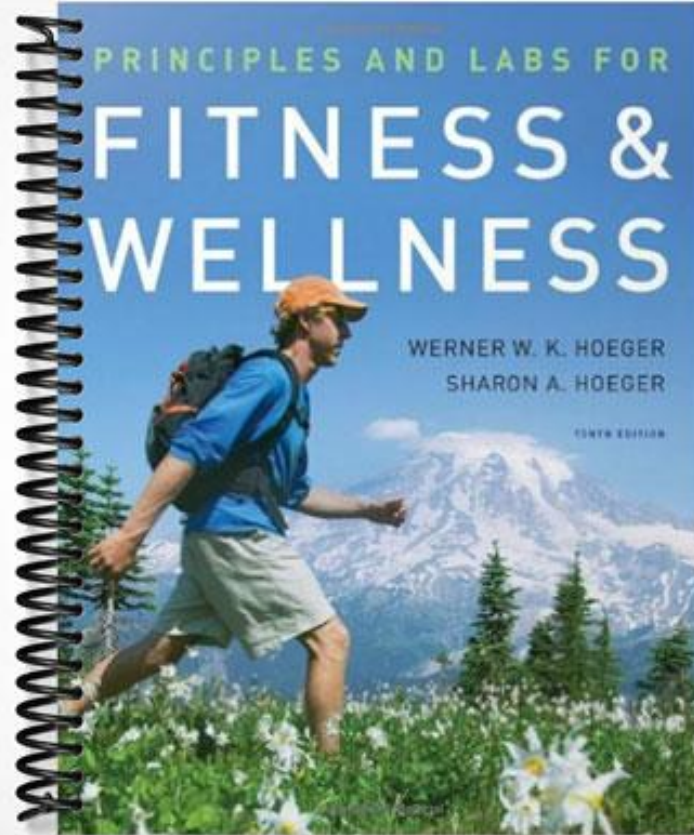


SOLUTIONS MANUAL



**Instructor's Manual¹ for
Principles & Labs for Fitness & Wellness 10e
Chapter 2 – Behavior Modification**

Objectives

- Learn the effects of environment on human behavior.
- Understand obstacles that hinder the ability to change behavior.
- Explain the concepts of motivation and locus of control.
- Identify the stages of change.
- Describe the processes of change.
- Explain techniques that will facilitate the process of change.
- Describe the role of SMART goal setting in the process of change.
- Be able to write specific objectives for behavioral change.

Expanded Chapter Outline

I. INTRODUCTION

- A. Nearly all Americans accept that exercise is beneficial to health and see a need to incorporate it into their lives.
 - 1. 70% of new and returning exercisers, however, are at risk for early dropout.
 - 2. Exercise/Exercise Drop Out Cycle (Figure 2.1; Acetate 11)
 - a. Most students understand that they should be exercising.
 - b. They sign up for the course, finish the course, and stop exercising.
 - c. They offer a wide array of excuses.
 - d. A few months later, they realize once again that exercise is vital and repeat the cycle.
- B. The individual must first take a critical look at personal behaviors and lifestyle with an open mind to change.
- C. Living in a Toxic Health and Fitness Environment
 - 1. Most of the behaviors we adopt are a product of our environment.
 - 2. This environment includes family, friends, peers, homes, schools, workplaces, television, radio, and movies, as well as our communities, country, and culture in general.
 - 3. We live in a "toxic" environment when it comes to fitness and wellness.
 - a. From childhood through young adulthood, we observe, we learn, we emulate, and gradually, we incorporate them into our personal lifestyle.
- D. Environmental Influences on Physical Activity
 - 1. Most activities of daily living, which a few decades ago required movement or physical activity, now require almost no effort and negatively impact health, fitness, and body weight.
 - a. Modern-day conveniences lull us into physical inactivity.
 - b. Modern-day architecture reinforces unhealthy behaviors.
 - c. Walking, jogging, and bicycle trails are too sparse in most cities, further discouraging physical activity.
 - i. Using "traffic-calming" strategies to slow traffic intentionally to make the pedestrian's role easier.
 - ii. Many European communities place a high priority on walking and cycling.

¹ By Ping H. Johnson, PhD, CHES of Kennesaw State University.

