

2014

Variations in Fast Food Habits Between Males and Females at Grand Valley State University

Brittany Ballew
Grand Valley State University

Follow this and additional works at: <https://scholarworks.gvsu.edu/honorsprojects>

ScholarWorks Citation

Ballew, Brittany, "Variations in Fast Food Habits Between Males and Females at Grand Valley State University" (2014). *Honors Projects*. 322.
<https://scholarworks.gvsu.edu/honorsprojects/322>

This Open Access is brought to you for free and open access by the Undergraduate Research and Creative Practice at ScholarWorks@GVSU. It has been accepted for inclusion in Honors Projects by an authorized administrator of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.

Grand Valley State University, Allendale MI 49401

Variations in Fast Food Habits Between Males and Females at Grand Valley State University

Brittany Ballew

Faculty Advisor: Deborah Lown Ph.D. – Biomedical Science Department

Honors College Senior Project – HNR499

Abstract

The objectives of this study were to determine how often Grand Valley State University (GVSU) students' frequent fast food restaurants, as well as look at the different fast food establishments in the surrounding campus area in an effort to expose the most patronized types of fast food. The main goal was then to investigate patterns between males and females related to menu choices and taste perceptions as well as the most prominent types of influences related to the nutritional, social, and emotional motives behind fast-food outings and purchases. Surveys were distributed to 49 males and 47 females (full-time, traditional college students between the ages of 18-24). Chi-square tests were used to explore differences in proportions by gender. No significant difference ($P>0.5$) was seen between gender as to the frequency of breakfast, lunch, dinner, or snack eaten at a fast-food restaurant. Females (38%) were significantly ($P<0.001$) more likely to order smaller portion sizes as compared to males (6.1%), whereas 18.4% of males compared to 2.1% of females ordered large portion sizes. In regards to the extent to which nutrition information influenced their fast-food selection, females more often selected most of the time (27.7%) than males (12.2%), and males more often selected not at all (28.6%) than females (0%). Results indicate that there were significant gender differences in regards to the types restaurants frequented, motivations for food selection as well as portion size. Females were found to be more health-conscious than males when purchasing food at fast-food restaurants.

Introduction

Everyone always says that your years in college are the best years of your life. Being true for many, partying, drinking, and eating junk food may be good for social status, but it is not so good on health status. In a recent study performed in order to examine changes in body weight over a four-year period, researchers found that 70% of students gained a substantial amount of weight by graduation, resulting in an average of 12, and up to 37 pounds (Gropper, Simmons, Connell, Ulrich, 2012). Although alarming, increasing rates of overweight and obesity are becoming more and more prevalent among college students.

The transition to college brings tremendous life change, including stresses related to increased academic pressures, changes in peer and family social supports, as well as changes in food accessibility and eating patterns (Lightfoot, 2000). College life creates a new environment for meal preparation, planning, and eating (Stockton, Baker, 2013). College students are no longer dependent upon parents or other guardians for a home-cooked meal or an after-school snack. Some may view this as one of the more stressful aspects of transition and have difficulties adjusting to their newfound liberties. The result is that college students must develop coping mechanisms to deal with the stress of independence and often these mechanisms include putting aside health and eating whatever is quickest, easiest, and tastes the best.

On the other side of the spectrum, some students may feel that their independence from parents equals the freedom to eat whatever they want, with little or no regard for possible consequences (Stockton, Baker, 2013). This brings to light another possible reason college students are becoming unhealthier, their lack of concern for their future health. In essence, it is their one-track mind that may be to blame for the resulting weight gain and decline in health of

college-aged individuals. It is the overwhelming idea that “it won’t happen to me” that may be one of the biggest factors leading to unhealthy eating habits. Many college students are ignorant of the rising obesity statistics and how it relates to growing incidences of obesity-related comorbidities such as diabetes and heart disease. They believe that they are invincible, not restricted by parents, and in effect able to eat what they want without any harmful effects.

