries with stable and well off economies and countries that tend to have lower income. It describes those with higher incomes as reaching out and taking the resources from poorer countries and leaving them to eat lower quality and delocalized food. The quality of food is discussed in the context in light of the desire to produce the largest amount at the lowest cost possible in order to create a larger profit. The article also discusses the way food is marketed and objective of companies like Coca-Cola that make it their goal to reach every place on earth with their product.

Hawks, S. R., Merrill, R. M., Madanat, H. N., Miyagawa, T., Suwanteerangkul, J., Guarin, C. M., & Chen, S. (2004). Intuitive eating and the nutrition transition in Asia. *Asia Pacific Journal Of Clinical Nutrition*, 13(2), 194-203.

This study analyzes the decline in intuitive eating as a country develops and adopts western thinking and culture and progresses along the nutrition transition. The study compared the intuitive eating scores of the U.S. with the scores of four Asian countries. The study used questionnaires given to college women to determine the intuitive eating scores of each country. College women were chosen as the population because they are most often the first group affected by the nutrition transition. The results of the study show that countries less affected by western ideas and diets tend to have higher scores on the intuitive eating scale, showing that they are less reliant on extrinsic factors to determine their diet. This information suggests that populations that eat more traditional diets are less likely to experience confusion over healthy eating.

Hudson J.I., Hiripi E., Pope H.G., Kessler R. C. The Prevalence and Correlates of Eating Disorders in the National Comorbidity Survey Replication. *Biological Psychiatry* 2007; 61:348-358.

Madanat, H., Lindsay, R., & Campbell, T. (2011). Young urban women and the nutrition transition in Jordan. *Public Health Nutrition*, 14(4), 599-604.

This study done on Jordanian Colligate women explores the affects of the nutrition transition on eating habits of those in rapidly transitioning populations. The study collected data from women about their satisfaction with their body, their motives for eating, as well as their current BMI. The study found that a significant amount of individuals had a unsatisfactory view of their body and were often motivated by that to restrain their eating. The results showed that individuals from higher economic groups were more likely than others to have extrinsic reasons for eating and were less reliant on hunger cues to determine when or what to eat. This finding is significant because it shows that those who are further along in the nutrition transition, such as those with higher incomes, are more concerned with body image and experience more confusion over proper eating patterns.

Mathieu, J. (2009). What Should You Know about Mindful and Intuitive Eating? *Journal of the American Dietetic Association*, 109(12), 1982, 1985, 1987.

This article discusses the importance of implementing intuitive eating strategies in the treatment of eating disorders. The primary goal is to discuss the meaning of both mindful and intuitive eating in attempt to increase awareness of their effectiveness in treating eating disorders and superiority to dieting as an attempt to loose weight. The article describes intuitive eating as relying on the cues given by the body to dictate how much is eaten, and even what is eaten. The article says that mindful eating is not to be confused with preoccupation with food, but an awareness of what one is consuming and the needs of the body. One of the first steps

in mindful eating is to make sure that there are no distractions that could keep one from identifying satiation. The article suggests that such eating practices are helpful for weight loss as well as helping those with disordered habits regain control and health.

Pelto, G. H., & Pelto, P.J. (1983). Diet and Delocalization: Dietary Changes since 1750. In Dufour, D. L., Goodman, A. H., & Pelto, G. H. *Nutritional Anthropology: Biocultural perspectives on food and nutrition*. (pp. 353-361). USA: Oxford University Press.

Pelto and Pelto discuss the movement of diet from local, available foods to processed delocalized foods. They describe the discrepancy that occurs as a result of this delocalization. There is a positive correlation between the increase in delocalized foods and the stratification of food resources. Countries that are further behind in development and industrialization experience a decrease in food quality as well as a shortage of food resources. The article states that as the world continues to move toward delocalization the gap between those receiving the resources and those producing the resources will grow wider.

