Size Does Matter:
Know Your Correct Portion Sizes
Ball State University Students of Muncie, Indiana

Christina Allen
Kristina Derrickson
Rachel Joyner
Melissa Logan

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Executive Summary

“Size Does Matter: Know Your Correct Portion Sizes” is a program to help Ball State University students with portion control, nutritious eating decisions and weight management. Data shows Ball State University students are uninformed about what the correct portion sizes of food they should eat are or how to maintain a healthy weight when it comes to eating behaviors. The priority population of the program is all Ball State University students. One of the objectives of “Size Does Matter” is to teach participants about more nutritious food choices at all residence hall dining facilities. Another objective of the program is to teach the participants the correct portion sizes of each food group they should eat at each meal. “Size Does Matter” will also teach participants about the importance of maintaining a healthy body weight and Body Mass Index (BMI). The program will be implemented through four guided lesson plans that will include class sessions bi-weekly for one semester, including weight and height measurements of the participants taken at each meeting. Also, students will be able to go to each dining facility to learn hands-on about portion sizes and more nutritious food choices. Lastly, an online forum and website will be set up and monitored as support for the students through and after the program. As a result of these activities, participants will be able to build their own correctly-portioned meals and lose and maintain their weight effectively. These results will be determined by implementing two evaluation forms at the end of the program and by previous participants sharing their food journals with program planners six months after they have completed the program. Please see the logic model for the program on the following page for a graphic representation of this material.
## Logic Model Diagram

### Size Does Matter: Know Your Correct Portion Sizes

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs</th>
<th>Outcomes</th>
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</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>Sign up booth for students.</td>
<td>Participants will be able to build correctly portioned meals.</td>
</tr>
<tr>
<td>Funding</td>
<td>Email students about the program.</td>
<td>Participants will be able to pick up nutritional information at each dining facility.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Bring segmented plates to Residence Hall Dining Services.</td>
<td>Participants will be able to explain correct portion sizes.</td>
</tr>
<tr>
<td>Supplies</td>
<td>Place nutritional labels on all foods in dining facilities.</td>
<td>Participants will continue using their food journals after the program is completed.</td>
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<tr>
<td>Space</td>
<td>Educate through four guided lesson plans.</td>
<td>Participants will effectively lower and maintain their weight.</td>
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<td></td>
<td>Material used in the program put online for participants.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Online forum set up for participant support.</td>
<td></td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

I. Introduction 5
II. Planning Committee Members 11
III. Planning Model Used 12
IV. Needs Assessment 13
V. Mission Statement, Goals, and Objectives 17
VI. Intervention 19
VII. Resources 22
VIII. Marketing 25
IX. Implementation 30
X. Evaluation 34
XI. References 37
XII. Appendices 39
I. Introduction

Obesity has become an increasing concern over the past decade. According to the World Health Organization (WHO), 400 million people worldwide are considered obese and 1.6 billion are reported as being overweight (World Health Organization [WHO], 2008). Obesity causes a wide variety of health problems, including cardiovascular disease, diabetes, and certain types of cancer. The lack of nutrition that leads to obesity can also have devastating effects, causing seven million people deaths each year due to inadequate fruit and vegetable intake (WHO, 2008). Unfortunately, the numbers of those afflicted by this disease are only increasing, with WHO estimating that 2.3 billion adults will be obese by 2015 (WHO, 2008).

The outlook is just as grim in the United States. In 2007, the Centers for Disease Control and Prevention (CDC) reported only one state had an occurrence of obesity less than 20% and only three states had prevalence equal to or less than 25% (Centers for Disease Control and Prevention [CDC], 2008b). In the latest studies conducted on obesity across the country, 37 states had their incidence rate increase, while no states reduced the number of obese residence (WebMD, 2008). Due to this rise in incidence of obesity and other health problems associated with obesity, health care costs have also increased. The CDC reported that, in 2002, the cost had escalated to $92.6 billion, with approximately half of those costs being paid for by Medicare and Medicaid (CDC, 2008c).

Just as obesity is a growing problem in the United States, it is a growing problem in Indiana. In 2008, Indiana was ranked 16th in the nation for adult obesity with 27.5% of adults reported as obese (Hitti, 2008). Adults who are obese are more likely to have other health problems such as hypertension, coronary heart disease, and Type 2 diabetes (CDC, 2008d).
Children who are obese are also more likely than their peers to have high blood pressure, high cholesterol and Type 2 diabetes (CDC, 2008d).

With this rise in obesity, the cost of taking care of those affected is increasing. The Behavioral Risk Factor Surveillance System (BRFSS) surveyed how much each year was spent on obesity-attributed medical claims between the years 1998 and 2000. Of the total population that paid for their own insurance, 6% spent $1.637 billion on obesity-attributed claims in two years (CDC, 2008c). Medicaid recipients made up 7.2% of the population and claimed $379 million, and Medicare patients made up 15.7% of the population and claimed $522 million in obesity-related health issues (CDC, 2008c).

The solution to the obesity problem needs to center mainly on knowledge and skills to change the trend. Students at Ball State University partially know what they need to do in order to maintain a healthy weight. Ball State University has done an excellent job of providing access to various types of exercise facilities, and most students report that they are exercising at least three times a week for thirty to sixty minutes each session (ACHA, 2006). However, students still find themselves feeling as though they are overweight, with data from the needs assessment questionnaire confirming such feelings. The problem is that students know to exercise and eat well to keep at a healthy weight, but they are unsure of what and how many servings of nutritious foods they are supposed to eat. This can lead to massive overeating of certain foods, like grains and meats, and a serious lack of others, like fruits and vegetables. Imbalances like these can make it difficult for students to lose weight, which will dishearten some from trying any further. Since obesity can lead to far more serious conditions such as heart disease and diabetes, students need to continue to try and achieve their personal healthy weight with confidence in doing so.
This is where “Size Does Matter: Know Your Correct Portion Sizes” comes in. This program will put important nutritional facts in students’ hands so they can easily decide on their food choices. The program will teach them the skills they need to determine if the foods they are eating are correctly portioned. This will help students lose their excess weight, make their exercise more effective, and provide them with more energy to attend and perform better in academic class.

Though it may seem like an unreachable target, the “Size Does Matter” program will succeed because it provides information on an area of obesity prevention that is underemphasized. Students are bombarded at school with pizza, tacos, hamburgers and soda that are less healthy and more convenient than salads, fruit cups and vegetable trays. Plus, nutritional information and size of servings are not present on most foods. Being pinched for time, students pick foods that are more convenient without knowing what it is they are grabbing. By increasing the sources of nutritional information at both dining facilities and through educational classes, students will find it easier to make good food decisions and effectively lose and maintain weight.

“Size Does Matter” will work in two stages, the first of which the university already has in place. Ball State has developed a health program called the “Health Zone.” Residence Halls Dining Services (RHDS) wants students to "zone out" with healthier eating habits. The “Health Zone” program is geared towards students and staff wishing to limit their intake of fats, carbohydrates or calories. Foods prepared in RHDS kitchens must meet certain standards: low fat – foods with three grams or less of fat per serving; low calorie – fruits, vegetables, side dishes, and breads with 100 calories or less per serving or main dishes with 250 calories or less; and low carbohydrate foods with nine grams per 100 gram serving or less (Ball State University, 2008).
“Size Does Matter” will work with the program already in place, but will make the information more readily available to students at a more consistent rate than is offered now.

The second stage of the program focuses on the application of fat and calorie counting in a meal. The Centers for Disease Control and Prevention has provided funding for twenty-three states to adopt similar programs that include nutrition and portion sizing in their programs (CDC, 2008a). Texas’ program “Bringing Healthy Back” has a unique approach to portion sizing: the government is providing Texas restaurants that wish to participate with segmented plates that divide food into proper portion sizes. Along with the plates, the government has provided training to employees on how to use the plates when preparing orders (Texas DSHS, 2007).