Oftentimes the result of student’s constant fast-forward mentality is stopping at the nearest fast food restaurant for the lowest cost, highest calorie and fat-dense option. Previous studies reveal that college students have been reported to eat meals at fast-food restaurants 6 to 8 times weekly affirming that fast-food restaurants do substantially contribute to the nutrient intakes of college students (Driskell, Kim, Goebel, 2005).

With fat-laden foods increasingly becoming staples of the diets of college students, other consequences include not meeting the recommended requirements of nutrients attained in fruits, vegetables, and whole grains. The 1995 National College Health Risk Behavior Survey found that only 26% of students had eaten five or more servings of fruits and vegetables, leaving the majority of students at an unhealthy disadvantage (Centers of Disease Control, 1997).

It is true that fast food has become a part of our culture, shaping and sculpting how food is viewed today. Since the early 1980s, increases of portion sizes of foods commonly eaten away from home have occurred in parallel with increases in body weights (Young, Nestle, 2007). For this reason, the concept of portion control is skewed. College students, often on a budget, look to fast food as the highest quantity option for the lowest cost, but neglect to recognize how much fat and calories are actually being consumed.

Although the fast food economy surrounding Grand Valley is sparse, it is continually on the rise with a new Taco Bell introduced as well as a Tim Hortons and Coldstone Creamery recently having opened. According to a study concentrating on determining the effects that proximity of fast food chains have on obesity, there is a significant correlation. Weight gain, they found, is more prevalent when the surrounding areas are dense with fast food choices (Davis, Carpenter, 2009). So how will these new fast food restaurants affect the students of Grand Valley State University?

The aim of this study was to uncover the driving factors behind this fast food craze. By surveying students, they had the opportunity to take a second look at how much fast food they are actually eating as well as delve into the reasons why. Perhaps this will not only guide my study, but also be a means to help students in evaluating their eating habits.

The issue investigated was whether or not the tendencies of male and female college students in regards to fast food differ. What makes a late night trip to Burger King so appealing and what are the motives behind it? Are college-aged males or females more aware of their relationship with fast food? Patterns between males and females were sought out in relation to menu choices and taste perceptions as well as the social and emotional influence behind fast-food related outings and purchases.

Materials and Methods

Study Subjects:

The target population for this study was traditional, full-time Grand Valley State University students between the ages of 18-24. Part-time and non-traditional students were not

surveyed. The surveys were distributed and collected at the beginning of various types of college level classes with the permission of the instructor. Forty-nine males and forty-seven females were surveyed by the principal researcher, Brittany Ballew, and stored in Dr. Deborah Lown's research office. Students were informed that the surveys were entirely anonymous and that those who did not wish to participate in the study could leave their surveys blank and work on other class work at this time.

The survey used is attached as Annexure 1 as well as an informed consent as Annexure 2. Driska, Meckna, and Scales of the Department of Nutrition and Health Sciences at the University of Nebraska developed the survey that will be used in this study. I conducted this survey as a replication of their work. According to researchers, ten faculty members in nutrition and health sciences, some of whom had expertise in food service, validated the questionnaire before the start of the study. Also, ten students pilot tested the survey to clarify language and response options (Driskell et al., 2006). As relayed on the consent form, the surveys provide no risk to the students. Surveys have been locked in a file in Henry Hall 328 along with informed consents, for a minimum of 3 years. Data is also locked in this research office and saved onto a secure laptop, which is also locked in a file cabinet.

Demographic information:

Subjects were asked to complete a survey form which consists of age, gender, class-level, student status (full-time/part-time), frequency of fast food consumption, type of fast food and beverage consumption, as well as reasons behind and knowledge of fast food consumption.

Defining Fast-food

For the purpose of precision and so that students were aware of what was meant by fast-food restaurant, the definition was placed at the top of the survey. “Fast foods are characterized as quick, easily accessible and cheap alternatives to home-cooked meals. The term refers to food sold in a restaurant or store with preheated or precooked ingredients, and served to the customer in a packaged form for take-out/take-away” The term “fast food” was recognized in a dictionary by Merriam–Webster in 1951. They were also informed that examples of restaurants in the surrounding area would be indicated in subsequent questions.