Outline

- I. Eating disorder prevalence is increasing due to many factors
 - a. Societal influence and pressure through media
 - b. Shift away from traditional food culture
- II. Eating disorder diagnosis and prevalence
 - a. Demographics of eating disorders
 - b. Anorexia Nervosa
 - c. Bulimia Nervosa
 - d. Binge eating
- III. Nutrition transition
 - a. Stage 1
 - i. Traditional foods
 - ii. Intuitive eating
 - b. Stages 2 and 3
 - i. Famine and population growth
 - ii. Reseeding famine, over nutrition, globalization of food resources
 - c. Stage 4
 - i. Shift in thinking
 - ii. Return to intuitive eating
- IV. Implications of nutrition transition on eating disorders
 - a. Rapid social change effects nutrition
 - i. Obesity rises after a society shifts to globalized food
 - ii. Confusion occurs when a society stops eating locally and intuitively
 1. Chinese woman experiencing confusion after loosing intuitive eating practices
 2. Jordanian women and globalized food
 - b. Resulting increase in eating disorders
 - i. Reliance on globalized food products increases obesity
 - ii. Causes confusion about what is healthy
 - iii. Fixation on dieting and healthy eating
- V. Intuitive eating as treatment for eating disorders
 - a. Return to traditional ways of eating
 - i. Eat locally and seasonally
 - ii. Stop counting calories
 - b. Teach how to listen to the body's hunger cues
 - i. The body knows better than food industry what it needs
 - ii. The body can be trusted to indicate what it needs and when it needs it
 - c. Treatment
 - i. Moves individuals with eating disorders away from counting calories or exchanges
 - ii. Helps individuals understand the body's use for food and ability to use it efficiently
- VI. Conclusion

Globalization of food has created a delocalization of diets and a shift away from intuitive eating. Researchers have been looking into intuitive eating practices and how it benefits an individual's relationship with food. The term "intuitive eating" is used to describe eating practices in which an individual is attuned to their body's hunger cues and needs. Intuitive eating is suggested as the most efficient way to maintain a healthy weight and relationship with food, rather than obsessive counting or dieting that can cause disordered relationships with food and body. The stages of the nutrition transition defined by Berry Popkin describe the movement away from local foods toward internationally exchanged foods (Bender & Dufour, 2012). The exchange of foods across cultures as well as the increase in processed and genetically modified products creates an imbalance in what foods are being consumed as compared to nutrition based on traditional foods and intuitive understanding of one's body. Populations that are in the fourth stage of the transition have experienced increases in obesity. These increases in obesity are evidence of the lack of knowledge of and inaccessibility to natural, unprocessed foods, as well as a decrease in energy expenditure. These disadvantages lead to confusion over what is healthy and best to eat in order to meet the body's needs. Hunter-gatherer populations and small-scale agriculturist populations did not experience this problem because of the intuitive knowledge about what is seasonal, local, and appropriate to eat, as well as easy access to such foods and active lifestyles that used high levels of energy. The lack of processed food in these societies created a majority plant-based diet, which provided the necessary nutrients (Bender & Dufour, 2012).

Recent research shows correlations between latter stages in the nutrition transition and an increase in eating disorders (Hawks, Merrill, Madanat, Miyagawa, Suwanteerangkul, Guarin, & Chen, 2004). Eating disorders have complex etiology that is hard to define because of the many components that influence each individual (APA, 2000). The movement away from intuitive, localized diets creates vulnerability for disordered eating. Popular media promotes a thin body image that conflicts with the obesity induced by processed food and lower energy expenditure (Becker, 2004). This conflict leaves individuals struggling with disordered concepts of eating and body image. Popular culture encourages counting calories and the complete cutting out of certain food groups in order to lose weight and try to be healthy. A more appropriate approach to healthy eating and treatment for eating disorders would be a movement back toward traditional food culture based on intuitive eating (Denny, Loth, Eisenberg, Neumark-Sztainer, 2003).

The Diagnostic and Statistical Manual defines three main types of eating disorders and a fourth category of Eating Disorders not otherwise specified. The first is Anorexia Nervosa. Anorexia Nervosa is defined as the fear of gaining or maintaining appropriate body weight. Individuals diagnosed with Anorexia Nervosa refuse to eat appropriate amounts of food out of fear of gaining weight, and often take extreme measures to lose weight such as taking laxatives or participating in large amounts of exercise (APA, 2000). The second clearly defined eating disorder is Bulimia Nervosa, defined as compulsive binge eating usually followed by excessive exercise, improper use of laxatives, or self-induced vomiting (APA, 2000). Binge eating is the most prevalent of eating disorders at this time. Binge eating disorder

manifests as excessive compulsive eating usually induced by external influences. Individuals can also be diagnosed with eating disorder unspecified. Individuals who fall into this category usually have certain key characteristics of those with either Anorexia Nervosa or Bulimia Nervosa, but do not meet all of the criteria (APA, 2000). The lifetime prevalence of anorexia nervosa is .9% for females and .3% for males. Bulimia nervosa is found to have lifetime prevalence 1.5% for females and .5% for males. As the most prevalent form of eating disorders, binge eating disorder has a lifetime prevalence of 3.5% for females and 2% for men (Hudson, Hiripi, Pope, Kessler, 2007).

