

**Benefits of Utilizing the Documentary *Super Size Me* in a College Health-Related
Fitness Course**

Jennifer Beck, Ph.D.
Kennesaw State University
1000 Chastain Rd.
Kennesaw, Ga. 30102
770-423-6486
jbeck@kennesaw.edu

John David Johnson, Ph.D.
Kennesaw State University
1000 Chastain Rd.
Kennesaw, Ga. 30102
678-797-2195
jjohn235@kennesaw.edu

Bronagh Gallagher, MS.
University of Southern Mississippi
118 College Drive
Hattiesburg, Ms. 39406
bronaghgallagher@hotmail.com

INTRODUCTION

Fast food culture has been evolving for over 30 years. Starting in California, fast food chains have infiltrated almost every facet of a person's life. Fast food is not just served in restaurants but every where you can imagine, even in places that should be the model of health and wellness, hospitals. Unhealthy food has become a part of many people's daily lives and research shows that 41% of adults surveyed by the Pew Research Center visit a fast food restaurant at least weekly (Taylor et.al, 2006). Taylor also notes that 59% of the 18-29 year-olds surveyed eat fast food at least once a week (2006). The money Americans have spent on fast food over the past 30 years has increased from \$6 billion to over \$110 billion which represents about a quarter of the adults in the United States who consume nearly three hamburgers and four orders of fries every week (Schlosser, 2001). McDonald's, the leader of the pack, accounts for 43% of the total U.S. fast food market, operating more than 30,000 restaurants in more than 100 countries on 6 continents (Super Size Me, 2006).

In recent decades people have shown more interest in the health and fitness industry which has lead to more people participating in activities that promote wellness. Although wellness programs have increased, obesity rates of Americans continues to rise. "Gains in overall health from 2000 to 2005 were far lower than those between 1995 and 2000, and the obesity rate has risen by 4% to 23%" (Longevity Olympics, 2006). Maddock, (2004), found that the number of residents per fast food restaurant was strongly correlated with state-level obesity. States with low obesity levels tended to have more residents per each fast food restaurant. To make matters worse, the United

States ranks 24th for a healthy life expectancy in the world according to the World Health Organization (2007).

Biological, psychological, and sociological factors have been associated with the population's increase in weight and medical problems. Approximately one-third of all adults are classified as obese and over 9 million children are considered overweight making obesity one of the most prevalent problems in the United States (NCHS, 2004). Obesity has been linked to many health conditions including: hypertension, coronary heart disease, type 2 diabetes, stroke, gall bladder disease, osteoarthritis, sleep apnea, respiratory problems, some cancers (endometrial, breast, and colon), and dyslipidemia (CDC, 2006). Although one of the national health objectives is to reduce the prevalence of obesity among adults, current data indicate that the circumstances are worsening (MMWR, 2006).

The incidence of cardiovascular disease in the U.S. continues to rise each year and amounts for 1 death every 34 seconds (CDC, 2006). Artherosclerosis, hardening of the arteries, is one of the major forms of cardiovascular disease. As one of the most preventable causes of death in the U.S., obesity is on track to surpass smoking. In 2000, poor diet including obesity and physical inactivity caused 400,000 U.S. deaths – more than 16 percent of all deaths and the No. 2 killer; this compares with 435,000 for tobacco, or 18 percent, as the top underlying killer (Hoeger & Hoeger, 2006). While behavior change seems to be simple, many struggle with the process.

In an effort to combat inactivity, poor nutritional habits, and promote the seven dimensions of wellness, there has been an increase in the number of universities offering health-related fitness courses. As of 2000, 52% of the universities in the U.S. offered a

health-related fitness course (Hensley, 2000). Studies have revealed that college level health-related fitness courses can result in short-term positive attitudinal and behavioral changes, increase physical activity, and place students in the active stages of change (Beck, et. al, 2007; Mack et. al, 2004; & Robbins et. al, 1992). In Mississippi, a General Education Health and Wellness class is offered at many colleges and universities. The name of the course and credit hours vary from school to school (Concepts of Physical Fitness, Personal Health, and Comprehensive Health) however, the purpose of the course is to educate students on a variety of wellness topics and potentially lead to positive behavioral changes. This course is seen as a catalyst toward a commitment to health and wellness by the universities and the state.

So why are Americans obese? In 2004, filmmaker Morgan Spurlock set out on the road to interview experts in 20 U.S. cities and to speak with the surgeon general, physical education teachers, cooks, and lawmakers. His goal was to determine why Americans continue to pack on the pounds. Spurlock also took on another challenge putting his own body on the line, living on nothing but McDonald's for an entire month. The objective was to explore the effects of fast food and poor nutrition which lead to many chronic diseases that are currently affecting our society. The three rules he followed included 1) No options: he could only eat what was available over the counter (water included) 2) No supersizing unless offered and 3) No excuses: he had to eat every item on the menu at least once. All of this was captured in his documentary *Super Size Me* which won numerous awards and grossed over \$28 million worldwide. The purpose of this study was to determine if viewing the documentary elicited any positive

behavioral changes among college aged students in a required health-related fitness course.