“Size Does Matter” would use a similar approach with dining services that provide hot meals to students, such as Sbarro in the Atrium, Noyer Dining, and Comfort Zone in Woodworth. It will give students additional visual support of what their plate should look like when eating a meal off campus instead of using the traditional individual bowls and plates for different items that dining services uses already.

Along with offering services for students in the school, it is important that students have the same access inside the home. “Healthy Arkansas” takes the same approach by offering information over the Internet about portion sizes, reading food labels, and measuring food items to determine servings. Also, helpful cutouts such as sliding guides and portion placemats can be printed off of the site so information can be close at hand, especially while preparing meals (Healthy Arkansas, n.d.). “Size Does Matter” would create a similar website for students living off campus to have access to such helpful information while also having print versions available for students to access while purchasing items at the various dining locations.
Providing information is necessary, but education and support are also keys in the fight against obesity. “Eat Smart, Move More – North Carolina” includes a program within the collective program called “Eat Smart, Move More, Weigh Less.” The program includes nineteen lessons on how to count calories, commit to losing weight, creating healthier meals, and how to include a wider variety of foods in the diet. Each participant receives a journal for keeping track of what the participants consume on a daily basis and can note where they need to make changes. The idea is to change the behavior of individuals for life, not just to reach a weight loss goal (North Carolina Department of Health and Human Services, n.d.). This program allows participants to work together towards a single goal, which is important when trying to change a behavior. “Size Does Matter” incorporates a similar program that is shorter in length to give students a community space where they can not only learn how to change their behavior but see that they are not alone in their struggles.

The above programs work because they allow for access by both participants and community leaders. Ball State University is not simply a school but a community in which thousands of individuals live and work. If students are the only ones that are taught how to change their behaviors but the environment around them does not change, then change will be difficult and almost impossible to accomplish. The same can be said if there is a change in the environment but not a change in the community. These programs combined address both environment and community, meaning that their influence on “Size Does Matter” makes the chances of success exponentially higher than a program that only addresses one factor or another.

There is a cure for obesity and its time to take the first new steps towards making it a problem of the past for Ball State University students. Introducing them to healthier eating
patterns and giving them the skills to make better food choices outside of school will produce healthier, smarter students. They have been provided with the resources and want to exercise regularly, now it is time to give them the same in nutrition and portion sizing through “Size Does Matter: Know Your Correct Portions.”
II. Planning Committee Members

The planning committee will include a number of representatives from various stakeholder groups. These members come from different areas throughout campus to allow for a broad range of views. These members include:

- Christina Allen
- Kristina Derrickson
- Rachel Joyner
- Melissa Logan
- Representative from Ball State University Health Education Department
- Representative from Ball State University Dining Services
- Ball State University Registered Dietician
- Two Ball State University Students Living On-Campus
- Two Ball State University Students Living Off-Campus
- Health Education Peer Volunteers
III. Planning Model Used

The Generalized Model for Program Planning was used to develop “Size Does Matter: Know Your Correct Portion Sizes.” Figure 1.1 demonstrates each of the five steps in the model. The first step is assessing needs, in which data are collected from both primary and secondary sources to determine the priority population and barriers that cause certain health problems. This step allows the planners to determine the initial direction of their program and what areas need more focused attention. The second step is setting goals and objectives. This step requires program planners to determine what their program is going to target and how the program will go about changing the health issue at hand. The third step is developing an intervention. The intervention is the program itself, and developing it requires research into marketing, resources, and budgeting concerns. This is also the step in which the activities performed within the program are created. The fourth step is implementing the intervention. In this step, program planners determine how they wish to start the program, whether it is by starting with a pilot test to test the program or total implementation where the program becomes open to the priority population. The fifth and final step is evaluating at the results. This is the most important step because it provides program planners with the results of the program to determine if the program was effective or not. Changes can then be made based on those results.

Figure 1.1 Generalized Model for Program Planning

IV. Needs Assessment

Needs assessments are conducted during the planning process to determine who the priority population is, why they are at risk of a particular health problem, and what can be done to change their current status. The information gathered from the needs assessment for “Size Does Matter: Know Your Correct Portion Sizes” helped determine which direction the program should take to be most effective.

Step 1: Determining the Purpose and Scope

The purpose and scope of the needs assessment was to gather data from Ball State University students and determine their thoughts, feelings, ideas, and problems with weight management. Demographic data were collected for the Ball State Health Education Department and was used to determine what problems and barriers students face when trying to maintain and reach a healthy weight. The data were also used to see which students were at the greatest need of intervention.

Step 2: Gathering Data

Both primary and secondary data were collected. Primary data was collected from Ball State University students. The four program planners asked ten students, for a total of forty students, to complete an original self-report single-step questionnaire (see Appendix A). The secondary source used was the American College Health Association National College Health Assessment for Ball State University (ACHA-NCHA) (American College Health Association [ACHA], 2006).

Step 3: Analyzing Data

After reviewing the primary and secondary data and compiling the results, it was evident that students at Ball State University were competent in the area of exercise knowledge and
practice. However, they lacked knowledge and practice in healthy eating habits and were unsure about their healthy personal weight. Based on the primary data collected, when students were asked to identify how many ounces or cups of grain, vegetables, fruits, dairy, and meat a typical 19-30 year old should eat per day, the answers varied. Over 90% of students were unaware or had incorrect information about ounces of grain intake, 57.5% for cups of vegetables, 72% for cups of fruit, 87.5% for cups of dairy, and 82.5% for ounces of meat and beans. When asked how many ounces or cups of the same food that students ate on most days, over half of students had an intake that was under or over the recommended daily amount. These findings are supported by the secondary data collected from the ACHA-NCHA, which showed that 70.6% of students surveyed had an intake that was under two servings a day of both fruits and vegetables (ACHA, 2006). Additionally, 47.5% of students felt they ate high fat foods in moderation and ate a well-balanced diet, and only 32.5% felt that Ball State provided helpful resources for them to maintain or reach a healthy weight. These results show that students lack the knowledge to make healthy food decisions and feel that Ball State does little to improve the situation (see Appendix B for complete results).

Not only are students unsure about how much of certain foods they are supposed to eat, they have a distorted view on body mass index (BMI) and their personal weight. After calculating the average BMI for males and females, males were at 28.66 and females were at 26.4, putting both sexes in the overweight category bordering on obese. However, when asked if they felt they were at a healthy weight, 45% agreed they were, with half feeling they needed to lose weight. This correlates with the ACHA-NCHA results where 63.2% of students reported feeling like they were at or under their correct weights and 56.1% were attempting to lose weight (ACHA, 2006). Any program designed for students at Ball State University needs to include both
knowledge about food portions, but should also address the issue of high BMI versus personal thoughts on what is healthy.

**Step 4: Identifying Genetic, Behavioral and Environmental Risk Factors Linked to Health**

**Problem**

The main risk factors that are associated with obesity are high blood pressure, excess abdominal fat, high blood glucose, high triglycerides, and low HDL or "good" cholesterol. These risk factors are predictive of the future development of heart disease and diabetes in overweight/obese college age students.

Environmental factors that affect obesity in college-aged students are the easy access to unhealthy foods at each dining location, lack of nutritional information about the foods served in on-campus dining facilities, and the high cost of healthier foods such as salads, fresh fruits, and lean meats. With unhealthier foods such as hamburgers and pizza being sold at every dining location, lack of knowledge and high prices become risk factors for obesity in college students because they are left with few options. These factors go hand-in-hand with behavioral factors. Behavioral factors like not eating a well-balanced meal (or, rather, not having easy access or lacking knowledge about well-balanced diets) can lead to both heart disease and diabetes in the future.

Some of the risk factors of obesity are genetic, but most of what the data have shown is that obesity is mostly attributed to lifestyle choices. It has been found that children who have one or both parents who are obese are more likely to become obese or overweight themselves. Another predisposing factor is the attitude of the individual and his/her family’s attitude toward obesity.