It is not uncommon for those with eating disorders to desire to cut out entire food groups that they feel will cause them to gain weight. They follow trends in dieting and become obsessive about following strict regimens. There is commonly guilt and shame that follow if they have eaten a food that has been deemed “off limits” and an irrational fear that they will gain excessive amount of food from eating such foods (Fox and Goss, 2012). The fear of certain foods is often enhanced by popular ideas in dieting and current fads in nutrition.

It is important to keep in mind that the etiology of eating disorders is highly complex and cannot be generalized for all individuals diagnosed with an eating disorder. There are several common factors however, that often increase chances of disordered behaviors. Commonly, individuals with eating disorders are also dealing with low self-esteem, past trauma, or excessive anxiety and depression. The eating disorder acts as a coping mechanism for unpleasant emotions or memories. It is easy for individuals to repress harsh thoughts while becoming obsessed with food.

Individuals can experience a high from successful restriction, bingeing, and purging. These behaviors provide a distraction that allows them to focus on something other than deeper more painful emotions. Often times individuals are unaware that the painful emotions exist under the eating disorder and usually don't identify the eating disorder as a coping mechanism (Fox and Goss, 2012). In essence an eating disorder is a coping mechanism that is effective in helping an individual deal with a difficult situation, but it subsequently causes self-destruction and deprecation. As societies shift away from intuitive eating and popular culture promote ideals of unrealistically thin bodies, disordered eating becomes an easily accessible way for individuals to cope with deeper issues.

The nutrition transition can be broken down into four stages. These stages are in correlation with the demographic transition. The Demographic transition is triggered by economic growth. As a result there is an increase in urbanization, which is correlated to the nutrition transition. The nutrition transition, according to Berry Popkin, leads to wide spread obesity (1993). Popkin states that obesity is a result of overly processed foods and a decrease in physical activity. Both processed foods and decreased physical activity are consequences of modernization (Popkin, 1993).

In the first stage of the demographic transition, population levels stay consistent. The death rate and the birth rate are high and relatively equal. This is a result of lack of medicine and modern innovation for the prolonging of life. The life style of a society in this stage is most likely a hunter-gatherer population that has both high fertility and mortality. The food getting strategies in this society

demonstrates the first stage of the nutrition transition. Higher levels of physical activity required for acquiring food are found in this stage. The food consumed by people in this stage primarily consists of carbohydrates and fiber in the form of plant nutrients and is seasonal and varied. There is a very small amount of fat consumed in this stage and virtually no saturated fat. These factors contribute to low levels of obesity (Popkin, 1993).

Another aspect of this stage in the nutrition transition is the amount of intuition used to eat and choose foods. The people in this stage are reliant upon the land and seasons to produce the food they need. They are not manipulating plants with hormones, or producing food in off-seasons. The food that they eat is determined by what is available at that time (Bender and Dufour, 2012). The advantage of this is that they receive a wide variety of nutrients found in the different foods produced in each season. The food they eat is unmodified and contains larger amounts of vitamins and nutrients per unit than the food we now consume. An advantage of this stage is the variety and flexibility it provides. Hunters and gatherers are rarely adversely affected by drought. Their mobility allows them to move to more advantageous land and small numbers do not demand high production of foods (Bender and Dufour, 2012).

It is important to note that human bodies evolved under the conditions of the hunter-gatherer lifestyle. Our bodies adapted to function best with the energy sources that were available. The energy available was primarily plant based with a small amount of animal protein. Things that humans crave, foods high in sodium and sugar, were hard to come by during Paleolithic era while humans were evolving.

Because foods that are calorie, carbohydrate and fat dense were sparse during the evolution of humans, we are now not adapted to process such rich food. As a result our bodies suffer (Wiley and Allen, 2013).

Stage two in the demographic transition sees a spike in population. The increase in population is due to higher life expectancy and lower mortality rates. The birth rates at this stage stay relatively consistent with stage one however, thus creating a boom in overall population size. This increase in population is both initiated by higher food production, and then demands higher food production. Hunter-gatherer food getting strategies are no longer sufficient for feeding the growing number of people (Popkin, 1993). Societies at this stage of the transition move toward horticultural and cash crop practices. At this stage a society is reliant on surplus. Because of the reliance on excess in order to feed those who are employed with jobs other than farming the threat of a drought and famine become more problematic. If a drought causes lower production the whole society will suffer because of the inability to feed everyone (Bender and Dufour, 2012).