Survey Development

Subjects answered 2 questions related to how often as well as which types of fast-food establishments that they frequented each week. They were also asked a following question regarding what their preferred beverage was when eating fast-food and what portion size that they typically ordered. They were instructed to indicate the number of times a week (0, 1-2, 3-4, 5+) that they typically eat at fast-food restaurants (*breakfast, lunch, dinner, and snack*) as well as how many times per week (0, 1-2, 3-4, 5+) that they typically frequented each of several different types of fast-food restaurants in the surrounding campus area (*American burger/fries, deli sandwich, Italian, Mexican, ice cream, coffee shops, and other*). They were then asked to specify the type of beverage typically ordered when eating fast-food (*no drink, water, carbonated soda, carbonated diet soda, fruit juice, milk and shakes, lemonade, tea, and other*). They were given the choices of *small, medium, large, and do not consider portion sizes* for options regarding portion size.

Primary Reasons for Eating Fast-Food

Subjects were asked to choose their 2 primary reasons for choosing to eat fast food. They had the options to select from the following: *advertisements, enjoy the taste, lack of cooking skills, limited time, location, cost, to eat with friends/family, variety of menu, and other*. They were also asked to indicate whether they eat until satisfied, eat everything ordered, or both while eating fast-food.

Influence of Nutrition Information

Subjects were asked to express the influence of nutritional information on the choices made regarding fast-food. Answers included *not at all, rarely, sometimes, most of the time, or always*.

Statistical Analysis

After the data was entered and cleaned using EpiInfo, it was organized and analyzed using SPSS. The primary outcome of interest was the differences in fast food habits that occur between genders. Descriptive statistics including frequency of gender, class, fast food purchased at various times of day, types of fast food purchased, factors influencing fast food purchasing and consumption including reasons why, influence of nutritional information, and perceptions of their own choices were analyzed using means of continuous variables. Chi-square tests were used to assess the differences in the gender among selected descriptive statistics (frequency, portion size, and nutrition information). A sample of 96 students was selected in courses at various student levels in order to provide a representative sample of GVSU students. As there are no identifying variables on the surveys, duplication of data was possible. However, with the

classes selected, it is highly unlikely that any student were in multiple classes surveyed in one semester. Therefore, although duplication was possible, it is highly unlikely.

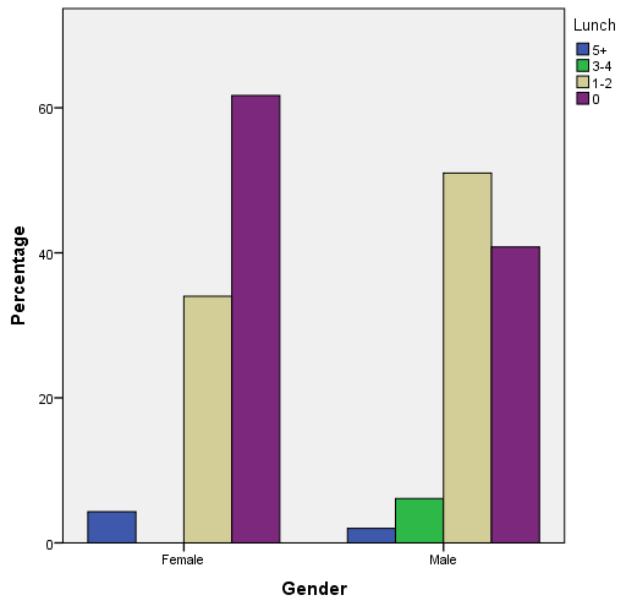
Ethics

This project was approved by Grand Valley State University's HRCC. The study number is 547402-1. Effective Date: January 31, 2014. The project was categorized as exempt.