**Step 5: Identifying the Program Focus**
Knowledge or the lack of is a predisposing factor has been found among Ball State University students who do not know proper serving sizes. Some of the enabling factors recognized are that students are not aware of all the facilities available for them to work out at or the nutritional information available to them. They also may not have the time to take advantage of these facilities.

Some students may need some positive reinforcement to get them to exercise, eat right, and lose weight. For some, simply getting results is enough reinforcement. However, for those who need something else, there needs to be some sort of incentive or reward for attending a fitness program. There are many fitness classes that Ball State University offers. There are also other fitness programs that are led by students for students. This program can encourage students to start their own personal program.

The program “Size Does Matter: Know Your Correct Portion Sizes” will focus on lifestyle changes and nutrition education to better help students with weight management. By changing the environment in which students live and by enabling students to change their behavior, obesity can be combated and the health issue can be reduced in the Ball State University student population.

Step 6: Validating the Need

Prior to implementing this plan, a Ball State University health educator will validate the results by examining the results of the needs assessment.
V. Mission Statement, Goals, and Objectives

Mission Statement

The mission of “Size Does Matter: Know Your Correct Portion Sizes” is to provide Ball State University students with information about nutrition and its affect on obesity.

Goal

To reduce the incidence and prevalence of obesity among Ball State University students by increasing knowledge about the relationship between food and body weight.

Process/Administrative

By the end of the Fall 2009 semester, the program staff will enroll 175 Ball State University students in “Size Does Matter: Know Your Correct Portion Sizes”.

Learning

Awareness: Within the first week of the program, 100 students who are enrolled in the program will be able to calculate their Body Mass Index and determine if they are underweight, normal, overweight, or obese.

Attitude: By the end of the Fall 2009 semester, at least 30% of students who are enrolled in the program will agree that good nutrition reduces obesity.

Knowledge: After the first month of the program, 100 students enrolled in the program will be able to explain the correct portion size of each food group.

Skill Development: After watching the program staff builds three correctly-portioned meals, half of students enrolled in the program will be able to build one correctly-portioned meal.

Action/Behavioral
Six months after the program has been completed, 30% of students who completed the program will continue recording how many servings of each food group they eat per day in their food journal.

**Environment**

By February 2009, 60% of all Ball State University students will be able to pick up nutrition pamphlets at each dining location on campus.

**Outcome**

At the completion of the program, 85 of the students who completed the program and had high Body Mass Index levels will lower their Body Mass Index down into the normal range.
VI. Intervention

The Theory of Planned Behavior is the most appropriate model for the program “Size Does Matter: Know Your Correct Portion Sizes” because it focuses more on intentions in order to change behavior. The planning committee chose to use the Theory of Planned Behavior (TPB) to concentrate on behavioral change. This theory was chosen because several of the constructs of the model correspond with steps in eating healthy. The attitude towards behavior construct shows how students feel about behavior change and whether it will positively or negatively affect them. The beginning and ending part of the program focuses on this construct to find out how the student feels about the behavior change and if it was important and successful. In the “Size Does Matter” program, students will learn through a series of classes how to make nutritious eating decisions. Perceived behavioral control focuses on a person’s self-efficacy, their perceived ability that they can do a certain behavior. Most of “Size Does Matter” focuses on the perceived behavioral control construct which will teach students how to build correctly-portioned meals and choose nutritional food on their own in the dining halls. Also, students will be taught how to keep food journals to keep track of their eating habits, participate in Body Mass Index calculations to track their weight changes, and be able to locate nutritional information about the dining hall’s food. Subjective norm is the last construct focused on in the “Size Does Matter” program. Subjective norm focuses on the social pressures to either engage or not engage in an activity. If students are given support from important figures in their lives, such as family and friends, they are more likely to engage in the behavior because it is socially accepted. “Size Does Matter” will work to get 175 students enrolled into the program. After enrolling those students, the program will work to teach them that nutrition and weight management is very important.
The “Size Does Matter” program will use a multi-strategy intervention to address the constructs stated above. The first part of the intervention will focus on acquiring students’ Body Mass Index results to know where each person is starting. A registered dietician, health educator and peer volunteers will all help with the recording of students starting data.

The main portion of the program will begin in August 2009, with a kickoff booth in the Atrium with information about the program and to allow students to sign up for the program. The program planners and peer volunteers will be promoting the program and giving out information to students.

During the third week of August 2009, the “Size Does Matter” program will begin. The program will begin with educational classes. There will be four lesson plans during this portion of the intervention. The lesson plans will include “Food for Thought”, an introduction to serving sizes and the food groups, “Shavin’ Off the Fat”, a lecture on learning how to count calories and understand portion sizes, “Leave A Little, Save A Lot”, a hands-on activity where participants build their own meals, and “Dear Food Diary”, a discussion about how to effectively use a food journal and progress made thus far in the program. See Appendix E for a complete lesson plan.

In addition to the educational classes, students will be taken on a tour of the dining facilities by members of the program staff to show them where to get nutritional information about the foods they can buy on campus. Also, members of the program staff will be training dining services employees on how to use the segmented plates and deliver accurate portion sizes. Lastly, program staff will work will dining services staff to place nutritional labels on all food so that it will be easier for students to identify nutritious food.

The final component of the “Size Does Matter” program will require students to do other activities to further help them in their eating and behavior changes. Participants will be asked to
keep a food journal to show their eating habits and to further help them see what they need to change. Also, there will be an online forum and website for additional support for students. The participants will be able to go online and share their experiences as well as give and receive support for their behavior change. The website will provide all information presented in class, nutritional informational about food on campus, food journal pages, and portion-size placemats in PDF format so participants can print the information out for personal use. A more detailed view of the intervention can be seen in Appendix D.
VII. Resources

“Size Does Matter” requires several different types of resources in order to make the plan effective, including program personnel, education material, program funding, equipment and supplies, and space allocation.

Program Personnel:

The personnel involved in the program are the program planners, peer volunteers, a registered dietician, a health educator, Residence Hall Dining Services representative, and four students from the priority population that live on and off campus. The program planners will plan and implement the program. The peer volunteers are working with the program planners to help with education presentations and organization of the program. A registered dietician and health educator will be helping with nutrition education and Body Mass Index calculations throughout the program. Also, they will help with the online forum that provides support for participants. The Residence Hall Dining Services representative will help train the dining facilities’ staff, provide access to nutritional information on all campus-produced foods, and order segmented plates for each dining facility. The four students from the priority population will be useful in determining if the program is useful and easy for students to use and access.

Education Materials:

Educational materials used will be four nutrition units on how to control portion sizes and eat a well-balanced diet. The first lesson will be a general introduction to calorie intake, portion sizes for each food group, and foods effect on weight. The second lesson will be a more in-depth discussion on how portions and calorie intake affect weight and what Ball State University is doing to aid students in controlling their portions. The third lesson has program planners teaching the participants how to build correctly-portioned meals and make them lower in fat. The
fourth lesson will teach participants how to interpret their food journals and how to effectively use them to see if there is a difference in their eating patterns.

**Program Funding:**

The funding for the program will come from two sources: the participants and gifts from donors. Participants will be required to pay a ten dollar fee to participate in the program. This method was selected to allow participants to feel a sense of ownership in the program and give them incentive to come back (the idea of getting one’s money’s worth). Donations will be collected from local obesity education and reduction partners, such as the Department of Physiology and Health Science, government agencies dealing with obesity, and/or the YMCA. This method was selected because the participants cannot pay for the whole program and additional funds can be acquired by sending letters to others looking to combat similar ailments.

**Equipment and Supplies:**

Several pieces of equipment and various supplies will be needed in order to complete this program. Equipment needed for the program include tables and chairs for program meeting and sign-up booths, weight and height scales to calculate Body Mass Index, and computers to send out emails, develop presentations for the meetings, and creation of the website. Also needed is a projector to present presentations at meetings. Supplies needed include paper for food journals, sign-up sheets, and pamphlets, pens and pencils for tasks done at program meetings, segmented plates for the dining halls, and paper labels and tape used on food packaging that include nutritional information. Additional supplies may include poster boards for sign-up and advertisement posters, food for the awards ceremony and meetings, and gift cards for successful participants.