Stage three of the Nutrition Transition shows a move away from famine by development of agricultural practices that stave off famine. In this stage there is a movement away from local and season foods. As surplus becomes more necessary when jobs other than farming increase societies become dependant on imported food as a buffer against famine. Jobs produced by surplus cause a gathering of people in an urban center. Urbanization is key at this point in both demographic and nutrition transitions. Food producers begin to modify products in order to generate more for a lower cost. This modification reduces and changes the original nutrient

contents of the food (Popkin, 1993). As diets shift away from local foods and seasonal variety a disconnect occurs between the food and the consumer. The consumer is no longer intuitively choosing food that is available, but rather choosing what is convenient. Diets become less varied, which can cause unfortunate outcomes (Dufour and Bender, 2012). A varied diet provides an assortment of nutrients that are essential for balance and proper energy intake. The imbalance of nutrients leads to vitamin deficiencies and, at the same time, can cause obesity and degenerative disease (Pelto and Pelto, 1983).

Delocalization is a key benchmark in the Nutrition Transition. Delocalization is caused in part by people moving to urban centers and abandoning small-scale societies that can be sustained by local farmers. By default, items that may be specialty items to one region or culture are shared when people move to new places. However, this knowledge of new food creates a demand for these foods in places where they are not naturally grown or traditionally eaten. Although experiencing foods of other cultures may seem like a good thing, this can cause a decrease in availability of certain foods that were once essential to a society's diet as it has now become a primary export (Pelto and Pelto, 1983).

An example of delocalization of area specific food becoming a worldwide commodity is the green sea turtles traditionally eaten by the Miskito of Central America. The sea turtles were traditionally a main source of energy. They have now become an item that is in demand internationally. The Miskito people cannot afford to keep the sea turtles for themselves now and are forced to sell them. As a replacement for this loss of energy, they now buy the majority of their food. The

new foods that now make up the diet of the Miskito people include sugar, flour, and cooking fats. The food has much different structure than their traditional items and typically has a much higher content of carbohydrates (Pelto and Pelto, 1983).

The fourth stage of the nutrition transition is embodied in cultures that have reached advanced development. At this point in the demographic transition population has begun to decrease because fertility rates are below replacement as seen in countries with advanced development. These societies also see an increase in obesity, which is the trademark of the fourth stage of the nutrition transition. As a culture enters the fourth stage it begins to mimic a western diet. First there is an introduction of vegetable oil and sugar. Next there is an increase in intake of animal products and processed food products. These cultures also experience a decrease in energy expenditure as jobs are not physical in nature, and the majority of the day is spent sitting. The increased prevalence of obesity is caused by an increased intake of higher calorie, sugar dense, animal based foods, as well as foods with modified nutritional value. A loss of cultural eating practices and decreased physical activity add to the prevalence of obesity as well (Popkin, 1993). The increase in obesity and poor nutrition causes a rise in degenerative disease. The increase in obese individuals worldwide has been easy to identify. Countries that are further into the nutrition transition like the United States have a high prevalence, around 30 percent, of obesity. Other countries like Kenya that are not as far progressed in the transition have much lower numbers, below 1 percent. (Dufour and Bender, 2012).

Popkin believes that an additional stage of nutrition transition is emerging (1993). This stage is reached when societies begin to have a change in attitude

about eating and nutrition. This change is caused by recognition of diet related non-communicable disease. As a society becomes increasingly more developed it reaches a point of producing enough surplus resources to allocate time and effort towards producing higher quality foods. These foods differ from those in the fourth stage of the transition in that the fats they contain are of better quality. These foods are not as likely to be genetically modified and contain more of the nutrients they originally did prior to modification. The desired outcome would be that as societies move back to local, unprocessed diets it would cause healthier eating habits and a decrease in disease and obesity (Popkin, 1993).

These stages have been observed and documented all over the world. Western countries that are far into the latter stages of the demographic transition have experienced the shift in nutrition over a more prolonged time frame. Countries that are experiencing rapid social change are facing quickly changing diets and eating patterns. These changing societies allow for observation of eating habits and give insight into how individuals react to such changes (Bender and Dufour, 2012). These changes cause confusion over eating habits. This confusion combined with excessive messages about beauty portrayed in the media creates perfect circumstances for individuals to experience disordered eating.

An example of disordered eating resulting from rapid change is found in a study done on collegiate Jordanian women. The hurried social development in Jordan has led to a change in diets that reflect the fourth stage in the nutrition transition. The study shows evidence of the transition happening first in the urban centers while the rural areas have not yet encountered the transition. The study

recorded that young women are eating more processed foods containing higher levels of saturated fats, reflecting the expectations of the nutrition transition (Madanat, Lindsay, & Campbell, 2011).