E. Environmental Influence on Diet and Nutrition

1. The amount of daily food supply available in the United States is about 3,900 calories per person, before wastage. This figure represents a 700-calorie rise over the early 1980s.
2. The overabundance of food increases pressure on food suppliers to advertise and try to convince consumers to buy their products.
3. Many activities of daily living in today's culture are associated with eating.
4. As a nation, we now eat out more often than in the past, portion sizes are larger, and we have an endless variety of foods to choose from.
 - a. Compared to home meals, restaurant and fast food meals are higher in fat and calories and lower in essential nutrients and fiber.
 - b. Most restaurants are pleasurably decorated to enhance comfort, appetite, and length of stay, with the intent to entice more eating.
 - c. Restaurants and groceries often appeal to our sense of thrift by using "value marketing," meaning they offer us a larger portion for only a small price increase, or free soft-drink refills.
5. On average, American women consume 335 more daily calories than they did 20 years ago, and men an additional 170 calories.
6. Lab 2A provides you with the opportunity to determine whether you control your environment or the environment controls you.

II. BARRIERS TO CHANGE

A. The most common reasons people make unhealthy choices are:

1. Lack of core values
 - a. Most people are unwilling or unable to trade convenience for health or other benefits.
 - b. Tip: Educate yourself regarding the benefits of a healthy lifestyle and subscribe to several reputable health, fitness, and wellness newsletters.
2. Procrastination
 - a. They think: "Tomorrow or sometime later will be a better time to change."
 - b. Tip: Ask, "Why not change today?" and find the motivation to do so.
3. Preconditioned cultural beliefs
 - a. They think: "I cannot change because I am merely a product of my environment."
 - b. Tip: Find a like-minded partner. Finding people who are willing to "sail" with you will help overcome this barrier.
4. Gratification
 - a. They think: "Benefits later are not worth the discomfort now. Instant good feelings outweigh any long-term satisfaction."
 - b. Tip: Ask, "What happened last time when I didn't consider the consequences? Is the immediate good feeling really worth it later? Is the long-term satisfaction worth suffering discomfort for a while?"
5. Risk complacency
 - a. They think: "If I get heart disease, I'll deal with it then. For now, let me eat, drink, and be merry."
 - b. Tip: Ask, "How well do I want to live my last decades of life?"
6. Complexity
 - a. They think: "The world is too complicated, with too much to think about. There are so many things to do to be healthy. I just can't do them all."
 - b. Tip: Ask, "Can't I take them one at a time?"
7. Indifference and helplessness
 - a. They think: "No matter what I do, my genetics will work against me."
 - b. Tip: Ask, "Didn't I just read that 84% of the risk for disease is based on everyday decisions?"

8. Rationalization
 - a. They think: "I'm not as bad as Joe or Sally."
 - b. Tip: Ask, "Do Joe's and Sally's problems improve mine?"
 9. Illusions of invincibility
 - a. They think: "It might be a bad choice but I can handle anything that comes my way."
 - b. Tip: Ask, "Will I be able to handle anything when I am older? Might it be better to maintain good health throughout life?"
- B. The sooner we implement a healthy lifestyle program, the greater will be the health benefits and quality of life that lie ahead.

III. SELF-EFFICACY

- A. The belief in one's own ability to perform a given task.
 1. It exerts a powerful influence on people's behaviors and touches virtually every aspect of their lives.
 2. The knowledge and skills you possess and further develop determine your goals and what you do and choose not to do.
- B. Sources of Self-Efficacy
 1. Mastery experiences, or personal experiences that one has had with successes and failures – best contributors of self-efficacy.
 2. Vicarious experiences provided by role models or those one admires also influence personal efficacy.
 3. Verbal persuasion of one's capabilities to perform a task also contributes to self-efficacy.
 4. Physiological cues that people experience when facing a challenge - least significant source of self-efficacy.

IV. MOTIVATION AND LOCUS OF CONTROL

- A. Motivation is often the explanation given for why some people succeed and others do not.
- B. Locus of control is the extent to which individuals believe they can influence the external environment.
 1. Internal locus of control results when individuals believe they have control over events in life. These people are usually:
 - a. Healthier.
 - b. More successful in adhering to exercise.
 2. External locus of control results when individuals do not believe their behavior will alter events in life; rather, events happen by chance or for some other external reason. These people:
 - a. Usually feel powerless and vulnerable.
 - b. Are at greater risk for illness and slower recovery from illness.
 3. Few people have completely external or internal locus of control.
 - a. People can develop a more internal locus of control.
 - b. Understanding that genetics and environment usually control a low percentage of the potential outcome can help motivate change through a new perception of locus of control.
- C. Three Major Impediments to Improving Internal Locus of Control
 1. Problems with competence
 - a. Lacking the skills to get a given task done leads to reduced competence.
 - b. Solutions
 - i. Identify and work to master the skills needed.
 - ii. Select environments and activities in which skill already exists.
 2. Problems with confidence
 - a. Arise when you have the skill but don't believe you can get it done and/or when the task seems insurmountable.