**Space Allocation:**
The space needed for this program will be obtained at the Student Center. The rooms used will be Cardinal Halls A and B because the rooms can be divided so that half of the participants can have their weight and height measured and recorded and the other half can have the educational lesson for the day. The planning committee can obtain these rooms by contacting the manager at the Student Center and requesting rooms, tables, and chairs. The awards ceremony can also be held there. The sign-up booths will be at the Atrium outside the bookstore. Tables will need to be obtained by contacting the manager of the Atrium. Both the rooms and tables are free of charge if both are available when needed. See Appendix C for budget form.
VIII. Marketing

The program “Size Does Matter: Know Your Correct Portion Sizes” promotes service, goods, and information products to help Ball State University students to maintain a healthy weight and achieve or maintain a normal Body Mass Index status through portion-sizing meals. First, the service products used will include lessons where students learn how to create meals that are correctly portioned and include their daily nutrition needs and by recording weight and height, for each program participant to calculate Body Mass Index. An online forum for participants to gain support, information, and share success stories will also be available as a service product. Second, the goods products used will include a food journal for program participants to record their daily intake of each food group, calories, and fat intake, and segmented plates that will be available to all students to help them portion food at all dining locations on campus. Third, the information products will include nutrition labels on all foods produced by dining services on campus and a website that provides simplified information about the lessons and helpful tools such as printable pages for food journals and a portion-sizes placemat.

“Size Does Matter” is geared toward all students at Ball State University. The goal is to have participation from students who live both on- and off-campus and represent both sexes equally. Students have general knowledge about exercising, but lack knowledge, skills, and access to information about portion sizes and daily intake values. Many students wish to reduce their current weight and maintain it at a healthy level. They are willing to try a new approach in order to achieve that goal.

The students participating in the program will have to pay a registration fee of $5. The program will be providing some testing services and educational information for the participants
to keep, but there will be no extra cost for those things. The decision not to charge for the extra services and materials was based upon the program receiving donations, and the original registration fee was substantial enough to not require additional fees from participants. There are also nonmonetary costs associated with the program:

Behavioral

Those participating in “Size Does Matter: Know Your Correct Portion Sizes” must be willing to track their daily eating behaviors in order to enhance their nutrition. Participants may also be required to attend educational lectures, change their diet and increase physical activity.

Time

The personal time given up from each participant will be a big commitment. Each participant will have to give up their free time to attend classes, work on their food journals, and to participate in the online forum.

Effort

Participants must be willing to put forth a positive attitude and effort to be successful in “Size Does Matter: Know Your Correct Portion Sizes.” There will be a lot of effort needed for the participants to change their everyday eating habits and to give up their free time to attend classes.

Physical

At the start of the program there may be discomfort for some participant during the Body Mass Index testing. Discomfort would come in the form of emotional
anxiety over weight, but it should not last long and the participants will be comforted as well as possible during this time.

**Psychological/Emotional**

Some participants in “Size Does Matter: Know Your Correct Portion Sizes” while dealing with their nutrition problems may also be dealing with other emotional issues. Food is sometimes used as a comfort when someone is emotionally or psychologically damaged and talking about their problems may become embarrassing. This program will show students healthy alternatives to deal with nutrition problems, which may arise from psychological/emotional problems.

**Social**

Someone participating in this program might have to deal with outside judgment from family and friends, as well as lack of support. “Size Does Matter: Know the Correct Portion Sizes” will provide support and encouragement for participants and will be a judgment-free environment for students to get help with their nutrition and weight.

The program will start at the beginning of the Fall 2009 semester to coincide with students beginning a new year at Ball State University. Students will be sent emails during the first two weeks of August and the sign-up booth will be set up in the Atrium during the second week of August. After the sign-up period has ended, those participating will meet in the Student Center every Tuesday at a time that is convenient for those participating (to be decided at the first meeting at the end of August) for biweekly informational meetings. Though information and skill-building will be the main focus of the meetings, participants will be able to talk about
problems or successes they had with managing their portion sizes, food journals and weigh-ins.

The website and online forum will be linked off the Residence Hall Dining Services website with full access to the informational website and limited access to the forum (participants can post and reply to posts while general students can view posts only). Informational pamphlets and nutritional labels will be placed in all dining services to aid participants in making healthy food choices and provide nonparticipating students with information about the program and when they can sign up for the following semester. At the end of the semester, the process will start over again in order to recruit new participants.

The program planners, with the assistance of peer volunteers, will promote “Size Does Matter” both at the start and throughout the program. Mass emails will be sent to all students throughout campus with information about the program, price, meeting times, and how to sign up. It will also provide the dates that the sign-up booth will be set up in the Atrium. The booth will provide the same information, along with pamphlets that students can take for themselves or friends, and allow students to pay and sign-up in person. Both the email and the sign-up booth will be used at the beginning of each semester before the program starts so that every student has the opportunity to sign up and ask questions about the program either in person or via email.

Throughout the semester, students will have access to pamphlets about the program that were available at the beginning of the semester at all dining facilities on campus. Along with pamphlets, students will also have access to the segmented plates used in the program as a dining option for them (even if they are not enrolled in the program) and will have easy access to nutritional information on all foods served on campus. All students will have access to the “Size Does Matter” informational website and forum, even after their participation in the program has
been completed. The hope is that students will be enthused by the free incentives and want to participate fully in the program to get the maximum benefits.
IX. Implementation

Five phases will be completed in order to implement the program “Size Does Matter: Know Your Correct Portion Sizes”: adoption of the program, identifying and prioritizing the tasks to be completed, establishing a system of management, putting the plans into action, and ending or sustaining a program.

Phase One

The first phase of implementation is adoption of the program. In order to attract as many members of the priority population as possible, successful marketing strategies are required. These strategies attract persons by providing basic information about the health problem and a brief overview of the program’s benefits. Further details about the program’s marketing strategy can be found beginning on page 25.

Phase Two

The second phase of implementation is identifying and prioritizing the tasks to be completed. “Size Does Matter” has only one semester to complete the items identified in the “Intervention” portion of the program, some items having to be completed prior to the official start of the program. For this reason, it is necessary that the program planners have a timeline by which tasks must be completed. A graphic representation of this timeline can be found in Appendix H.

Phase Three

The third phase of implementation is establishing a system of management. Since the program is multifaceted, there will be several different people who will oversee various parts of the program. The sign-up booth, emails, and dues collection will be organized by the program planners, but will use the help of peer volunteers to implement such actions. At the educational
meetings, program planners will teach the lessons after they have been reviewed for error by a health educator and a registered dietician. The peer volunteers will also be responsible for reading and recording the weight and height of each participant, but will provide these measurements to the program planners every two weeks so that they may keep track of individual weight loss. The program planners will also be responsible for acquiring the equipment and supplies, and organizing the awards ceremony at the end of the program.

Training of the Residence Hall Dining Services employees, placement, and acquisition of nutritional information and ordering of segmented plates will be overseen by the dining services representative. Peer volunteers will help with the creation and placement of nutritional information, but must report to the representative. The technical application of the website and forum will be overseen by a peer volunteer from the Computer Science department, but questions and information provided will come from the program planners, health educator, and registered dietician.

Phase Four

A pilot test will be done for “Size Does Matter” to determine any problems or issues with the program. Emails will be sent out by the program planners looking for student volunteers to participate in the pilot test. The entire program will be tested on the volunteers during the Spring 2009 semester. Throughout the pilot test, program planners will want to make sure the program’s intervention was implemented as planned and the intervention strategies worked as planned. Also, planners will want to make sure there were a sufficient amount of resources for the program and that those participating had the opportunity to evaluate the program. After pilot testing is completed, the program will be revised to fix any problems or issues that have been found.
The program will be phased in at the start of the Fall 2009 semester to coincide with the start of the new school year and weight loss resolutions students make for a new school year. Since the websites and nutritional information were integrated into the Ball State University environment during pilot testing, the phasing in of the program will be done by offering the lesson plans to students to accompany the websites’ information and help students understand the nutrition information presented throughout campus. Beginning in August 2009, Ball State University students will receive mass emails with information about the program as a whole and how to sign up for the educational classes that accompany the program. The email will let students know when and where they can sign up to participate in the program as well as the cost to participate. The program launch will focus on education for students about nutrition and portion sizing, so students can first get the knowledge needed for the change they want. Also, during the first sessions of the program, students will be asked to participate in Body Mass Index calculations. This allows participants to feel as if they already have a stake in the program before actually participating. After the educational portion of the program is started successfully, the more interactive portion of the program will be implemented. Total implementation will be completed once the nutritional information, educational meetings, and internet component are all fully accessible.