The collegiate women in the urban cities of Jordan show evidence of a shift away from intuitive eating and an increase in external eating pressures. Those from higher income brackets show more evidence for external eating. This is probably a result of higher stress levels and more social pressure. College aged women had higher rates of restrained and disordered eating than other women surveyed. Social pressure and higher levels of stress most likely cause this. Women with higher levels of internalized media messages were more likely to have restricted calorie intake. 48 percent of those studied recorded a desire for body change. These women did not associate this desire directly with exposure to western media, however they are the population that has the highest level of exposure. Women living in urban areas had scored significantly higher on the scale of internalized media messages. There is a tie between the influence of media and body dissatisfaction, reflected in the study that showed many who scored one point higher on internalized media messages were more than six times more likely to desire body change (Madanat, et al., 2011).

Women who were scored as overweight or obese were more likely to express body dissatisfaction. This fact is evidence of the correlation between the fourth stage of the nutrition transition and dissatisfaction with body image. Researchers believe that these factors will contribute to increased prevalence in eating disorders in the near future. They noted the discrepancies that collegiate women experience between traditional eating and body norms, and the new ideas presented in the

media and the rapid change in diet and eating patterns. These discrepancies allow for confusion over how to have a healthy relationship with food and self in regards to food and body satisfaction (Madanat et al., 2011).

This study accurately portrays the lines that tie together social change and increase in eating disorders. The fact that the women in Jordan who are currently experiencing the highest levels of external eating influences are those who are the furthest along in social change depicts the effect change has on eating habits. The observation of women who are of the same nationality, but different social structures, manifesting significantly differing eating habits further supports the idea that this change is happening quickly (Madanat et al., 2011). The observation of this culture in transition provides a good picture of how rapid change effects diet, and subsequently the cultural ideals of self in relationship to food.

A group of Chinese women who were surveyed regarding body self-perception and eating habits shows similar results (Madant, Hawks, Campbell, Fowler, and Hawks, 2010). The women who were surveyed were college students living in rapidly developing urban centers. The women were asked questions about their desired body size and their eating habits. The majority of the women self-reported weights that placed them in a normal BMI range, and one third of the women reported a BMI classified as underweight. Despite these numbers, the majority of women expressed dissatisfaction with their bodies and a desire to change the way they look (Madant et al., 2010).

Of the women surveyed, over 50 percent of them reported habits that reflected restrained eating. Just over 20 percent of the women reported disordered

eating. The women were asked about their perception of what caused their desire for a smaller body size. The women did not overwhelmingly state that it was caused by ideas projected by western media, which does contradict the hypothesis of the study (Madant et al., 2010). However, the study was conducted in a more interior region of China that is still in transition and not quite as far advanced in the nutrition transition. The conductors of the study predict that this region of China will soon experience similar patterns to those seen in Japan that reflect an increase in eating disorders as the global food market takes over further into the nutrition transition (Madant et al., 2010).

In a study that analyzed the intuitive eating practices of the Asian countries of China, Japan, the Philippines and Thailand in comparison to the United States, researchers found almost explicitly that intuitive eating decreases in accordance with economic development (Hawks et al., 2004). As predicted in the hypothesis of the study the average intrinsic eating scores of each of the countries tested were correlated with the level of development of the country. The United States reported the lowest scores for intuitive eating and is also the study's leader for development. The other countries scored progressively higher for intuitive eating, as the level of development was rated lower (Hawks et al., 2004).

The results of the study showed that those with the most normal BMI and the least likely to diet were those who practice intuitive eating. Countries with higher percentages of obesity and overweight individuals were also found to have more instances of dieting and restrictive eating, as exemplified in the numbers recorded

about the United States. The Asian countries with lower numbers of obesity also had fewer instances of dieting or restriction (Hawks et al., 2004).

Intuitive eating practices are essential for a healthy relationship with food. A study that looked into the eating habits of young adults shows that those attuned to the signals given by their body regarding satiety and hunger were less likely to engage in disordered eating patterns (Denny et al., 2003). Both men and women were included in this study and the results from both genders had the same outcome. Women were more likely not to trust the hunger cues given by their body, but, amongst both men and women, those who did not trust their bodies had higher numbers of dieting and restriction as well as binge eating (Denny et al., 2003).

