

A Different Way to Heal?

Activity 1: Grades 5-8

A Biased View

Healers who use Therapeutic Touch (TT) say that it works by smoothing out the invisible "energy field" that surrounds every person. By working out the "kinks" within this field and redirecting its energy, practitioners believe they can facilitate healing. Critics argue that there is no data to support the success of this practice and that it is another form of pseudo-science masquerading as a legitimate treatment.



Many TT skeptics believe that much of the reported success of Therapeutic Touch can be attributed to something called the "placebo effect." A placebo is an inactive substance or ineffective therapeutic practice that a subject firmly believes to have active properties. For example, an individual may find some measure of relief from a placebo purely because of his or her belief in its power. While the placebo effect arises from an individual's expectations and beliefs, it is thought that its mechanism of therapeutic action may lie somewhere in the body's natural system of self-healing.

The placebo effect often complicates the objective evaluation of new drugs or medical procedures by introducing biases into the results. In this activity, you'll get the chance to observe how belief and expectation can impact an experiment. As you'll discover, the activity will require both unsuspecting subjects and a bit of deceit.

This activity page will offer:

- Insight into placebos.
- An activity that involves belief and bias in experiments.
- An arena to apply critical thinking to Therapeutic Touch.

MATERIALS

- Clean and unused blindfold
- Journal

PROCEDURE

1. Identify several individuals who will be the subjects of your deception. Family members and friends (but not classmates) make great subjects.
2. Set aside ten minutes to work with each subject. Explain that you are about to repeat a test that you observed on the show SAF. You might want to tell them a little bit about the series to add credibility to your actions.
3. Explain that you are going to test their ability to "feel" the presence of a hand that is positioned several inches above their own outstretched and upturned palms.
4. Here's where the hoax comes in. Explain that scientists have confirmed that people can detect "energy fields". Tell them it is now an accepted sixth sense that you have learned about in a segment of SAF. Although it is not as strong as the other five senses, field detection can be used to uncover an invisible aura that surrounds all animals.
5. Tell them to keep their eyes open. Flip a coin. Based on the outcome of the toss (heads = right, tails = left), position your hand above one of their upturned palms.
6. Ask "Can you detect any energy field associated with my hand?" Record their response in a journal. Ask them to describe the feeling and record this response as well.
7. Flip the coin again. Based on the toss outcome, position your hand over the appropriate upturned palm either of their upturned palms. Record their ability to detect the presence of the your hand.
8. Repeat the test fifteen times. Record the results in a data table. Did they demonstrate an ability to detect these fields?
9. Blindfold the subject. Repeat these tests by tossing the coin and placing your hand over the subject's, without revealing which hand has been chosen. Record the results.
10. Test several other subjects, then compare your results.

Questions

1. How was the bias produced in this activity?
2. Did your subjects demonstrate a bias? If so, how?
3. Why was it important to keep your hand at least several inches above the subject's hand?
4. Why was a blindfold used in the second part of this activity?
5. Did your subject's ability to "detect" the energy field change when blindfolded? In what way?

EXTENSIONS

Public Be Aware

Are there any dangers associated with the practice of Therapeutic Touch? If so, what might they be? Are there benefits to using it? If so, what are they? Compare and contrast a belief in TT to a belief in expectations associated with prayer. How are they different? How are they the same?

Magnetic Therapy

Have you ever seen print articles or television commercials about the healing and pain-reducing properties of magnets? These claims are not new. Since magnets were first discovered, they have attracted much attention from those seeking paranormal properties. What have you heard about magnets and healing? Compose a paragraph that describes all you currently know about magnetic therapy. Then check out the following Web page maintained by the Committee for the Scientific Investigation of Claims of the Paranormal - <http://www.csicop.org/si/9807/magnet.html>.

Based on the information presented in this article and information mined from other Web and print resources, write a five minute radio program that presents an unbiased view of magnetic therapy.

WEB CONNECTION

Nurse Healers - Professional Associates International <http://www.therapeutic-touch.org/default.asp>

The official Web site for Therapeutic Touch.

Skeptical Information Sources

<http://www.quackwatch.com/05Links/skepticsites.html>

This site offers links to various agencies that provide accurate and practical information concerning a wide range of paranormal claims.

The Skeptic's Dictionary

<http://skepdic.com/control.html>

An introduction to control group study, double-blind and random tests.

The activities in this guide were contributed by Michael DiSpezio, a Massachusetts-based science writer and author of "Critical Thinking Puzzles" and "Awesome Experiments in Light & Sound" (Sterling Publishing Co., NY).

Academic Advisors for this Guide:

Corrine Lowen, Science Department, Wayland Public Schools, Wayland, MA

Suzanne Panico, Science Teacher Mentor, Cambridge Public Schools, Cambridge, MA

Anne E. Jones, Science Department, Wayland Middle School, Wayland, MA

A Different Way to Heal?

Activity 1: Grades 5-8
A Biased View

Answers

Questions

1. How was the bias produced in this activity?
(The bias was generated by the deceitful description of the sixth sense. By telling the individuals that a human energy field really existed, they most likely came to believe that they were able to detect such a field. It was strictly their belief that gave them this ability - a belief that was further reinforced by the visual clues they received.)
2. Did your subjects demonstrate a bias? If so, how?
(Answers will vary, but many people will concur that they did detect the "energy field.")
3. Why was it important to keep your hand at least several inches above the subject's hand?
(To avoid creating air currents that might be detected by the sense of touch)
4. Why was a blindfold used in the second part of this activity?
(The blindfold ruled out the visual clues.)
5. Did your subject's ability to "detect" the energy field change when blindfolded? In what way?
(Most likely, subjects were less accurate in detecting the energy field once they were no longer getting the visual clues, revealing the subject's unconscious connection between what they see and what they feel.)

CURRICULUM LINKS

Life/Earth/Physical Science:

Scientific Design, Data Collection, Placebo Effect

NATIONAL SCIENCE STANDARDS (Grades 5-8)

Science as Inquiry- Content Standard A

Students will establish whether or not a cause and effect relationship exists based on critical thinking and observation.

History and Science - Content Standard G

Students will learn that the newest areas of scientific research many times lack experimental evidence and understanding.

Students will understand that disagreement does exist in the scientific community.