**Phase Five**

The fifth phase of implementation is ending or sustaining the program. Determining whether the program is sustainable or must end is based on many factors. First is funding. If the program cannot attain enough funds to continue for another year, then the program must end or a new source of funding must be found. Second is whether the objectives were met and if the program was successful based on the amount of time allotted. Success will be determined by
evaluation, which is explained in more detail beginning on page 34. Third is continued interest on the part of the priority population. It is the responsibility of the program staff to continue marketing for the next semesters program start throughout the program. If participants cannot be found in sufficient numbers, the program cannot continue. This is due partly to the lack of funding that participants provide in the form of dues. Making the program part of the Health Science department or the Residence Hall Dining Services would allow for institutionalization and may provide some security of a continuing program.

Additional Concerns

It is of vital importance to keep the participants of “Size Does Matter” out of danger and informed. Before any participant begins the program, they will be required to fill out a medical history and emergency contact card. Included with these cards will be a consent form that must be signed and dated by each participant. Individuals with extensive medical histories will be interviewed by the program planners, health educator, and registered dietician to determine if they should participate in the program. Their dues will also be collected once they have filled out these papers (though if they are not allowed to participate, they will be given their money back). The dues will be kept in a lock box that will be collected by one of the program planners and will be kept in a locked cabinet along with the medical history and emergency contact cards. Additionally, information collected about height and weight will be stored in the same location, with the program planners being the only four persons with access to the information. At the first meeting, participants will be informed that they may quit at any point, and if they have any health problems to contact a doctor immediately. To help insure safety while participants are in meetings, each member of the program staff will be required to complete a first aid course that will include CPR training.
X. Evaluation

The purpose of the evaluation of the “Size Does Matter” program is to determine if the intervention and implementation were successful. This will be determined by seeing if the goal and objectives of the “Size Does Matter” program were met. The goal and objectives of “Size Does Matter” can be found beginning on page 17 of the program plan.

The framework used to plan the evaluation of the “Size Does Matter” program was the six step framework created by the Centers for Disease Control and Prevention CDC (see Figure 1.2 below).

![Figure 1.2: Six Step Framework for Evaluation](source)

*Step 1-Engaging Stakeholders:* Stakeholders must be engaged to insure that their perspectives are understood.

*Step 2-Describing the program:* The program should be described in enough detail that the mission, goals, objectives are known.
Step 3 - Focusing the evaluation design: Make sure the interests of the stakeholders are addressed while using time and resources effectively.

Step 4 - Gathering credible evidence: Evaluators need to decide the measurement indicators, sources of evidence, quality and quantity of evidence, and logistics for collecting the evidence.

Step 5 - Justifying conclusions: The comparison of the evidence against the standards of acceptability.

Step 6 - Ensuring use and sharing lessons learned: The use and dissemination of the evaluation of the results. The needs of each stakeholder must be addressed.

(McKenzie, Neiger, & Thackery, 2009. pp. 341-342)

The evaluation of the “Size Does Matter” program includes both process and summative approaches. The process evaluation will examine the following elements: capacity, resources, support, reach, and accountability. The data will be collected using a survey and informal interviews. The participants for this data collection will be found by selecting participants during an educational portion of the program. The process data will be collected at the completion of the program after students have their final Body Mass Index test. A copy of the instrument used to collect the process evaluation data is presented in Appendix F.

A non-experimental design will be used for the summative evaluation of the “Size Does Matter” program. More specifically, the non-experimental pre-test, post-test design will be used. The design in represented as: \( O_1 \quad X \quad O_2 \). In this design \( O_1 \) = is the pretest measurement, \( X \) = the intervention, and \( O_2 \) = the post-test measurement.

The variables that will be measured in the summative evaluation will include awareness, knowledge, skills, behavior change, and health outcome. The data collected to measure the variables will be both qualitative and quantitative in nature. The summative data will be collected at the completion of the program after students have their final Body Mass Index calculation. A copy of the instrument used to collect the summative evaluation data is presented in Appendix G.
The data will be analyzed by the program planners with the help from a Ball State University health educator. Both the qualitative and quantitative data will be gathered throughout the program by the program planners and with the participants’ cooperation. Students will be asked to keep food journals to track their daily eating habits, which will provide the quantitative data. Use of the website and online forum, tracked by the program planners and health educator, will be another form of data. Qualitative and other quantitative data will come at the end of the class session when students are asked to fill out an evaluation questionnaire about their satisfaction with the program and about the knowledge they have gained from participating in the program. For information about how participants will be evaluated, see Appendices F and G.

There are limitations to the program evaluation that must be known. One limitation is a participant not following the program, but using other unhealthy means to lose weight to gain the incentive in the end. However, students have to meet more than just lowering their Body Mass Index into a normal range to get the incentive. A participant must attend every educational session of “Size Does Matter” to participate and be weighed in. Excessive and unhealthy weight loss will be dealt with on an individual basis, but will usually result in a one-on-one discussion between the health educator and the participant.

There are potential biases and problems with internal validity. Information about losing weight and dieting can be seen everywhere. This could potentially cause a difference in program participants affecting the results. Also, the program lasts an entire semester, so participants may drop out because of the length of the program. “Size Does Matter” is using a pre-test, post-test approach to the program, which may change the results of the post-test given. Participants may remember or learn things from just simply taking the pre-test instead of learning the information from the program.
XI. References


XIII. Appendices

Appendix A

Needs Assessment Questionnaire
Please mark the best answer for each question by putting a check mark under either “Yes” or “No”.

1. You can exercise at the following places on campus:

<table>
<thead>
<tr>
<th>Place</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irving Gym</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Quadrangle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ball Gym</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bracken Library</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence Halls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. You can get nutrition information on the food served and sold on campus at:

<table>
<thead>
<tr>
<th>Place</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence Hall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Atrium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ball State website</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bracken Library</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please circle the correct answer. If you do not know the answer, circle “Don’t Know”.

3. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many ounces of grains per day?

A. 0-2 ounces  B. 3-5 ounces  C. 6-8 ounces  D. 9-11 ounces  E. Don’t Know

4. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of vegetables per day?

A. 0-1 cups  B. 2-3 cups  C. 4-5 cups  D. 6-7 cups  E. Don’t Know

5. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of fruit per day?

A. 0 cups  B. 1 cup  C. 2 cups  D. 3 cups  E. Don’t Know
6. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of dairy per day?

A. 0 cups    B. 1 cup    C. 2 cups    D. 3 cups    E. Don’t Know

7. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many ounces of meats and beans per day?

A. 0-1 ounces  B. 2-4 ounces  C. 5-7 ounces  D. 8-10 ounces  E. Don’t Know

For the next two questions, exercise is defined as “brisk physical activity that requires the heart and lungs to work harder to meet the body’s increased oxygen demand.” Please circle the correct answer. If you don’t know the answer, please circle “Don’t Know”.

8. How many minutes per day of exercising are recommended to improve one’s health?

A. None    B. Less than 30 minutes    C. 30-60 minutes    D. 60-120 minutes    E. Don’t Know

9. How many days per week of exercising are recommended to improve one’s health?

A. None    B. 1-2 days    C. 3-4 days    D. 5-7 days    E. Don’t Know

For the next three questions, Body Mass Index (BMI) is defined as “a key index for relating a person’s body weight to their height.” Please circle the correct answer. If you don’t know the answer, please circle “Don’t Know”.