The higher prevalence of obesity is certainly a factor contributing to disordered eating. As obesity increases, a sense of body dissatisfaction is created both in those classified as obese and those who are still classified as normal. Those who are obese experience dissatisfaction with themselves, especially when they compare themselves with images projected by the media. There are also people classified as having a normal body weight that can experience fear of becoming obese or experience body dysmorphia; both of which are induced by messages in media that will cause a desire for restriction or dieting (Kollei et al., 2013). Body dysmorphia is a disorder in self-perception. Individuals who experience body dysmorphic disorder experience disillusionment about their body's appearance and how others view them. These individuals believe their body is shaped in an unattractive way, and often take drastic measures to alter it. Frequently body

dysmorphic disorder is comorbid with anorexia nervosa, or another eating disorder (Kollei et al., 2013).

Anne Becker has done large amounts of research into the effects of modern media on the ideals of body size of newly developing nations. In one study she observed the affects of watching television on Fijian adolescent girls (Becker, 2004). The rapidly changing society provided a perfect framework for observing the influence new western ideas portrayed in television have on body satisfaction. Becker found that the implication of the media's ideal body type lead to a desire to alter body shape. She noted that, contrary to their indigenous practices, girls reported the desire to change and shape themselves. Becker states that an increase in exercise and dietary change were significant after watching television and interpreting messages from the media. Unfortunately the desire for a change in body size and shift in ideals about what is beautiful has lead to an increase in eating disorders, as noted by Becker (2004).

The results of all of these studies point to development and social change as a primary factor in the increase of eating disorders worldwide. Because of the delocalization of food and loss of intuitive eating habits that increases prevalence of obesity, there follows confusion about healthy eating and misconceptions that cause disorder in the relationship with food. This indicates that teaching intuitive eating is the best way to curb the increase of eating disorders. Although social development will continue to spread and change the diets of those affected by the development, consistently teaching how to trust the body's hunger cues will allow for healthy adjustment to new food and options (Denny et al., 2003).

Dieting is not a notion that can be found in any of the early stages of the nutrition transition. Dieting is a concept that arises in the fourth stage after societies have entirely abandoned intuitive cultural and local eating practices. William Banting developed the first commercialized low-carbohydrate diet in the mid 1800s. Banting himself was significantly overweight, and proceeded to lose weight by cutting out almost all carbohydrates. He proceeded to publish the first book on the subject (Bowden, 2004). Diets attempt to convince people that changing their eating patterns will help them lose unwanted weight. A reason dieting is not prevalent in the first stages of the nutrition transition is because there is hardly any obesity or people who are overweight. Diets are created in attempt to help people eat in a healthy way, but they usually result in fads that are short lived or not actually advantageous for overall health. Diets have become another source of revenue for food producers. Through marketing, people are convinced that they should cut out certain food groups or add excess of others (Denny et al., 2003).

A major ramification of this dieting mentality is the creation of a culture obsessed with labeling food as “good” or “bad”. When a culture begins to categorize food as either “bad” or “good”, it allows a potential for individuals to experience shame when they consume food that is seen as bad. Individuals who are dissatisfied with their body image will be more susceptible to feeling shame in eating particular foods deemed unhealthy and be more likely to restrict these foods. Michael Pollen writes about a term he calls “nutritionism” in his book *In Defense of Food* (2008). Pollen describes the fixation of American culture on labeling food. The idea is that there is a trend in breaking down foods into categories such as fats, carbohydrates,

and sugar, and foods are subsequently given a label that state what percentage of each category the food contains. Unfortunately, the food's label then becomes the basis for choosing what to eat, rather than relying on traditional ideas and intuition. Food labels also contain calorie counts, which are not necessarily bad, but can easily contribute to labeling a food as "good" or "bad". This also contributes to the habit of counting calories. Calories in food were not calculated until between 1890-1900. It wasn't until then that counting calories was even a consideration in deciding what foods to consume (Bowden, 2004). Normalization of counting calories can lead to an unhealthy obsession that can be a manifestation of disordered eating. Nutritionism destroys the traditional view of food as a nourishing tool that provides essential energy and creates an idea that food should be chosen based on what it's label says (Pollen, 2008).

Because mixed messages about food and body image are the primary contributors to eating disorders it is essential that individuals struggling with eating disorders learn the truth about food. Part of learning the truth about food is restoring a healthy view of food as nutrients and a vehicle for receiving energy. The best way for an individual to learn this is through intuitive eating practices. The goal of teaching intuitive eating would be to instill the idea that it is not necessary to count calories or choose foods based on a "good" or "bad" categorization, but rather to learn to trust the hunger signals and cravings of the body in order to eat what is best (Mathieu, 2009).

