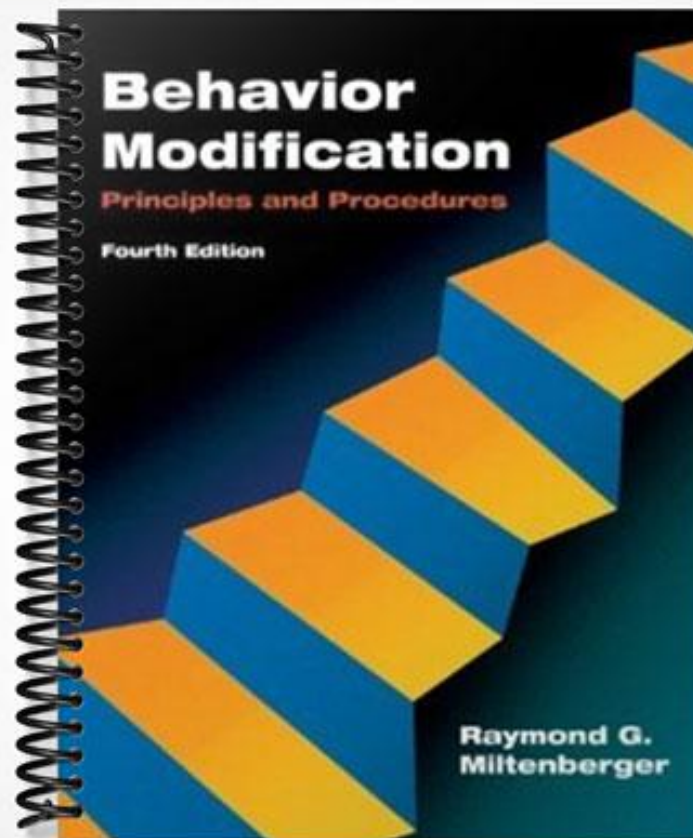


# SOLUTIONS MANUAL



# Chapter 2

## Observing and Recording Behavior

### Chapter Outline

- Direct and Indirect Assessment
- Defining the Target Behaviors
- The Logistics of Recording
  - The Observer
  - When and Where to Record
- Choosing a Recording Method
  - Continuous Recording
    - Frequency
    - Duration
    - Real time recording
    - Intensity
    - Latency
  - Percentage of Opportunities
  - Product Recording
  - Interval Recording
    - Partial Interval
    - Whole Interval
    - Frequency-within-interval
  - Time Sample Recording
- Choosing a Recording Instrument
  - Data sheet
  - Golf-stroke counter
  - Stop watch
  - Hand-held computer
  - Coin transfer
  - Tears in paper
  - Ranger beads
  - Pedometer
- Reactivity
- Interobserver Reliability
- Chapter Summary
- Key Terms
- Practice Test
- Applications
- Misapplications
- Chapter 2, Quiz 1
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### Ideas for Class Activities

1. Engage in a somewhat complex behavior in front of the classroom (e.g., a child's tantrum consisting of multiple behaviors) and have students write down a behavioral definition of the behavior they just observed. Ask a number of students to read their definitions and discuss the various definitions.

2. Bring a videotape of a 5 minute segment of someone engaging in a specific behavior (for example, a habit such as nail biting or a verbal habit such as saying “uh” while talking) . Also bring a tape player with an audiotape that signals 10 second intervals. Have students practice doing frequency recording, frequency within interval recording, interval recording, and time sample recording. Review student results and compare with your own. Have students pair up and calculate interobserver reliability from their recordings.

