Supplemental Materials

for

An Experiential-Learning Lesson to Encourage Teamwork and Healthy Practices

Jamie L. Brusa

Department of Ecology, Montana State University, Bozeman, MT 59717

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Corresponding author. Mailing address: Department of Ecology, Montana State University, 310 Lewis Hall, P. O. Box 173460, Bozeman, MT 59717. Phone: 847-767-7761. E-mail: jibwcc@gmail.com. Received: 31 July 2018, Accepted: 21 December 2018, Published: 28 June 2019.

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### Appendix 1: Student score sheet

<table>
<thead>
<tr>
<th>Your name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Your character's name:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Risk Score</th>
<th>Prevention</th>
<th>Verification</th>
</tr>
</thead>
</table>
| 50 years old or older?  
*If over 50, add 10 pts. No prevention possible:* |  | N/A |  |
| Male or Female?  
*If male, add 8 pts. No prevention possible:* |  | N/A |  |
| Family history of heart disease?  
*If yes, add 8 pts. No prevention possible:* |  | N/A |  |
| Smoker? (up to 2x, 15 pts. each)  
*If yes, staying off of your phone for 2 hours = quit smoking (sleeping, class don’t count)* |  |  | N/A |
| Too much salt? (up to 2x, 8 pts. each)  
*Exchange a salty food for a healthier option at any meal* |  |  |  |
| Smart snacking? (up to 2x, 7 pts. each)  
*Choose a fruit or vegetable as a snack* |  |  |  |
| Too much sugar? (up to 2x, 10 pts. each)  
*Exchange a sugary food for a healthier option at any meal (e.g. skip dessert and/or soft drink)* |  |  |  |
| Too much caffeine? (up to 2x, 15 pts. each)  
*Cut out coffee, tea, chocolate, or energy drinks* |  |  |  |
| High blood pressure? (Up to 2x, 7 pts. each)  
*Go for a power walk, breathe deeply for 5 min., drink a decaf tea, cut out a caffeinated drink* |  |  |  |
| High cholesterol? (Up to 2x, 10 pts each)  
*Exchange a fatty food for a healthier option at any meal, eat some carrots* |  |  |  |
| Diabetes?  
*If yes, add 10 pts. No prevention possible:* |  | N/A |  |
| Enough exercise? (8 pts. for every 15 minutes of exercise)  
*Choose your favorite kind of exercise:* |  |  |  |
| Stress? (10 pts.)  
*Do yoga, exercise, meditate for 5 minutes, listen to relaxing music or nature, unplug for 30 min.* |  |  |  |
| Dental health? (8 pts. for brushing, 10 pts. if you also floss)  
*Keep a clean mouth* |  |  |  |
| **Bonus** You hiked on Sunday. You get 10 points added to your prevention score | 0 | 10 | JLB |
Appendix 2

Presentation to Set Up Score Sheets

*Point values should be revealed after students have selected an item from the list*

---

### Choose an animal...

<table>
<thead>
<tr>
<th>Animal</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bear</td>
<td>30</td>
</tr>
<tr>
<td>Dolphin</td>
<td>5</td>
</tr>
<tr>
<td>Lizard</td>
<td>20</td>
</tr>
<tr>
<td>Owl</td>
<td>15</td>
</tr>
<tr>
<td>Shark</td>
<td>10</td>
</tr>
<tr>
<td>Snake</td>
<td>25</td>
</tr>
</tbody>
</table>

### Choose a musical instrument...

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guitar</td>
<td>14</td>
</tr>
<tr>
<td>Flute</td>
<td>5</td>
</tr>
<tr>
<td>Violin</td>
<td>10</td>
</tr>
<tr>
<td>Trumpet</td>
<td>12</td>
</tr>
<tr>
<td>Clarinet</td>
<td>17</td>
</tr>
<tr>
<td>Tuba</td>
<td>3</td>
</tr>
<tr>
<td>Drums</td>
<td>7</td>
</tr>
</tbody>
</table>

### Stripes or Polka Dots...

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Diabetes</th>
<th>No diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stripes</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Polka Dots</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

### Choose a weekday...

- Monday: 5 points
- Tuesday: 20 points
- Wednesday: 15 points
- Thursday: 2 points
- Friday: 10 points

### Choose a planet...

<table>
<thead>
<tr>
<th>Planet</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jupiter</td>
<td>6</td>
</tr>
<tr>
<td>Mars</td>
<td>4</td>
</tr>
<tr>
<td>Venus</td>
<td>10</td>
</tr>
<tr>
<td>Saturn</td>
<td>8</td>
</tr>
</tbody>
</table>

### Choose a biome...

<table>
<thead>
<tr>
<th>Biome</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desert</td>
<td>6</td>
</tr>
<tr>
<td>Tundra</td>
<td>10</td>
</tr>
<tr>
<td>Forest</td>
<td>8</td>
</tr>
<tr>
<td>Aquatic</td>
<td>12</td>
</tr>
</tbody>
</table>
Roll a die 3 times…

- First roll
  - If even number, character is over 50 years old
- Second roll
  - If number is below 4, character is male
- Third roll
  - If number is divisible by 3, character has family history of heart disease

Pick a number between 1 and 100…

- 1 – 20
  - Very low risk of smoking – 10 points
- 21 – 40
  - Low risk of smoking – 15 points
- 41-60
  - Moderate risk of smoking – 20 points
- 61 – 80
  - High risk of smoking – 25 points
- 81 – 100
  - Very high risk of smoking – 30 points

Choose a color…

Choose a shape…

Choose a dinosaur…

- Stegosaurus
  - 5 points
- Tyrannosaurus Rex
  - 15 points
- Velociraptor
  - 20 points
- Triceratops
  - 10 points

Choose a fruit…

- Apple
  - 25 points
- Strawberry
  - 12 points
- Banana
  - 10 points
- Orange
  - 16 points
- Watermelon
  - 10 points
- Kiwi
  - 5 points
- Peach
  - 15 points
Appendix 3
Student Handout

**Introduction:** Heart disease is one of the leading causes of death and disability in the world. Unfortunately, certain characteristics, such as gender and age, can affect the vulnerability of people to heart disease. However, many lifestyle choices can also impact one’s susceptibility.