10. Which of the following ranges is a healthy range for BMI?

A. 12-17.5    B. 18-24.5    C. 25-32.5    D. 33-37.5    E. Don’t Know

11. How many inches should the healthy waistline of a male be?

A. Less than 30    B. 31-35    C. 36-39    D. Less than 40    E. Don’t Know

12. How many inches should the healthy waistline of a female be?

A. Less than 25    B. 26-30    D. 31-34    D. Less than 35    E. Don’t know

Please check the answer that best answers your eating behaviors.

<table>
<thead>
<tr>
<th>Question</th>
<th>0 – 1</th>
<th>2 – 3</th>
<th>4 – 5</th>
<th>6 – 7</th>
<th>8 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. How many ounces of grains do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. How many cups of vegetables do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. How many cups of fruits do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16. How many cups of dairy do you eat most days?

17. How many ounces of meats and nuts do you eat most days?

Please circle for answer that best answers your exercise and dieting behaviors.

18. How many days per week do you exercise?
   A. 0-1 days    B. 2-3 days    C. 4-5 days    D. 6-7 days

19. How many minutes per day do you exercise?
   A. Don’t exercise    B. Less than 30 minutes    C. 30-60 minutes    D. More than 60 minutes

20. Have you tried to lose weight in the past year? If “no”, skip question 21.
   A. Yes     B. No

21. What methods did you use to try and lose weight? (Circle all that apply)
   A. Exercise    B. Diet    C. Diet pills    D. Weight loss program (i.e. Weight Watchers)    E. Purging
   F. Laxatives    G. Starvation    H. Other (please list) _________________________

Please check the answer that best describes how you feel.

<table>
<thead>
<tr>
<th>I feel that…</th>
<th>Strongly Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Healthy weight is important.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Exercising is important in maintaining a healthy weight.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. I am at a healthy weight.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Nutrition is important in maintaining a healthy weight.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Obesity is a common problem on the Ball State Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. I have problems losing weight.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. I exercise effectively.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. I eat high fat foods in moderation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
30. I eat a well-balanced diet.

31. Ball State University provides helpful resources to maintain a healthy weight.

Please answer the following questions truthfully.

32. Sex   Male   Female

33. Height   ___ feet   ___ inches

34. Weight   ______ pounds

35. Where do you live?   On-Campus   Off-Campus   Other ________________

36. What year in school are you?

1st year   2nd year   3rd year   4th year   5th year or above   Graduate student

Other (please list) ________________________________
Appendix B

Needs Assessment Questionnaire Results
1. You can exercise at the following places on campus:

<table>
<thead>
<tr>
<th>Place</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irving Gym</td>
<td>38</td>
<td>1</td>
</tr>
<tr>
<td>North Quadrangle</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td>Ball Gym</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>Bracken Library</td>
<td>3</td>
<td>35</td>
</tr>
<tr>
<td>Residence Halls</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>Other (please list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. You can get nutrition information on the food served and sold on campus at:

<table>
<thead>
<tr>
<th>Source</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence Hall</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>The Atrium</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>Ball State website</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>Health Center</td>
<td>32</td>
<td>7</td>
</tr>
<tr>
<td>Bracken Library</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Other (please list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many ounces of grains per day?
   - A. 0-2 ounces
   - B. 3-5 ounces
   - C. 6-8 ounces
   - D. 9-11 ounces
   - E. Don’t Know
   - 0  7  3  10  20

4. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of vegetables per day?
   - A. 0-1 cups
   - B. 2-3 cups
   - C. 4-5 cups
   - D. 6-7 cups
   - E. Don’t Know
   - 0  17  8  2  13

5. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of fruit per day?
   - A. 0 cups
   - B. 1 cup
   - C. 2 cups
   - D. 3 cups
   - E. Don’t Know
   - 0  5  15  5  18

6. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of dairy per day?
   - A. 0 cups
   - B. 1 cup
   - C. 2 cups
   - D. 3 cups
   - E. Don’t Know
   - 0  6  11  5  18

7. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many ounces of meats and beans per day?
   - A. 0-1 ounces
   - B. 2-4 ounces
   - C. 5-7 ounces
   - D. 8-10 ounces
   - E. Don’t Know
   - 0  10  7  2  21

8. How many minutes per day of exercising are recommended to improve one’s health?
   - A. None
   - B. Less than 30 minutes
   - C. 30-60 minutes
   - D. 60-120 minutes
   - E. Don’t Know
   - 0  3  33  3  1

9. How many days per week of exercising are recommended to improve one’s health?
   - A. None
   - B. 1-2 days
   - C. 3-4 days
   - D. 5-7 days
   - E. Don’t Know
   - 0  4  28  7  1

10. Which of the following ranges is a healthy range for BMI?
11. How many inches should the healthy waistline of a male be?
   A. Less than 30    B. 31-35    C. 36-39    D. Less than 40    E. Don’t Know
   1        14        4        1        20

12. How many inches should the healthy waistline of a female be?
   A. Less than 25    B. 26-30    D. 31-34    D. Less than 35    E. Don’t know
   1           10    7  2  20

13. How many ounces of grains do you eat most days?

<table>
<thead>
<tr>
<th></th>
<th>0 – 1</th>
<th>2 – 3</th>
<th>4 – 5</th>
<th>6 – 7</th>
<th>8 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>5</td>
<td>17</td>
<td>9</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

14. How many cups of vegetables do you eat most days?

<table>
<thead>
<tr>
<th></th>
<th>0 – 1</th>
<th>2 – 3</th>
<th>4 – 5</th>
<th>6 – 7</th>
<th>8 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. How many cups of fruits do you eat most days?

<table>
<thead>
<tr>
<th></th>
<th>0 – 1</th>
<th>2 – 3</th>
<th>4 – 5</th>
<th>6 – 7</th>
<th>8 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>21</td>
<td>14</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

16. How many cups of dairy do you eat most days?

<table>
<thead>
<tr>
<th></th>
<th>0 – 1</th>
<th>2 – 3</th>
<th>4 – 5</th>
<th>6 – 7</th>
<th>8 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>12</td>
<td>20</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

17. How many ounces of meats and nuts do you eat most days?

<table>
<thead>
<tr>
<th></th>
<th>0 – 1</th>
<th>2 – 3</th>
<th>4 – 5</th>
<th>6 – 7</th>
<th>8 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>7</td>
<td>12</td>
<td>16</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

18. How many days per week do you exercise?
   A. 0-1 days    B. 2-3 days    C. 4-5 days    D. 6-7 days
   11       21  6           2

19. How many minutes per day do you exercise?
   A. Don’t exercise   B. Less than 30 minutes   C. 30-60 minutes   D. More than 60 minutes
   6   8         19                        5

20. Have you tried to lose weight in the past year? If “no”, skip question 21.
   A. Yes     B. No
   21          19

21. What methods did you use to try and lose weight? (Circle all that apply)
   A. Exercise   B. Diet   C. Diet pills   D. Weight loss program (i.e. Weight Watchers)   E. Purging
   F. Laxatives   G. Starvation   H. Other (please list) _________________________
   22    16    3        1  1

22. I feel that…

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Healthy weight is important.</td>
<td>16</td>
<td>20</td>
<td>3</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

23. Exercising is important in maintaining a healthy weight.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>16</td>
<td>19</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

24. I am at a healthy weight.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>6</td>
<td>12</td>
<td>13</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>
25. Nutrition is important in maintaining a healthy weight. | 13 | 21 | 6 | 1 | 0  
26. Obesity is a common problem on the Ball State Campus | 3  
27. I have problems losing weight. | 4 | 16 | 9 | 4 | 8  
28. I exercise effectively. | 6 | 20 | 12 | 2 | 0  
29. I eat high fat foods in moderation. | 3 | 16 | 14 | 7 | 0  
30. I eat a well-balanced diet. | 1 | 18 | 10 | 10 | 1  
31. Ball State University provides helpful resources to maintain a healthy weight. | 6 | 7 | 23 | 4 | 0  