- b. Solutions:
 - i. Give the situation a fair try; put forth honest effort.
 - ii. Visualize success.
 - iii. Divide large or complex tasks into easier to attain subunits.
 - 3. Problems with motivation
 - a. Individuals have both the competence and the confidence, but are unwilling to change because the reasons to change are not important to them.
 - b. Solutions:
 - i. Gain knowledge about why a change should be contemplated.
 - ii. Set goals after realizing what direction to take.
- D. When it comes to a healthy lifestyle, there may not be a second chance.
 - 1. A stroke, a heart attack, or cancer can have irreparable or fatal consequences.
 - 2. Feelings of fitness, self-esteem, confidence, health, and better quality of life are difficult to explain unless you have experienced it yourself.

V. CHANGING BEHAVIOR

- A. The first step in addressing behavioral change is to recognize that you indeed have a problem.
 - 1. Five general categories of behaviors addressed in the process of willful change
 - a. Stopping a negative behavior
 - b. Preventing relapse of a negative behavior
 - c. Developing a positive behavior
 - d. Strengthening a positive behavior
 - e. Maintaining a positive behavior
 - 2. The process of change moves along a continuum from not willing to change, to recognizing the need for change, and taking action and implementing change.
 - 3. The "do it or don't do it" approach seldom works when attempting to implement lifestyle changes.
- B. Behavior Change Theories
 - 1. Learning Theories
 - a. Most behaviors are learned and maintained under complex schedules of reinforcement and anticipated outcomes.
 - b. The process involved in learning a new behavior requires modifying many small behaviors that shape the new pattern behavior.
 - 2. Problem-Solving Model
 - a. Many behaviors are the result of making decisions as we seek to solve the problem behavior.
 - b. The process of change requires conscious attention, setting goals, and designing a specific plan of action.
 - 3. Social Cognitive Theory
 - a. Behavior change is influenced by the environment, self-efficacy, and characteristics of the behavior itself.
 - b. Self-efficacy - believing that you can do the task. To develop it:
 - i. educating self about the behavior
 - ii. developing the skills to master the behavior
 - iii. performing smaller mastery experiences successfully
 - iv. receiving verbal reinforcement
 - v. observing others perform the behavior
 - 4. Relapse Prevention Model
 - a. People are taught to anticipate high-risk situations and develop action plans to prevent lapses and relapses.
 - b. High-risk situations:
 - i. negative physiologic or psychologic states (stress, illness)
 - ii. social pressure
 - iii. lack of support

- iv. limited coping skills
 - v. change in work conditions
 - vi. lack of motivation, etc.
5. Transtheoretical Model
- a. The transtheoretical model illustrates 6 stages of change that usually occur in a successfully willed process of behavior change (Figure 2.2; Acetate 12).
 - b. Applying specific behavioral-change processes (Table 2.1) during each stage of the model increases the success rate for change.
 - c. Stage 1: Precontemplation
 - i. Defined: The status of not considering or being unwilling to change.
 - ii. Deny having a problem.
 - (a) People can be unaware or underaware of the problem.
 - (b) The most difficult people to inspire toward behavioral change.
 - iii. Continued peer and environmental support are helpful.
 - iv. One must address the specific objectives (supportive behaviors) required to reach the goal (see Figure 2.3).
 - d. Stage 2: Contemplation
 - i. Defined: Acknowledgment that a behavior change is needed in the next six months.
 - ii. The pros and cons are weighed.
 - iii. Education and peer support are influential.
 - e. Stage 3: Preparation
 - i. Defined: Seriously considering and planning behavior change in the next month.
 - ii. Initial steps are taken, such as goal setting and trying the new behavior.
 - iii. Continued education and peer support are effective.
 - f. Stage 4: Action
 - i. Defined: Following the specific guidelines set forth for that behavior and requiring the greatest commitment of time and energy.
 - ii. Relapse is common, and may regress to a previous stage.
 - (a) Reevaluating the readiness to change and identifying barriers to change and specific strategies to support behaviors are useful during relapse.
 - iii. The stage is considered fully developed in six months.
 - g. Stage 5: Maintenance
 - i. Defined: The behavior change is continued for up to five years.
 - ii. Reinforce the gains and strive to prevent lapses and relapse.
 - h. Stage 6: Termination/Adoption
 - i. Defined: Maintaining the change for more than five years.
 - ii. The change is part of the individual's lifestyle.
 - iii. Past obstacles do not pose a substantial relapse threat.
 - iv. Ultimate goal for all people searching for a healthier lifestyle.
 - v. By nature, some behavior changes do not allow termination/adoption, such as alcoholism, and possibly exercise and weight control.
 - i. Relapse
 - i. Defined: To slip into unhealthy behavior or to regress in the stages of the transtheoretical model (Figure 2.4; Acetate 14).
 - ii. May occur at any level after the precontemplation stage.
- C. The Process of Change - applying appropriate processes at each stage of change enhances the likelihood of changing behavior permanently (Table 2.1).
- 1. Consciousness-Raising
 - a. Defined: Obtaining information to make a better decision.
 - b. The individual may be unaware that a behavior is a problem.
 - c. May continue from the precontemplation stage through the preparation stage.