**Directions:** This activity will provide you with opportunities to practice lifestyle choices that can help prevent heart disease. We will begin by setting up heart disease score sheets in which you will simulate a character with a certain risk score of developing heart disease. Once you create your character name, we will use dice and a presentation during which you will pick items from various lists, and each item will be associated with its own risk score that corresponds to a given risk factor on your score sheet. You will have until the next class to role-play as your character in completing as many of the prevention activities as you can/desire to help your character decrease his/her risk of developing heart disease. Each prevention activity has a corresponding score that will contribute to lowering the risk score. To receive prevention points, you must have a witness initial each prevention activity you complete.

**Reflection questions:** After completing the heart disease activity, answer the following questions.

1. Which prevention activities were the easiest and/or most enjoyable to complete?

2. Which prevention activities were the most difficult to complete?

3. In your opinion, what are the most important risk factors to avoid?

4. What are some challenges in incorporating more prevention methods into your life, and how can you overcome these challenges?
5. Did you work with others to complete any of the prevention activities? Why or why not?

6. In recent years, many opportunities for community-level fitness and diet programs, such as group fitness classes and group meetings for dieters, and email listservs pertaining to nutrition and exercise plans, have arisen. Explain some reasons why you think that these programs are directed at the community level.

7. A friend of yours has discovered that she has a family history of heart disease and is concerned about developing heart disease herself. What advice would you give her?
1. Which prevention activities were the easiest and/or most enjoyable to complete?

   Answers will vary

2. Which prevention activities were the most difficult to complete?

   Answers will vary

3. In your opinion, what are the most important risk factors to avoid?

   Answers will vary but should include only risk factors that one can control (e.g., one cannot avoid ageing)

4. What are some challenges in incorporating more prevention methods into your life, and how can you overcome these challenges?

   Answers should be specific. For example, a student might list lack of time for exercise or not liking vegetables as challenges. To overcome the lack of time for exercise issue, the student could wake up 30 to 60 minutes earlier three times per week to schedule in an exercise session or sign up for a gym class the following semester. To overcome the disinterest in vegetables issue, a student can start by incorporating one vegetable serving per day into a meal and gradually increase the number of vegetable servings each week. Alternatively, the student might sign up for a cooking class or by a new cookbook to learn new recipes for vegetables that might make eating vegetables a more enjoyable experience.

5. Did you work with others to complete any of the prevention activities? Why or why not?

   Hopefully the students will work together, as they did when I implemented this lesson. Reasons for working together that students might list include mutual support/encouragement, additional responsibility/pressure to complete difficult but desired activities, and/or camaraderie.
6. In recent years, many opportunities for community-level fitness and diet programs, such as group fitness classes, group meetings for dieters, and email listservs pertaining to nutrition and exercise plans, have arisen. Explain some reasons why you think that these programs are directed at the community level.

Students should apply their understanding of the benefits of teamwork they gained through the heart disease activity to describe how these community-level programs employ the teamwork techniques of mutual support/encouragement, shared goals and challenges, and accountability to attract and retain participation in the programs. Students might cite examples of teamwork from their own experience in the heart disease activity, such as exercising or eating with others to make the challenges easier to complete and more enjoyable.

7. A friend of yours has discovered that she has a family history of heart disease and is concerned about developing heart disease herself. What advice would you give her?

Students should comment that while the friend has no control over her family history, she can adapt several lifestyle choices to lessen her risk of developing heart disease. Students can cite the prevention activities in which they engaged during the heart disease activity as ideas for the friend to incorporate into her life. Students might also suggest that the friend attends group fitness classes and/or exercises and shares meals with friends and family to transform these lifestyle changes into enjoyable and feasible habits (as well as encouraging loved ones to engage in healthy habits too). Students might suggest that the friend starts out with a few minor changes to improve diet and exercise with gradual progression into more intense nutrition and exercise routines. Answers are expected to largely be based on the reflections of the students’ experiences throughout the heart disease activity.
Appendix 4

Outline for mini interactive lecture

I. General physiology of heart and heart disease
   a. Ask students the purpose of the circulatory system (transport gases, nutrients, hormones, etc.) and what is necessary for fluids to move in an enclosed system (some sort of pump, which is the heart in the circulatory system); make sure students understand that the heart is composed of muscle tissue
   b. Show images of healthy blood vessels and blood vessels with varying degrees of fatty deposits that restrict blood flow
   c. Have students make observations about the images and compare the different blood vessels in small groups or with partners and then discuss as a full class

II. Heart disease causes
   a. Have students discuss in small groups or partners some various ways in which fat can be deposited in blood vessels and how it can persist there and then discuss as a full class

III. Heart disease symptoms and conditions
   a. Guide students to come to a conclusion that blood vessels with fatty deposits and restricted blood flow can lead to various symptoms, such as lightheadedness, changes in heart rate, changes in blood pressure, and localized pain
   b. Explain how blocked blood vessels can lead to heart attacks, chest pain, and/or stroke