The concept of having to teach intuitive eating is new. After diets and external eating factors have become the primary influences in eating habits intuitive

eating is no longer practiced as a regular lifestyle. Intuitive eating is something that is not taught to young children and babies, yet it is something that they do. We see young children turn away from food they do not like and stop eating when they have had enough. These children are practicing the most basic concepts in intuitive eating; they are relying on their body to understand what is best to eat (Mathieu, 2009).

Intuitive eating is a term introduced by a few registered dietitians in the 1990s. These dietitians based their ideas on the fundamentals of eating displayed in childhood eating patterns that are yet to be influenced by mixed messages about food. There are ten primary building blocks for intuitive eating that include: “Honor your Hunger, Reject the Diet Mentality, Make Peace with Food, Challenge the Food Police, Respect your Fullness, Discover the Satisfaction Factor, Honor Your Feelings Without Using Food, Respect Your Body, Exercise for Wellbeing, Honor Your Health” (Mathieu, 2009). The hope of the dietitians in establishing these principles is to help individuals have an appropriate and healthy view of food without it becoming obsessive. Potentially, teaching intuitive eating will help curb the confusion of eating what is most beneficial nutritionally speaking. Intuitive eating is simple once it has been internalized as compared to current fads in dieting that require calculating calories or cutting out food groups. The benefit of intuitive eating is that it allows individuals to eat whatever they want as long as it is in response to a hunger cue.

A study conducted by a researcher at Ohio State University found that individuals who were actively using the ideas of intuitive eating had a healthy BMI and reported little to no dissatisfaction with their body size. In contrast, research done on dieting shows that overweight individuals who use diets to lose weight

have a high chance of gaining that weight back after they give up the rules of the diet. Obese individuals who are beginning to learn intuitive eating are less likely to revert to old habits (Bacon, Stern, Van Laon, Keim, 2005). This is a repercussion of not having to cut out any food and allowing themselves to eat what they need or even crave. When a person has given himself or herself permission to eat whatever they want they are able to objectively look at their food options from a point of view that helps them decipher what the need is, rather than being convoluted with the excitement of getting away with eating a food that has been deemed off limits. When there is permission given to eat anything people are able to eat slower and enjoy their food with the mentality that the food is simply a means to gain energy and provide nutrients to live (Bacon et al., 2005).

Popkin has predicted that there will be a shift back toward quality-centered diets after societies have proceeded through the fourth nutrition transition. As cultures hopefully shift back toward organic or localized foods, it is hopeful that they will also shift back toward an intuitive way of eating (Popkin, 2006). Recreating the connection between consumer and food production is key in helping individuals make better food choices. Because the motivation for the transition to this stage is induced by a desire for better health, it is important that individuals learn what it is about a food that makes it a quality choice. Primarily people need to learn how to make intuitive choices (Popkin, 2006).

In regards to eating disorder treatment, limited research shows that intuitive eating instruction has been effective in helping individuals reach a point in recovery that seems to be more permanent than teaching an exchange system. Dietitians

working with eating disorder patients who educated their clients with intuitive eating principles have seen significant strides made in the progress of their recovery (Mathieu, 2009). The effectiveness of intuitive eating has been seen in all forms of eating disorders. Those with anorexia nervosa are able to experience a freedom in their choices that they haven't before. Others who struggle with binge eating disorder learn to listen more carefully to their body's hunger signals when choosing what and how much to eat (Mathieu, 2009).

It is important for individuals struggling with an eating disorder to learn to appreciate what food can do for their body. The shift to thinking in the fifth stage of the nutrition transition it will allow individuals to learn what quality food can do for them. If the majority of food being produced is quality and people are aware of the benefits that different foods provide, there will be less need for dieting and reading labels. It seems hopeful that this could be beneficial for treating people with eating disorders. Eliminating the fear of food being "good" or "bad" could improve their relationship with food (Mathieu, 2009).

Although globalization and development have provided many positive advances for modern society, it has made somewhat of a mess of regular diets. The movement away from traditional food production is a central cause in the diet related issues we see today (Popkin, 2009). The shift from traditional foods follows on the heels of the demographic transition. The fluctuation of population size is a major factor. As societies change and grow the demands of food production change along side them. This change in food production eventually leads a society into an epidemic of diseases caused by diet deficiencies. Obesity is the most common result

of these changes. This increase of obesity occurs in the fourth stage of the nutrition transition when packaged and modified foods become the norm. Countries that have proceeded through the first four stages of the nutrition transition, as proposed by Berry Popkin, are likely to have an incredibly high prevalence of people classified as obese (2009).