## Answers to Practice Test Questions

1. Measurement of the target behavior (behavioral assessment) is important for a number of reasons. First, measurement of the behavior prior to treatment will provide information that can help you decide whether treatment is necessary. Second, behavioral assessment can provide information that helps you choose the best treatment. Third, measurement of the target behavior during and after treatment will allow you to determine whether the behavior changed following the implementation of treatment.
2. The four steps involved in a behavior recording plan are:
  - (1) defining the target behavior;
  - (2) identifying who, when, and where to record the behavior;
  - (3) choosing a recording method;
  - (4) choosing a recording instrument.
3. A behavioral definition includes active verbs describing specific behaviors that a person exhibits. A behavioral definition differs from a label for a behavior in that a behavioral definition is objective and unambiguous. Labels for behaviors are ambiguous; they can mean different things to different people because they do not identify specific actions.
4. A behavioral definition of “politeness” for an individual may read as follows: “Politeness” for Jason entails saying “please” when making a request, saying “thank you” after a request has been granted, and speaking only after another individual has finished speaking.
5. It is important to identify a specific individual(s) who will record a behavior. The observer(s) must be trained to identify the occurrence of the target behavior and record the behavior immediately. The observer must have the time to observe and record the behavior and must be willing to function as an observer.
6. The observer records the target behavior in specific periods of time called the observation periods.
7. The four dimensions of a behavior that may be recorded in a continuous recording method are:
  - (1) frequency - the number of times the behavior occurs in an observation period.
  - (2) duration - the total amount of time the behavior occurs from start to finish.
  - (3) intensity - the amount of force, energy, or exertions involved in a behavior.
  - (4) latency - the time from some stimulus event to the onset or initiation of the behavior.
8. Examples of the aforementioned recording procedures are:
  - frequency - recording the number of head slaps exhibited by a self-injurious child.
  - duration - recording the amount of time a person engages in physical exercise.
  - intensity - using a decibel meter to measure the intensity or loudness of someone’s speech.
  - latency - recording how long it takes a child to pick up her toys after the parent asks her to do so.
9. Real time recording involves recording the exact time of the onset and offset of each instance of the target behavior in the observation period. While observing a child’s tantrum behavior, the observer would indicate the exact time each tantrum started and stopped so that information would be available on frequency, duration, and the timing of the behavior in the observation period.

10. Product recording, also referred to as “permanent product recording,” involves recording the tangible outcome or permanent product of the occurrence of behavior. For example, for an individual who is attempting to stop smoking, cigarette butts are a permanent product that could be collected to assess the effect of the intervention.
11. Interval recording entails measuring whether the behavior occurred or did not occur during consecutive intervals of time during the observation period. For example, an observer may record whether or not an individual engages in aggressive behavior during each 10 minute interval of the observation period.
12. Frequency-within-interval recording involves counting each instance of the behavior during consecutive periods of time (intervals) within the observation period. Counting the number of times a person bit her fingernail during each ten minute interval of time in the classroom would be an example of frequency-within-interval recording.
13. In time sample recording, the observation period is divided into intervals of time, but the behavior is observed and recorded during only part of each interval. For example, a teacher using time sample recording to measure the on-task behavior of a child with ADHD might set his watch to beep every five minutes and will record whether or not the child was on task when the watch beeped.
14. Examples of different recording instruments are: pencil and paper, golf stroke counter, stopwatch, hand held computer, the transfer of a coin from one pocket to another, ranger beads, and a pedometer.
15. The sooner the observer records the behavior after it occurs, the less likely the observer is to record incorrectly.
16. Reactivity is when the process of recording a behavior will cause the behavior to change, even before any treatment is implemented. Two ways to reduce the reactivity of observation are to wait until the individuals who are being observed become accustomed to the observer, or to have the observer record the behavior without the individuals knowing that they are being observed.
17. Interobserver reliability (IOR) is when two observers independently observe and record the same target behavior of the same subject during the same observation period. Interobserver reliability is assessed in order to determine whether the target behavior is being recorded consistently
18. For frequency recording, IOR is calculated by dividing the smaller frequency by the larger frequency and multiplying by 100%. For duration recording, IOR is calculated by dividing the smaller duration by the larger duration and multiplying by 100%. For interval recording, the agreement between the two observers in each interval is checked. Then, the number of intervals with agreements is divided by the number of intervals with agreements plus disagreements (the total number of intervals.)
19. For frequency-within-interval recording you calculate interobserver reliability by computing a percentage of agreement for each interval (divide the smaller number by the larger number) and then add the percentages and divide the sum by the number of intervals.