Results

Information was collected on 96 participants (49 male and 47 female) from Grand Valley State University. Based on the responses to the survey, no indication in a difference of the frequency of GVSU males and females to patronize fast-food restaurants during breakfast, lunch, dinner, or for a snack was observed. To demonstrate these findings, 91.8% of males and 95.7% of females reported eating lunch at a fast-food establishment less than 2 times per week (shown in Figure 1). Eight percent of males and 4.3% of females ate fast-food for lunch 3+ times per week. Analysis indicates that this association is not significant ($P>0.5$).

Figure 2. Frequency of Fast-Food Eaten at Lunch



Times/Week Eating at Various Types of Fast-Food Restaurants

The most prevalent types of fast-food restaurants that the subjects typically patronized at least once a week were *deli sandwich*, 63.3% of males and 55.3% of females. A noticeable difference in percentages by gender was observed in the frequency of weekly visits to Mexican establishments, with 44.9% of males and 27.7% of females reporting typically frequenting at least once weekly. Another difference was observed with the frequency of eating at fast-food establishments labeled *American burger/fries*. Sixty percent of females and 44.9% of males report not typically eating at such establishments as McDonalds, Burger King, or Wendy’s at all weekly, concluding that more males than females frequent such restaurants one or more times weekly.

Table 1. Percentages of GVSU male and females who reported typically eating at various types of fast-food establishments

Type of fast-food restaurant	Male				Female			
	0	1-2	3-4	5+	0	1-2	3-4	5+
American Burger/Fries	44.9%	49.0%	6.1%	0.0%	59.6%	36.2%	2.1%	2.1%
Deli Sandwich	26.5%	63.3%	10.2%	0.0%	40.4%	55.3%	2.1%	2.1%
Italian	61.2%	32.7%	6.1%	0.0%	74.5%	23.4%	2.1%	0.0%
Mexican	55.1%	44.9%	0.0%	0.0%	72.3%	27.7%	0.0%	0.0%
Ice Cream	81.6%	18.4%	0.0%	0.0%	76.6%	19.1%	2.1%	2.1%
Coffee Shop	67.3%	28.6%	2.0%	2.0%	46.8%	36.2%	12.8%	4.3%
Other	89.8%	8.2%	2.0%	0.0%	91.5%	6.4%	2.1%	0.0%

Beverage Typically Ordered with Fast-Food

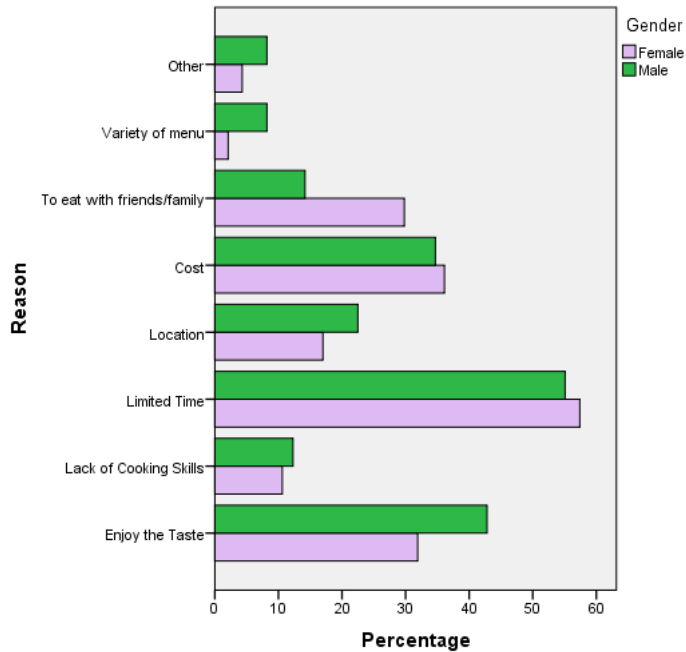
A significant difference ($P < .0006$) was observed in the type of beverage that men and women typically ordered with a fast-food purchase. The most frequently ordered beverages were *water* (38.5%) and *carbonated soda* (25%). Carbonated soda was more often chosen by males (40.8%) than females (8.5%). Females chose water more frequently (51.1%) compared to males (26.5%). Lemonade and tea were both ordered 8% of the time; no beverage, 5% of the time; fruit juice (2%), milk and shakes (3%) as well as other beverages (1%) were chosen least often.