32. Sex
Male: 17  Female: 23

33. Where do you live?
On-Campus 15  Off-Campus 25  Other 0

34. What year in school are you?
1st year 9  2nd year 8  3rd year 15  4th year 8  5th year or above 0  Graduate student 0
Other (please list) 0

35. Average Body Mass Index:
Male: 28.66  Female: 26.4
Appendix C

Budget Form
Program Title: Size Does Matter: Know Your Correct Portions Sizes

<table>
<thead>
<tr>
<th>INCOME</th>
<th>AMOUNT</th>
<th>TOTAL INCOME/EXPENSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant fee ($175 @ $5 each)</td>
<td>$875</td>
<td></td>
</tr>
<tr>
<td>Meeting Space (Donated)</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Gifts from Sponsors</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total $1,375</td>
<td>$1,375</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENSES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Personnel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Planners</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Registered Dietician</td>
<td>$300</td>
<td></td>
</tr>
<tr>
<td>BSU Health Educator</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Peer Volunteers</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total A $300</td>
<td>$300</td>
</tr>
<tr>
<td><strong>B. Expendable Supplies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journals</td>
<td>$175</td>
<td></td>
</tr>
<tr>
<td>Pens/Pencils</td>
<td>$55</td>
<td></td>
</tr>
<tr>
<td>Plates</td>
<td>$20</td>
<td></td>
</tr>
<tr>
<td>Nutritional Labels</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>Tape</td>
<td>$20</td>
<td></td>
</tr>
<tr>
<td>Staples</td>
<td>$10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total B $300</td>
<td>$300</td>
</tr>
<tr>
<td><strong>C. Equipment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tables</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Scales</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Computers</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Projectors</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total C $0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>D. Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>Sign-up Booth fee</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total D $100</td>
<td>$700</td>
</tr>
</tbody>
</table>

**BALANCE** $675
Appendix D

Intervention Form
**Program Goal(s):**
To reduce the incidence and prevalence of obesity among Ball State University students by increasing knowledge about the relationship between food and obesity.

**Theory/Model(s):**
Theory of Planned Behavior

**Intervention strategies:**
1. **Education**
2. **Behavioral modification**
3. **Environment change**

**OBJECTIVE(S):**
Process/Administrative: By the end of the Spring 2009 semester, the program staff will enroll 175 Ball State University students in “Size Does Matter: Know Your Correct Portion Size.”

<table>
<thead>
<tr>
<th>Activity</th>
<th>Construct</th>
<th>Person/Agency Responsible</th>
<th>Start/End Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Activity</td>
<td>Attitude Toward Behavior</td>
<td>Program creators and peer volunteers</td>
<td>August 2009</td>
</tr>
<tr>
<td>The program staff will set up a booth in the Atrium dining facility to allow students to pick up information about the program and allow them to sign up for it in person.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Activity</td>
<td>Peer Volunteers</td>
<td></td>
<td>August 2009</td>
</tr>
<tr>
<td>The program staff will email all students telling them about the program, the booth where they can sign up in person and receive further information, and allow them to sign up via email if they so choose.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**OBJECTIVE(S):**

**Attitude:** By the end of the Spring 2009 semester, at least 30% of students who are enrolled in the program will agree that good nutrition can reduce obesity.

**Knowledge:** After the first month of the program, 100 students enrolled in the program will be able to explain the correct portion size of each food group.

**Skill Development:** After watching the program staff build three correctly-portioned meals, half of students enrolled in the program will be able to build one correctly-portioned meal.

<table>
<thead>
<tr>
<th>1. Activity</th>
<th>Program creators</th>
<th>September 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first lesson plan will involve an introduction to the different food groups, calorie counting, and food’s affect on weight. It will also teach students how to fill out their food journals</td>
<td>Program creators</td>
<td>September 2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Activity</th>
<th>Registered dietician and program creators</th>
<th>October 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>The second lesson plan will be a more in-depth discussion on food’s affect on weight, including portion sizes for each food group, the amount of calories and fat in food, and where this information can be found on Ball State campus.</td>
<td>Registered dietician and program creators</td>
<td>October 2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Activity</th>
<th>Program creators</th>
<th>October 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>The third lesson plan will show students how to build a meal based on correct portion sizes and including a variety of low-fat, low-calorie foods.</td>
<td>Program creators</td>
<td>October 2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Activity</th>
<th>Program creators</th>
<th>November 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>The fourth lesson plan will teach the students how to interpret their food journals and determine if they are making a productive change or not.</td>
<td>Program creators</td>
<td>November 2009</td>
</tr>
</tbody>
</table>

**OBJECTIVE(S):**

**Awareness:** Within the first week of the program, 100 students who are enrolled in the program will calculate their Body Mass Index and determine if they are underweight, normal, overweight, or obese.

<table>
<thead>
<tr>
<th></th>
<th>Perceived Behavior Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>1. Activity</th>
<th>Registered dietician, health educator, and peer volunteers</th>
<th>September 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will have their height and weight recorded and a skin-fold test performed to determine their Body Mass Index.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OBJECTIVE(S):**

Skill Development: After watching the program staff build three correctly-portioned meals, half of students enrolled in the program will be able to build one correctly-portioned meal.

<table>
<thead>
<tr>
<th>1. Activity</th>
<th>Perceived Behavioral Control</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The participants will be invited to an awards ceremony where they will be given access to a buffet for dinner to build a correctly-portioned meal from, be congratulated on their success, and reward those who reduced or maintained their weight at a normal Body Mass Index range.</td>
<td>Program creators and peer volunteers</td>
<td>December 2009</td>
</tr>
</tbody>
</table>

**OBJECTIVE(S):**

Environment: By February 2009, 60% of all Ball State Students will be able to pick up nutrition information at each dining facility on campus about all food made by Residence Hall Dining Services.

<table>
<thead>
<tr>
<th>1. Activity</th>
<th>Perceived Behavioral Control</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Program staff members will take groups of participants on tours of one of the dining facilities to show them where they can find fat and calorie information on dining services foods.</td>
<td>Peer volunteers</td>
<td>September 2009 – October 2009</td>
</tr>
</tbody>
</table>
### Program Title: Size Does Matter: Know Your Correct Portion Sizes

#### OBJECTIVE(S):

**Skill Development:** After watching the program staff build three correctly-portioned meals, half of students enrolled in the program will be able to build one correctly-portioned meal.

**Environment:** By February 2009, 60% of all Ball State Students will be able to pick up nutrition information at each dining facility on campus about all food made by Residence Hall Dining Services.

#### 1. Activity

The information presented in the lesson plans, nutrition information for foods on campus, portion size placemats, and food journal pages will be available online in PDF format so that participants in the program can print the information out for personal use.

#### 2. Activity

The program staff will consult with Residence Hall Dining Services to bring segmented disposable and reusable plates to residence hall dining to assist students in receiving correctly-portioned meals.

#### 3. Activity

Members of the program staff will train Residence Hall Dining Services employees on how to properly use segmented plates so that students receive correctly-portioned meals.

#### 4. Activity

Members of the program staff will assist Residence Hall Dining Services in placing nutritional labels on all food prepared by dining services that is not automatically labeled including soda machines, hot food, and refrigerated items.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Program creators</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Activity</td>
<td>The program staff will consult with Residence Hall Dining Services to bring segmented disposable and reusable plates to residence hall dining to assist students in receiving correctly-portioned meals.</td>
<td>Program creators</td>
<td>December 2008 – January 2009</td>
</tr>
<tr>
<td>3. Activity</td>
<td>Members of the program staff will train Residence Hall Dining Services employees on how to properly use segmented plates so that students receive correctly-portioned meals.</td>
<td>Program creators</td>
<td>December 2008 – January 2009</td>
</tr>
<tr>
<td>4. Activity</td>
<td>Members of the program staff will assist Residence Hall Dining Services in placing nutritional labels on all food prepared by dining services that is not automatically labeled including soda machines, hot food, and refrigerated items.</td>
<td>Program creators and peer volunteers</td>
<td>December 2008 – January 2009</td>
</tr>
</tbody>
</table>
**OBJECTIVE(S):**

**Action/Behavioral:** Six months after the program has been completed, 30% of students who completed the program will continue recording how many servings of each food group they eat per day in their food journals.