## Answers to Applications

1. You must first define out-of-seat behavior. This could be defined as any instance in which Sara's behind is not touching the chair at her desk. James could record frequency of out-of-seat behavior by counting each time her behind left the chair and returned (onset and offset). James could record duration of out-of-seat behavior by timing each instance of the behavior from its onset to its offset. James could also record Sara's behavior using an interval recording system, by dividing the class time into shorter intervals and recording whether Sara left her seat during each interval. James would probably choose the interval recording method because it would be easier to use while trying to teach. James would get an interval recording data sheet and a timer to cue him when each 10 minute interval started. He would record once in each interval whether Sara left her seat at any time during the interval. This would

seem to be a practical method for James to use while teaching his class.

2. Eve could record frequency in a couple of ways. If she defined weight-lifting behavior as using the weight machines at the health club for a minimum of 20 minutes at a time, she could record the number of times she engages in that behavior each week. Using a notebook, index card, or data sheet, she could record each trip she takes to the weight room. She could also record frequency as the number of repetitions on each machine. She would have to record the number on a data sheet after each workout (if she did the same number of repetitions on each machine) or after using each machine (if the number of repetitions was different on each machine). She could record duration as the number of minutes that she spent on the weight machines during each visit. She would note the time she started and stopped on her data sheet, index card, or notebook. As a measure of intensity, she would record how much weight she had on each machine. As with repetitions, she would record the weight at the end of the workout or after using each machine. Her goal would be to increase the number of trips to the weight room each week, the length of time spent working out, and/or the number of repetitions or the amount of weight on each machine as she works out.

## Answers to Misapplications

1. The problem with this recording plan is that Gloria is not recording the target behavior immediately after it occurs. Because she waits until after class to record the behavior, her recording is unlikely to be accurate. She will probably not recall the correct frequency of the behavior, because her attention is focused on what the instructor is saying in class. It would be better for her to have her index card on the desk in sight and to record each instance of hair-twirling behavior immediately after it occurs.

2. The problem with this recording method is that Ralph will only record the number of the cigarettes he smokes from his own pack, because he will be counting the cigarettes missing from the pack. If he gets a cigarette from another individual, it will not be recorded. In addition, if he gives a cigarette to another individual, he will incorrectly record it as a cigarette that he smoked. It would be better for Ralph to record each cigarette he smokes by writing it down, or by using some other recording procedure to register the behavior each time it occurs. For example, he could transfer a coin from one pocket to another or save each cigarette butt in an old tobacco tin and count the butts at the end of the day. It is always best to record the behavior in some way immediately after the behavior occurs.

3. The problem with the definition of "losing my temper" is that two parts of this definition require inferences. "Getting mad" is not a description of a behavior; rather, it is a label for an internal state of the person. She infers the existence of this state from specific behaviors (yelling, slamming doors, saying "shut up"). In addition, "he says something that frustrates me" also implies an inference about an internal state (frustration). It is not a description of a behavior. These two parts could be removed, and the definition would then read, "yelling at my husband, slamming the bedroom door, and yelling 'shut up.'" The problem with the definition of overeating is that some parts are not descriptions of behavior that could be recorded by an observer. Eating "more than I wanted to eat" is an inference; it can't be measured. Likewise, you can't observe feeling "bloated" or feeling that "my belt is too tight." You would define overeating as eating a specified amount of food. This could be observed and recorded by another individual. Finally, although the definition of studying is an objective description of observable events, it does not define studying, because it does not identify any behavior of the individual. Even with books open, the TV off, and no distractions, a person might not be studying. The person might be sleeping, thinking, daydreaming, or eating. To define studying, you must define specific study behaviors--for example, reading and underlining in the textbook, writing notes on the reading, completing practice problems, and answering study questions. These activities can be observed and recorded as studying.

## Answers to Quizzes

### Quiz 1

1. direct, indirect 2. behavior 3. behavioral definition 4. interobserver reliability 5. observation period 6. frequency 7. duration 8. latency 9. consecutive 10. reactivity

Quiz 2

1. direct 2. indirect 3. frequency, latency, duration 4. time sample 5. interval 6. reactivity 7. real time 8. time sample 9. interval 10. product

Quiz 3

1. frequency 2. duration 3. intensity 4. latency 5. time sample 6. interval 7. product 8. It will begin to change in the desired direction 9. real time recording 10. direct