METHODS

Participants

Subjects in the study consisted of 106 students enrolled in three different sections of a required health-related fitness course taught at a commuter based metropolitan university. The criteria for class selection was based on instructor knowledge of behavioral intervention strategies, a record of quality teaching, and the willingness to show the film during the nutrition portion of the course. Students voluntarily participated and data was not used for grade assessment. Of the participants in this study, 77% were White; 61% were women and the majority averaged to be 19 years in age and commuted to the university daily. Seventy-five percent of the students enrolled in the course were in their first two years of study at the institution. Eating habits of students included 1-2 fast food meals per week and 3-4 prepared dinners at home.

Instrumentation and Procedures

A questionnaire was designed by the researchers to measure basic health and nutrition knowledge. This questionnaire was validated on subjective measures of how appropriate the items were to a set of reviewers who had expert knowledge in the field. An item pool was created and then evaluated based on presentation, question clarity and readability, question wording and order, appropriateness, and applicability. Each evaluation was followed by a stage of instrument revisions until the final product was approved.

Prior to viewing, instructors administered pre-tests and then showed the film during the nutrition portion of the class. Pre-test questions included demographic information and Likert type questions concerning health/nutrition knowledge, over consumption, and attitudes toward fast food and obesity. At the completion of the film, students were given a post-test and asked to respond to a 25-item questionnaire that was developed by the researchers and adapted from the pre-test. New items added included questions concerning behavioral changes in regards to fast food, physical activity, and whether the documentary was a useful learning tool for the nutrition portion of the health-related fitness course.

RESULTS

Data were analyzed using frequencies and paired samples t-tests. Results from the study revealed that the film elicited positive behavioral responses as students agreed/strongly agreed that they would consume less fast food (81.1%), choose healthy fast food selections (82.1%), attempt to exercise more often (85.8%), and encourage others to watch the documentary (77.4%). After analyzing the data using paired sample t-tests, 11 of the 17 questions were found to have statistically significant ($p < .05$) differences when comparing pre and post test responses in regards to three grouped categories (attitude towards fast food and obesity, physiological effects of poor nutrition, and knowledge of fast food). Subjects reported a greater realization of the health concerns that face our society ($M = 3.72$, $SD = 6.44$, $t(-5.89)$, $p < .05$) and a greater realization and understanding of the physiological effects of fast food after viewing the film ($M = 2.15$, $SD = 8.32$, $t(-2.63)$, $p < .05$). Results are reported in Tables 1 and 2.

Table 1.**Paired Samples T-test Results for Basic Health/Nutrition Knowledge**

Statement	Pre-Test Mean	Post-Test Mean	N	Significance (2-Tailed)
Fast food is physically harmful.	4.04	4.57	104	p<.05
Fast food is emotionally harmful.	2.72	4.51	104	p<.05
1 out of 4 children are overweight in the U.S.	4.15	4.43	104	p<.05
School lunch programs can be healthy.	3.77	4.42	104	p<.05
Health care costs are rising due to the effects of obesity.	4.26	4.55	104	p<.05

Note: Coding System (1=Strongly Disagree---to---5= Strongly Agree)

Table 2.**Paired Samples T-test Results for Effects of Fast Food on the Body**

Statement	Pre-Test Mean	Post-Test Mean	N	Significance (2-Tailed)
Triglyceride increase	2.19	2.58	102	p<.05
Cholesterol increase	1.49	2.17	103	p<.05
Hardening of the liver	2.70	3.44	101	p<.05
Blood sugar increase	1.89	2.30	103	p<.05

Note: Coding System (1-Not Surprised at all---to---5-Very Surprised)

Analysis also revealed that subjects reported an increase in knowledge of the nutritional content of fast food ($M = 2.37$, $SD = 4.21$, $t(-5.51)$, $p < .05$). Results are displayed in Table 3. In terms of potential behavioral change results, students reported they would attempt to eat less fast food, when eating fast food, choose healthy selections, encourage others to choose healthy fast food, and attempt to exercise more often. Potential student behavioral change results can be viewed in Table 4. Finally, 87% of the subjects agreed/strongly agreed that the film *Super Size Me* was a helpful learning tool and that it should be incorporated into the course.