2. Social Liberation
 - a. Defined: Stresses external alternatives that make you aware of problem behaviors and contemplate change.
 - b. Examples: Pedestrian walks for safety, no-smoking areas, civic organizations, and self-help groups.
 - c. Provides opportunities to get involved, stir up emotions, and enhance self-esteem
3. Self-Analysis
 - a. Defined: A decisive desire to change an identified behavior.
 - b. Results from a pro-con listing showing benefits outweigh barriers.
4. Emotional Arousal
 - a. Defined: Experiencing and expressing feelings about the problem.
 - b. Results from outcome dramatizations or real-life observations of other people in similar circumstances.
5. Positive Outlook
 - a. Defined: Taking an optimistic approach to change by believing in self.
 - b. Results from personal experience and focusing on benefits of change.
6. Commitment
 - a. Defined: Accepting the responsibility to change.
 - b. Goals and plans of action are identified.
 - c. Accountability is established to reinforce the change.
7. Behavior Analysis
 - a. Defined: Determining the frequency, circumstances, and consequences of the behavior to be altered or implemented.
 - b. Examples: Finding out what foods consumed are high fat or logging the day to determine when uncontrolled eating occurs.
8. Goals
 - a. Defined: Verbalizing specific outcomes and action plans.
 - b. Goals motivate change in behavior.
9. Self-Reevaluation
 - a. Defined: Analyzing the feelings about a problem behavior.
 - b. Pros and cons are rewritten and feelings are analyzed.
10. Countering
 - a. Defined: Substituting healthy behaviors for a problem behavior.
 - b. Examples: Exercise, instead of sedentary living, smoking, stress, or overeating.
11. Monitoring
 - a. Defined: Record-keeping or other observation discipline to increase awareness of progress.
 - b. Examples: Counting servings from each food group increases practice to behave according to plans.
12. Environmental Control
 - a. Defined: Restructuring the physical surroundings to avoid problem behavior and decrease temptations.
 - b. Examples: Buying healthier foods, not going to tempting locations, laying out exercise clothes, setting a timer on the television.
13. Helping Relationships
 - a. Defined: Surrounding oneself with people who encourage the change.
 - b. Example: Joining a support group of those who care about each other and are making (or have made) the same change.
14. Rewards
 - a. Defined: Use of positive reinforcement when goals are achieved.
 - b. Reward objects can be gifts or experiences.
- D. Techniques of Change
 1. Apply any number of techniques of change within each process to help go through that specific process.