<table>
<thead>
<tr>
<th><strong>Activity</strong></th>
<th><strong>Perceived Behavioral Control</strong></th>
<th><strong>Registered dietician and peer volunteers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>An online forum will be set up for past and present participants to make comments about their weight loss goals, behavior change, and receive and/or give support to each other. They will also be able to publicly update how long they have been continuing with their food journals and provide insight on how it has impacted their success.</td>
<td></td>
<td>December 2008</td>
</tr>
</tbody>
</table>

**OBJECTIVE(S):**

**Outcome:** At the completion of the program, 85 of the students who completed the program and had high Body Mass Index levels will lower their Body Mass Index down into the normal range.

<table>
<thead>
<tr>
<th><strong>Activity</strong></th>
<th><strong>Registered dietician, health educator, and program creators</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants will be weighed in at the end of the program and have their Body Mass Index recalculated to see if they have reached a normal range. Those that do reach that goal will receive a reward at the end of the program.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix E

Lesson Plan
**Title of Program:** Size Does Matter: Know Your Correct Portion Sizes  
**Title of Lesson:** Food for Thought  
**Unit:** Introduction to Nutrition and Portion Sizes  
**Lesson No. 1**  
**Priority Population:** Ball State University Students  
**Length of Lesson:** 2 hour (120 minutes)

<table>
<thead>
<tr>
<th>Resources and References</th>
<th>Content</th>
<th>Teaching Method</th>
</tr>
</thead>
</table>
The introduction will include a welcome to all the students who are participating, introduce the program staff, and divide the group into two smaller groups, one which will start weigh-ins and the other to listen to the presentation.  
Body (brief overview of the following):  
1. **The food groups**  
   - Name each food group.  
     - Grains  
     - Vegetables  
     - Fruits  
     - Dairy  
     - Meats and beans  
   - Describe why each food group is important for the body.  
2. **What is a portion size?**  
   - Describe what a serving is for each food group.  
     - Grains: 1 ounce  
     - Vegetables: ½ cup to 2 cups, depending on the vegetable  
     - Fruits: ½ cup to 1 cup depending on the fruit  
     - Dairy: 2 ounces to 1 cup depending on the dairy product  
     - Meat and beans: 1 ounce  
| Type: Lecture | Time: 15 minutes  
At this point, the participants will be divided into two different groups: one will stay and listen to the lesson while the others have their height and weight recorded and body mass index (BMI) calculated. |
Time: 10 minutes  
The participants will view a PowerPoint® presentation that will include a picture of the food guide pyramid and pictures of various food items from each group. |
| Type: Lecture  
Time: 10 minutes  
Participants will be shown life-size models of different serving sizes so they can equate a certain object with a particular serving size. Also, they will view a |
3. Counting calories
- Defining “calorie” and explaining why they are important.
- Learn how to read the nutrition label for serving size and calories.
- Determining how many calories an individual should get per day based on weight.
  - MyPyramid Plan online

4. Foods affect on weight
- Describe Body Mass Index (BMI) and how to calculate it.
- Defining overweight and obesity based on BMI.
- Why food turns into added fat.

5. Weigh-In
- Height and weight will be taken and recorded for each

<table>
<thead>
<tr>
<th>Type: Lecture</th>
<th>Time: 10 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The registered dietician will present this portion of the presentation. They will guide participants as a group through the MyPyramid Plan on MyPyramid.gov, which will determine how many calories an individual should eat per day.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type: Physical Activity</th>
<th>Time: 60 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each participant will be provided with a BMI chart they can use to track their progress throughout the program.</td>
<td></td>
</tr>
</tbody>
</table>
participant. Body Mass Index (BMI) will be calculated and recorded for each participant.

Conclusion:
When both groups come back together, the program planners will close by announcing that there will be a prize at the end of the program for every participant that brings their BMI to the normal range and thank them all for attending.

Each participant will be weighed and have their height recorded by the peer volunteers. These will be translated into each participant’s BMI, which they will circle on their BMI chart.

Type: Lecture
Time: 5 minutes

The program planners will take attendance of all the participants and collect their BMI records. These will be used to determine who attends every meeting.

Evaluation: At the end of the lesson, participants will be asked to keep two weeks worth of entries into their food journals and see if they see a change in their eating habits.
Appendix F

Process Evaluation Form
Process Evaluation

In order to make “Size Does Matter: Know Yours Correct Portion Sizes” more successful, we need your input. Please place a check mark in the box that best answers each question. You do not need to include your name.

<table>
<thead>
<tr>
<th>I feel that…</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The staff was knowledgeable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The staff was able to answer any questions I had.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The information was presented clearly each class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The information presented was helpful in losing weight.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The website and online forum was helpful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The food journals were helpful in keeping track of my daily eating habits.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The PowerPoint’s were helpful in explaining the material presented in each class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The online forum was successful in providing support throughout the program.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The nutrition labels made it Easier to pick out more nutritious food.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It was difficult to sign up for the program.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How did you hear about the program?
   a. Email
b. Sign-up booth
c. Friends
d. Other, please list: ________________________________

Did the classes start on time?
   a. Yes
   b. No
      Comments: ________________________________

Were the staff and classes organized?
   a. Yes
   b. No
      Comments: ________________________________

Additional Comments:
Appendix G

Summative Evaluation Form
Please circle the correct answer. If you do not know the answer, circle “Don’t Know”.

1. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many ounces of grains per day?
   A. 0-2 ounces  B. 3-5 ounces  C. 6-8 ounces  D. 9-11 ounces  E. Don’t Know

2. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of vegetables per day?
   A. 0-1 cups  B. 2-3 cups  C. 4-5 cups  D. 6-7 cups  E. Don’t Know

3. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of fruit per day?
   A. 0 cups  B. 1 cup  C. 2 cups  D. 3 cups  E. Don’t Know

4. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many cups of dairy per day?
   A. 0 cups  B. 1 cup  C. 2 cups  D. 3 cups  E. Don’t Know

5. According to the United States Department of Agriculture, men and women ages 19-30 should eat how many ounces of meats and beans per day?
   A. 0-1 ounces  B. 2-4 ounces  C. 5-7 ounces  D. 8-10 ounces  E. Don’t Know

For the next three questions, Body Mass Index (BMI) is defined as “a key index for relating a person’s body weight to their height.” Please circle the correct answer. If you don’t know the answer, please circle “Don’t Know”.

6. Which of the following ranges is a healthy range for BMI?
   A. 12-17.5  B. 18-24.5  C. 25-32.5  D. 33-37.5  E. Don’t Know

7. How many inches should the healthy waistline of a male be?
   A. Less than 30  B. 31-35  C. 36-39  D. Less than 40  E. Don’t Know

8. How many inches should the healthy waistline of a female be?
   A. Less than 25  B. 26-30  D. 31-34  D. Less than 35  E. Don’t know
Please check the answer that best answers your eating behaviors.

<table>
<thead>
<tr>
<th>Question</th>
<th>0 – 1</th>
<th>2 – 3</th>
<th>4 – 5</th>
<th>6 – 7</th>
<th>8 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. How many ounces of grains do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. How many cups of vegetables do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. How many cups of fruits do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. How many cups of dairy do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. How many ounces of meats and nuts do you eat most days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix H

Timeline
<table>
<thead>
<tr>
<th>Tasks to be completed</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Conduct Needs Assessment</td>
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<td>Develop program rationale</td>
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<td>Develop goals and objectives</td>
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<td>Create intervention</td>
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<td>Train dining services staff</td>
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<td>Place nutritional labels</td>
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<td>Develop website and forum</td>
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