Another down side to globalization is the increase in media exposure. Researchers like Anne Becker have found that the affects of Western media on people in developing countries are negative (2004). Becker has shown that media influences the desired physical appearance of those consuming it. It also affects their relationship with food and ideas about healthy eating practices (Becker, 2004). A study done on University students in Pakistan had similar findings to those of Becker. The study showed that the higher the exposure to media the more likely an individual was to score high on a body dissatisfaction scale. Pakistan is another country undergoing rapid social change and urbanization. It is more evidence for the influences of western ideas presented in the media on the ideas of self (Khan, Khalid, Khan, & Jabeen, 2011).

The loss of traditional food culture has left people with inadequate knowledge of intuitive eating, and caused them to rely on labels in order to make decisions about what to eat. This, combined with high prevalence in obesity and negative messages about body image projected from the media, has contributed to sky rocketing increases in eating disorders. Eating disorders are complicated and often have convoluted etiology (Bacon et al., 2005). It is clear though, that a lack of

intuitive eating practices allows individuals to have unhealthy and disordered eating habits that have dire ramifications.

Intuitive eating has proven to be effective thus far in helping people make wise decisions about eating. Individuals who practice intuitive eating are almost always of a healthy BMI and do not have a disordered relationship with food. Intuitive eating is a positive solution for people struggling with eating disorders. It is different than dieting in that it does not ask individuals to cut out or eliminate any food. It does ask that they become more in tune to what their body needs and their hunger cues (Mathieu, 2009).

The fifth stage of the nutrition transition proposed by Berry Popkin suggests a shift toward more quality food (1993). This could lead to positive outcomes for people with eating disorders. If the components of food become less complex and return to a simpler structure, it will be easier to understand what foods contains and how it can best be used for the benefit of the body's overall health. This stage will truly require a change in thinking and cooperation in order to take full affect and actually benefit those who struggle with disordered eating (Popkin, 1993).

The shift in nutrition is a product of social change caused by the progression of development both economically and culturally. Movement in fertility and mortality rates that require economic growth initiates the demographic transition. The growth seen by these transitions dictates a change in societal structure. The increase in population size leads to a need for surplus resources for the new mass of people. As a civilization grows there becomes a need for food to be produced in larger quantities than those seen in the hunter-gatherer lifestyle. This is seen in the

first stage of the nutrition transition when both fertility and mortality rates are high. Larger populations of people require organization and government. Essentially they require individuals to be dedicated to jobs other than food getting. This requires others to be dedicated to producing enough to provide for those not producing their own food. Researchers have seen this need transform the way that people eat as populations grow and change (Popkin, 1993).

As defined by Berry Popkin, All populations began in the first stage of the nutrition transition by hunting and gathering all of the food consumed (1993). The next stage in the nutrition transition is small-scale agriculture marked by wide spread famine. The third stage of the nutrition transition consists of decreasing famine caused by the way food is produced. Food in this stage is modified to produce larger quantities. In the third stage cultures begin importing and exporting goods in compliance with global demand. The fourth stage is marked by wide spread degenerative disease and obesity caused by correlations to modified nutrition. Food in this stage is overly processed and contains large quantities of sugar and saturated fats. The final stage of the nutrition transition defined by Popkin is a shift in thinking that leads a culture back to traditional ways of thinking about nutrition and eating (1993).

By the time cultures reach the fourth stage of the nutrition transition there is a loss of intuitive eating and local food culture (Popkin, 2006). These losses produce confusion over what defines a healthy diet and as a result increase disordered eating. Eating disorders have become more widely prevalent with both the higher rates of obesity and the globalization of western ideas regarding body size and

dieting. There is not one specific cause of eating disorders, but rather a multitude of things that contribute to the illness. As individuals are surrounded by conflicting messages about nutrition and body image an obsession with food becomes a distraction from other dysfunction in their lives.

In order to decrease the prevalence of eating disorders and to treat individuals currently struggling with eating disorders it is important that intuitive eating be a part of the shift into the last stage of the nutrition transition. Intuitive eating is simpler than popular diets that promise weight loss. Intuitive eating teaches individuals to listen to hunger cues and learn about what the energy from food provides in order to help the body function to its full potential (Mathieu, 2009). Diets teach how to cut out foods and restrict in order to lose weight, rather than promoting overall health. Intuitive eating as well as a shift in thinking towards more natural and plant-based diets will allow movement away from convoluted messages about eating and reduce health problems such as obesity and eating disorders.

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