2. Table 2.2 gives selected techniques for the processes.
- E. Goal Setting and Evaluation
1. SMART (Specific, Measurable, Acceptable, Realistic, and Time-specific) Goals:
 - a. Specific
 - i. State exactly what you would like to accomplish and write it down because an unwritten goal is simply a wish.
 - ii. Example: To reduce body fat from 27% to 20% in 12 weeks.
 - iii. Write the specific objectives that will help you help reach that goal: limit fat intake to < 25% of total daily caloric intake.
 - b. Measurable
 - i. Goals and objectives should be measurable.
 - ii. Example: To reduce body fat to 20 percent.
 - c. Acceptable
 - i. Goals that you set for yourself are more motivational than goals that someone else sets for you.
 - ii. Your goals should be consistent with other goals that you have and be compatible with those of the other people involved.
 - d. Realistic
 - i. Goals should be within reach.
 - ii. Unattainable goals only set you up for failure, discouragement, and loss of interest.
 - iii. Write short-term and long-term goals.
 - iv. Anticipate potential difficulties and plan for ways to deal with them.
 - e. Time-specific
 - i. The goal should have a deadline.
 - ii. Allow yourself enough time to achieve the goal, but not too much time, as this could affect your performance.
 2. Goal Evaluation
 - a. Periodic evaluations will allow for adjustments of the goals.
 - b. Regular evaluation gives ability to modify techniques of change.

Laboratories

Lab 2A: Exercising Control over Your Physical Activity and Nutrition Environment

Lab 2B: Behavior Modification Plan

Lab 2C: Setting SMART Goals

Web Sites

A 'Stages of Change' Approach to Helping Patients Change Behavior < American Academy of Family Physicians

<http://www.aafp.org/afp/20000301/1409.html>

Behavior Change Theories and Models < California State Polytechnic University (Pomona)

http://www.csupomona.edu/~jvgrizzell/best_practices/bctheory.html

Detailed Overview of the Transtheoretical Model < Cancer Prevention Research Center < University of Rhode Island

<http://www.uri.edu/research/cprc/TTM/detailedoverview.htm>

Determine Your Current Stage of the Transtheoretical Model < Mississippi State University

http://www2.msstate.edu/~bhunt/Stages_of_Change_Theory/transtheoretical.html

Physical Activity and Health – The Benefits of Physical Activity < Centers for Disease Control and prevention
http://www.cdc.gov/nccdphp/dnpa/phys_act.htm

Prochaska and DiClemente's Stages of Change Model < UCLA Center for Human Nutrition
http://www.cellinteractive.com/ucla/physician_ed/stages_change.html

Stage Evaluation Using the Transtheoretical Model < Cancer Prevention Research Center < University of Rhode Island
<http://www.uri.edu/research/cprc/Measures/GHS1991.htm>

Stages of Change Model < AddictionInfo.org
<http://www.addictioninfo.org/articles/11/1/Stages-of-Change-Model/Page1.html>

Transtheoretical Model-Based Measures of Selected Behaviors < Cancer Prevention Research Center < University of Rhode Island
<http://www.uri.edu/research/cprc/measures.htm>

Classroom Activities and Teaching Strategies

Web Activity

Search and report on what behaviors the transtheoretical model has been implemented for and its effectiveness in promoting change.

Cartoons

Use popular cartoons to illustrate behavior modification.

Progress Reports

Give simple prospective and retrospective quizzes to keep the students reading and thinking.

1. Put multiple choice, true-false, or short answer questions on a half-sheet of paper.
2. This requires students to make a commitment to some controversial choices.
3. Use the questions as an outline for topics of the day.

The Transtheoretical Model Example

1. Show the Stages (Figure 2.2), Processes of Change (Table 2.1), and Sample Techniques for Use With Processes of Change (Table 2.2) simultaneously (Acetates or PowerPoint).
2. Give an operating example. This can be described or a "guest" can pantomime it.
3. Then ask the students to determine how particular processes play out within the stages.

College Lifestyle Change

1. Ask the students how college life is different from high school life.
2. What lifestyle choices are they now making differently?
3. Were the changes due to contemplated decisions or otherwise?

Make the Goal

1. Ask the students to plan change of one life aspect.
2. Encourage them to write down the SMART goal.
3. Have them read the goal aloud. The other students are to ask questions regarding an aspect of the goal that is not clear, deadline & measurement oriented, or realistic.

Make the Reward

1. Ask why rewards are helpful and many times needed. Write the reasons on the board.
2. Ask the students to write down activities and purchases that would qualify as rewards.
3. Have them match these rewards to goals they have already set.

4. Ask them whether they are now more motivated to reach for the goals.

Countering the Habit

1. Identify a problem habit that needs to be removed.
2. Have the students brainstorm ideas of what can substitute.
3. Rather than brainstorming, skits or posters can be assigned to illustrate these responses to change.

Where Am I Now? (Figure 2.4)

1. Ask the students to think about a lifestyle-related issue or introduce one about which they all will respond.
2. What stage and what processes of the transtheoretical model are they now engaging for this issue?
3. What would move them into another stage or process?