Primary Reasons for Choosing to Eat Fast-Food

Figure 2 shows that the 2 primary reasons the subjects gave for choosing to eat fast-food were *limited time* (28.9% of subjects) and *enjoy the taste* (19.4% of subjects). Other reasons were less frequently selected. Responses of the subjects by gender were similar with the exception that a

noticeably larger percentage of females (15.9%) than males (7.1%) indicated that one of their primary reasons for choosing to eat at fast-food restaurants was to *eat with friends and family*.

Figure 2. Reasons why GVSU students choose to eat fast food



Eating Until Satisfied, Everything Ordered, or Both

A significant difference ($P > .05$) was not found between males and females as to whether they typically ate fast-food until they were satisfied, ate everything, or both. Thirty-four percent of males reported that they ate until they were satisfied. Similarly, females ate until satisfaction 26.5% of the time. A very close resemblance revealed itself in terms of how often males and females ate everything ordered. Forty-three percent of males and 42.6% of females reported finishing their meal when purchasing fast food. Males selected the option for both 30.6% of the time and females, 19.1% of the time.

Portion Sizes Considered

A difference was observed between males and females as to the portion sizes that they typically chose when eating fast-food. Females were significantly more likely to order smaller portion sizes as compared to males ($p < 0.001$). Thirty-eight percent of females compared to 6.1% of males ordered small portion sizes and 18.4% of males compared to 2.1% of females ordered large portion sizes. Males and females were similar in their selection of medium portion sizes. Fifty-three percent of females and 65.3% of males chose a medium portion size when purchasing fast food. Ten percent of males and 4.3% of females do not consider portion sizes.

Table 2. Portion Sizes Chosen When Ordering Fast-Food

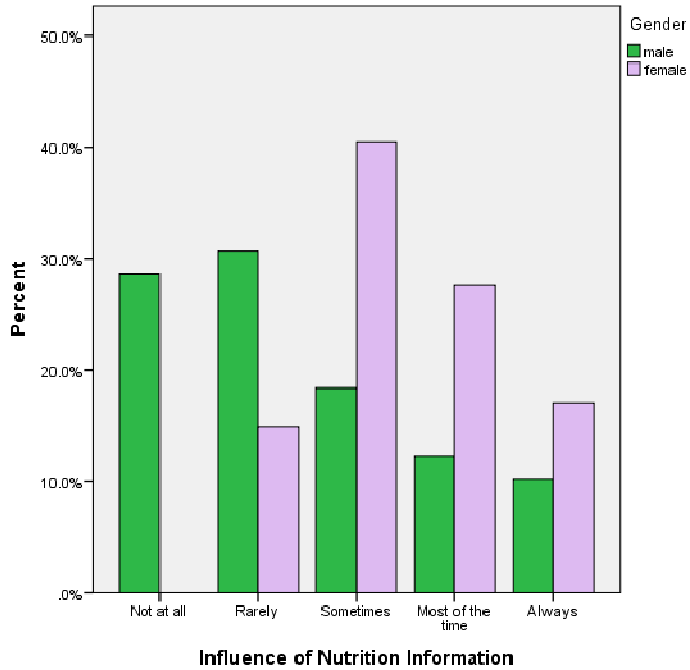
Portion Sizes	Male	Female
Small	6.1%	38.3%
Medium	65.3%	53.2%
Large	18.4%	2.1%
Don't Consider	10.2%	4.3%

Influences of Nutrition Information on Choices Made Regarding Fast-Food Choices

According to Figure 3, a statistical difference ($P < 0.05$) was observed between male and female GVSU students as to how much nutrition information influenced the choices they made regarding fast-food. Females more often selected *most of the time* (27.7%) than males (12.2%), and males more often selected *not at all* (28.6%) than females (0%). The predominant responses overall were *rarely* and *sometimes*. Yet gender differences in these answers were still evident. Males chose *rarely* 30.6% of the time compared to females who chose this option 15% of the time. *Sometimes* was selected by females 40.4% of the time and males 18.4% of the time. These

results indicate that nutrition information in terms of fast-food choices is one of the most prevalent gender-specific differences found in this study.