Table 3.**Paired Samples T-test Results for Knowledge about Fast Food Content**

Statement	Pre-Test Mean	Post-Test Mean	N	Significance (2-Tailed)
Fat content of fast food	3.52	4.18	99	p<.05
Calorie content of fast food	3.66	4.21	99	p<.05
Sugar content of fast food	3.15	4.20	99	p<.05

Note: Coding System (1-Do not know at all---to---5-Very Knowledgeable)

Table 4.**Potential Student Behavioral Change Following the Completion of the Film “Super Size Me”**

Behavior	Frequency	Percent
Attempt to eat less fast food.	86	81.1%
Attempt to make healthier fast food selections.	87	82.5%
Encourage others not to eat fast food.	72	68%
Encourage others to choose healthier fast food options.	78	75.6%
Read nutritional information.	48	45.3%
Attempt to exercise more often.	91	85.8%
Encourage others to watch “Super Size Me”.	82	77.4%
“Super Size Me” was a helpful learning tool.	93	87.8%

Note: Subjects responded “Strongly Agree/Agree”

DISCUSSION

The purpose of this study was to examine the benefits of utilizing *Super Size Me* as a teaching instrument in a required general education health-related fitness course.

The overall results of the study were positive and the data revealed that the movie had an impact on personal behaviors related to diet, physical activity, and general health care issues. As our society grows more dependent on fast food, this film provides a wake up call for young adults.

Based on the findings of the study, the incorporation of the film resulted in students increased knowledge about the nutritional content of fast food, the physiological effects of fast food on the body, and potential positive behavioral changes. In the first category, students reported a statistically significant ($p < .05$) increase in knowledge of fast food nutritional content. Prior to watching the film, students rated themselves as having some knowledge about the nutritional content of fast food. After the film, students reported having more knowledge in three nutritional categories including fat content, calorie content, and sugar content.

Other significant nutritional knowledge that was gained from the film included the effects of a high fat diet on blood sugar, triglycerides, and cholesterol levels, which are related to chronic diseases. These diseases can be prevented through lifestyle and behavioral changes which are taught during the course. The understanding the students gained about a high fat diet is invaluable because of the affects our diet has on cardiovascular disease, the leading killer for both men and women in the U.S. (Hoeger & Hoeger, 2006).

Knowledge is essential however knowing does not always lead to behavior change. The results of this study revealed that after viewing the film, students overwhelmingly wanted to change their unhealthy behaviors. One of the most encouraging results of the study found that 81% of the students surveyed reported they would eat less fast food and over 82% said they would make healthier selections. In addition to eating habits, over 85% of the students responded that they would attempt to exercise more often. The film had a profound effect on facilitating healthy eating habits and total wellness, which is a goal of this general health course. One limitation of the

study was that only short-term data was collected and behavioral intention weeks after the course ended will need to be explored.

In relation to basic health knowledge, one of the largest increases from pre to post test ratings occurred when students realized the emotional harm of fast food. During pre-test questioning, the majority of students disagreed that fast food was emotionally harmful. However, post-test ratings concluded that after watching Spurlock struggle with addiction, depression, and loneliness, they agreed that fast food can be both physically and emotionally harmful.

On the other hand, McDonald's took offense to the controversial film and the notion that their food was so unhealthy. Weeks after the film debuted in Australia, McDonald's fought back by embarking on a multimillion dollar advertising campaign to counter the documentary film *Super Size Me*. McDonald's aired three commercials including one to be shown at cinemas. Chief executive of McDonald's Australia, Guy Russo, stated, "No one eats McDonald's three times a day, every day, and no one should". "We believe, and have always believed, that McDonald's can be eaten as part of a well-balanced diet" (Dabkowski, 2004). "Six weeks after the film debuted at the Sundance Film Festival in the U.S., McDonald's eliminated Super Size options", however, the lasting effect of company lives on (Spurlock, 2004). Today, McDonald's distributes more toys per year than Toys-R-Us and before most children can speak they can recognize McDonald's (2004).

As educators, we strive to bring new and innovative tools into the classroom. Whether it's creating hands-on assignments, incorporating technology, or using examples that students can relate to, our ultimate goal is learning and in this case, positive

behavioral change. *Super Size Me* is unique in that the film explores many issues including school lunch programs, declining health and physical education classes, food addictions and the extreme measures people take to lose weight and regain their health. The shock effect of the film is also invaluable. The once jubilant Morgan Spurlock soon realized that eating fast food quickly transformed his mind and body. After gaining 25 pounds, experiencing substantial increases in his triglycerides, cholesterol, and blood sugar, and suffering through emotional and sexual problems, doctors advised against continuing the experiment.

The many disturbing effects of fast food and the information *Super Size Me* provides seems to be a valuable aid in soliciting a consciousness-raising affect and is a great way to reinforce course objectives in health related type courses. What better way to follow one man's journey into the world of wellness through weight gain, health problems, and fast food. The majority of students today are visual learners and with over 87% of the students reporting that the film *Super Size Me* was a helpful learning tool, more instructors should look to incorporate the film into similar courses along with a broader set of strategies to fight obesity. "Where else could you learn that you would have to walk for seven hours straight to burn off a Super Sized Coke, fry and Big Mac" (Super Size Me, 2006)?

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