What Is the Barrier?

1. Ask the students to write down something they have desired to change.
2. What has been the reason for not making the change? Do the barriers relate to finances, attitudes, discipline, time, priorities, addictions, etc.?
3. After identifying the barrier, what would make it feasible to attempt a change?
4. Allow individuals to share their work.

Prioritize Time to Say, "Goodbye" to Old Behavior

1. The most important aspect of behavior change is to replace old behavior with the desired change, not to speed up the day to include more.
2. Prioritize the next 24 or 48 hours:
 - a. Prioritize the uses of your time from the most important down to the least important.
 - b. Be honest and make sure eating or sleeping are not in the bottom position.
3. The best chance to begin and maintain a change is to acknowledge that:
 - a. The time for new behavior is more important than the time for the old behavior in the 24th or 48th hours, and
 - b. You will need to say "goodbye" to the time for the old behavior.
4. Is television at the bottom of your prioritized time, and is the new behavior?
 - a. Then stop watching earlier in the evening, go to bed earlier, and exercise in the morning.
 - b. Or, arrange to do something from another part of the day during TV time so exercise can happen in that part of the day.
5. If the 24th or 48th hour activity is less important than beginning and maintaining exercise, say, "goodbye" to the old behavior.

See the following page for a ready-to-print assignment worksheet: Stages of Change Exercises.

Name: _____

Date: _____

Stages of Change Exercises

Step 1. For each of the following exercises, check ONE box that best describes your current situation.

#1. Five Servings of Vegetables a Day

Behavior: *Eating at least five servings of fruits and vegetables per day.*

1. No, and I do not intend to eat five servings of fruits and vegetables every day.	<input type="checkbox"/>
2. No, but I intend to eat five servings of fruits and vegetables every day during the next 6 months.	<input type="checkbox"/>
3. No, but I intend to eat five servings of fruits and vegetables every day during the next 30 days.	<input type="checkbox"/>
4. Yes, and I have eaten five servings of fruits and vegetables every day in the past 6 months.	<input type="checkbox"/>
5. Yes, and I have eaten five servings of fruits and vegetables every day for more than 6 months.	<input type="checkbox"/>
6. Yes, I have always eaten five servings of fruits and vegetables every day.	<input type="checkbox"/>

Stage: _____ (use the scoring scale below to determine your stage)

#2. Good Study Habits

Behavior: *Attending every class and spending an average of 6 hours per course per week outside of the class studying for each class to get a satisfactory grade.*

1. I don't intend to attend every class and spend an average of 6 hours per course per week outside of the class studying for each class to get a satisfactory grade.	<input type="checkbox"/>
2. I am thinking about attending every class and spending an average of 6 hours per course per week outside of the class studying for each class to get a satisfactory grade in the next 6 months.	<input type="checkbox"/>
3. I am going to buy the textbooks, prioritize my tasks so that I can attend every class, and spend an average of 6 hours per course per week outside of the class studying for each class to get a satisfactory grade in the next month.	<input type="checkbox"/>
4. I have attended every class and spent an average of 6 hours per course per week outside of the class studying for each class to get a satisfactory grade in the last 6 months.	<input type="checkbox"/>
5. I have attended every class and spent an average of 6 hours per course per week outside of the class studying for each class to get a satisfactory grade for more than 6 months.	<input type="checkbox"/>
6. I have attended every class and spent an average of 6 hours per course per week outside of the class studying for each class to get a satisfactory grade for more than five years.	<input type="checkbox"/>

Stage: _____ (use the scoring scale below to determine your stage)

Name: _____ Date: _____

Scoring

1 = Precontemplation

4 = Action

2 = Contemplation

5 = Maintenance

3 = Preparation

6 = Termination

Step 2. Identify the characteristics of the stage from Step 1 (pages 50-51).

#1. *Five Servings of Vegetables a Day*: _____

#2. *Good Study Habits*: _____

Step 3. Identify the process(es) of change that may help you move to the next stage (Table 2.1, page 50).

#1. *Five Servings of Vegetables a Day*: Current Stage _____

#2. *Good Study Habits*: Current Stage _____

Step 4. Identify the strategies for change (Table 2.2, page 56).

#1. *Five Servings of Vegetables a Day*: Current Stage _____

#2. *Good Study Habits*: Current Stage _____