Figure 3: Influences of nutrition information on choices made regarding fast-food choices



Conclusion

My study found that most GVSU students tend to eat out frequently and although significant differences were not evident in the frequency of eating fast-food between gender, there were gender differences in regards to the types of restaurants frequented, motivations for food selection as well as portion size. While overweight and obesity appear to track from childhood into adulthood, overweight during late adolescence is most strongly associated with increased risk of overweight in adulthood (Lowry, Galuska, et al. 2000). For this reason, a long-term cohort study following trends in fast-food habits as well as weight gain over a four-year

period would be beneficial to examine and identify how consumption of fast-food correlates to the physical well-being of college students. Because college is such a critical and defining aspect of the lives of many individuals, it is important to understand how eating tendencies developed in college may contribute to overweight and obesity later in life.

Gender differences in my study indicated that females more likely use nutrition information and select smaller portion sizes. This may be because women have been reported as more likely to be trying to lose weight than men, especially during the college years (Lowry, Galuska, et al. 2000). A potential outcome would be less weight gain for female students as compared to male students. This study cannot answer this question due to its cross-sectional design, as well as the lack both of weight and physical activity measurements. These findings are in agreement with the research study replicated. A future longitudinal study is recommended to determine if these differences in gender behaviors in regards to fast-food intake results in differences in college weight gain.

Limitations

Limitations of this study are that it was only conducted on 96 students at Grand Valley State University, so conclusions can only be made for this population of students. Also, since this study was self-reported, it is possible that students were not honest in their answers.

Acknowledgements

Deborah Lown, Ph. D., for overseeing my project.

Emily Popma for technical support.

Statistical Consulting Center for statistical support.

References:

- Centers of disease control, youth risk behavior surveillance. (1997). National College Health Risk Behavior Survey—United States. *MMWR* 46(SS-6), 1-54.
- Davis B, Carpenter C. (2009). Proximity of fast-food restaurants to schools and adolescent obesity. *Am J Public Health*. 99, 505–510.
- Driskell JA, Kim YN, Goebel KJ. (2005) Few differences found in the typical eating and physical activity habits of lower-level and upper-level university students. *J Am Diet Assoc* 105, 798-801.
- Driskell JA, Meckna BR, Scales NE. (2006). Differences exist in the eating habits of university men and women at fast-food restaurants. *Nutr Res* 26, 524-30.
- Gropper SS, Simmons KP, Connell LJ, et al. (2012). Changes in body weight, composition, and shape: a 4-year study of college students. *Appl Physiol Nutr Metab* 37, 1118–1123.
- Lightfoot CA (2001). The impact of academic, social and mentoring experiences on the persistence of minority and non-minority college students. *University of Houston*. 61, (7-A).
- Lowry R, Galuska DA, Fulton JE, Wechsler H, Kann L, Collings JL. (2000). Physical activity, food choice, and weight management goals and practices among US college students. *Am J Prev Med* 18:18-27.
- Pelletier JE, Laska MN. (2013). Campus food and beverage purchases are associated with indicators of diet quality in college students living off campus. *American Journal of Health Promotion*, 28(2), 80-87.
- Stockton S, Baker D. (2013). College students' perceptions of fast food restaurant menu items on health. *American Journal of Health Education* 44(2), 74-80.
- Young, LR, & Nestle, M. (2007). Portion sizes and obesity: Responses of fast-food companies. *Journal of Public Health Policy*, 28(2), 238-48.

*Sources obtained largely from Science Direct, Proquest, as well as PubMed after database search on Grand Valley State University's library website.

Annexure 1: Survey

Variation in Fast Food Habits Between Males and Females at Grand Valley State University

Fast Food: Fast foods are characterized as quick, easily accessible and cheap alternatives to home-cooked meals. The term refers to food sold in a restaurant or store with preheated or precooked ingredients, and served to the customer in a packaged form for take-out/take-away. Examples of restaurants in the surrounding area will be indicated in subsequent questions.

Age _____

Class: Freshman Sophomore Junior Senior

Full Time College Student? Yes No

Gender: M F

How many times a week do you typically eat at fast-food restaurants?

Breakfast: 0 1-2 3-4 5+

Lunch: 0 1-2 3-4 5+

Dinner: 0 1-2 3-4 5+

Snack: 0 1-2 3-4 5+

How many times a week do you typically patronize each type of fast food restaurant?

American burger/fries (McDonalds/Burger King/etc.): 0 1-2 3-4 5+

Deli sandwich (Subway/Jimmy Johns): 0 1-2 3-4 5+

Italian (Mancinos/Papa Johns): 0 1-2 3-4 5+

Mexican (Taco Bell): 0 1-2 3-4 5+

Ice Cream (Coldstone Creamery, Dairy Queen): 0 1-2 3-4 5+

Coffee Shops (Tim Hortons/Biggby Coffee): 0 1-2 3-4 5+

Other: 0 1-2 3-4 5+

What type of beverage do you typically order with your meal at fast food restaurants?

No drink Water Carbonated Soda Carbonated Diet Soda Fruit Juice

Milk and Shakes Lemonade Tea Other

Please select 2 of the following reasons for choosing to eat fast food:

Advertisements Enjoy the taste Lack of cooking skills Limited time

Location Cost To eat with friends/family Variety of menu Other

When you eat fast food, do you typically...?

Eat until satisfied Eat everything ordered Both

What portion size do you normally order at fast food restaurants?

Small Medium Large Do not consider portion sizes

Why do you eat at fast food restaurants?

Health/weight issues Hunger Value for the money Other

How often does nutrition information influence your selection at fast food restaurants?

Not at all Rarely Sometimes Most of the time Always

Annexure 2:

Grand Valley State University

Consent/Authorization for Participation in Research

Protocol Title: Variation in Fast Food Habits Between Males and Females at Grand Valley State University

Principal Investigator: Brittany Ballew

E-mail: ballewb@mail.gvsu.edu

You are being asked to be a subject in a research study. The study will involve completion of a survey by full-time traditional college students between the ages of 18 and 24. Before you decide whether to participate, you should know what the study is about, the possible risks and benefits, and what you will have to do in this study. Your participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relationship with the University. If you decide to participate, you are free to withdraw at any time without affecting that relationship. Please read this form and ask any questions you may have; if you decide to take part in the study, your return of a completed survey will imply your consent.

Your participation in this study is entirely voluntary. If you choose not to participate, it will not affect your current or future relationship with the university and will be of no negative consequence to you.

The research is being conducted by Brittany Ballew to obtain more information about how gender influences fast food choices among university students. The only time commitment involves completing a short survey.

What about the potential risks and discomforts, and benefits from this study?

There are no serious risks or benefits associated with this study. The only potential discomforts include answering questions of a personal nature, but all answers will be kept confidential.

There is no compensation or reimbursement for participation in this research.

What about privacy and confidentiality?

There is a possible loss of confidentiality since absolute confidentiality cannot be guaranteed. You should know that in any research publications and scientific meetings coming from the research, you will not be identified individually.

Any answers you give will not be associated with your name. Results will be reported in a paper, excluding any names or personally identifying information. Completed surveys and consent forms will be kept in a locked file cabinet in a locked research office for a minimum of three years.

Who should you contact if you have questions?

The researcher conducting this study is Brittany Ballew. You may contact me at ballewb@mail.gvsu.edu or ask any questions you have now.

What are your rights as a research subject?

If you feel you have not been treated according to the descriptions in this form, or you have any questions about your rights as a research subject, you may call the Human Research Review Committee (HRCC) at 616-331-3197, or email HRCC at hrrc@gvsu.edu