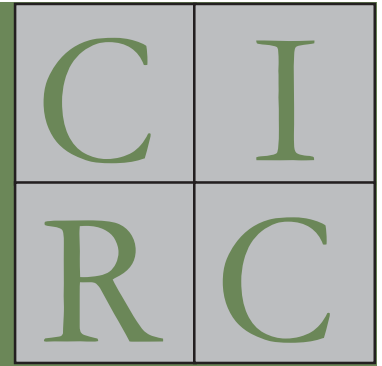


What Does This Picture Look Like, And What Does Your Answer Say About You?



Source: Lilienfield, S.O., Wood, J. M., & Garb, H. N. (2000). The scientific status of projective techniques. *Psychological Science in the Public Interest*, 1, 27-66.

Goals:

Teach the importance of validity.

Teach the importance of reliability.

Teach the importance of independent agreement.

Basic Idea:

This lesson discusses the scientific use of projective tests. Projective tests are used by psychologists to predict a variety of personality characteristics based solely on how a person responds to a few questions. Can scientists really distinguish people's personalities with just a few responses to a drawing?

Gain Attention/Interest:

Activity

Show the class the sample inkblot included at the end of this lesson and have the students write a few thoughts about what they see. Ask them to compare reactions. This will illustrate the variety of interpretations resulting from the ambiguous inkblot. Responding to an inkblot will help students better understand the rest of the lesson.

Alternate Activity

Show the class a picture (any picture can work, although one they are not familiar with would be best) and have each student write a brief story about the picture. Comparing a few volunteered stories will illustrate the number of different ways people can interpret a single stimulus (in this case, the picture).

Have you ever looked up at the sky and seen a cloud that reminded you of something? A horse, a clown, or a car? What would you think if some scientists told you that what you saw in that cloud told them something about your personality? Would you believe it?

What if someone asked you to draw a picture of a certain person? Would you feel comfortable having her look at the picture and decide whether or not you are depressed, aggressive, or poorly adjusted? Imagine being accused of a crime and having a scientist ask you to draw a picture. What if how that scientist interpreted your drawing would have a large impact on whether or not a guilty verdict was returned by a jury during your trial?

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These are examples of projective tests. They are called projective tests because they attempt to take a small part of one's personality and project it further. This is similar to a projectile such as a baseball or spaceship. They are projectiles because they are thrown/launched/propelled.

Think & Write #1

Have students write their thoughts about projective tests. Do these tests work? Are they worthwhile? Are they scary?

There are many types of projective tests; some show seemingly random inkblots (like a stain from spilling a glass of punch on a white tablecloth), while other projective tests ask people to perform a specific task (such as drawing a picture) from an open-ended question. An open-ended question has no set number of answers (e.g., "How do you feel?"). A question that is not open-ended has only specific answers (e.g., "Are you happy?"). Based on the answers given, psychologists determine personality traits and tendencies. A popular example of a projective test is the Rorschach (pronounced ROAR-shock) test, which is administered about six million times a year.

How can we understand projective tests and how they work? Through science.

Ask: What is Science?

Science is the search for answers to questions. It is not limited to questions about space or chemical molecules. Science can be about anything. Some people may want only to find the answer that shows that they are right, but scientists take careful steps to make sure they find the best answer. To do this, scientists use **proof by disproof** when solving problems. If all but one of the potential answers is eliminated, then scientists conclude they have probably found the correct answer. By eliminating all other possible answers, they have found a possible correct one by disproving all others. Only after doing this do scientists believe they might have a right answer.

1
Ask:
What
is
Science?

2

Define the Problem:

See Many Sides.

Define the Problem: See Many Sides

Before we go any further, we need to complete an important step that all scientists must complete when they answer questions. We have to clearly define our problem. Can scientists really predict a large part of your personality based solely on how you interpret an inkblot or on how you draw a picture? Don't your answers depend at least in part on what kind of mood you are in? Or does our true personality influence our behavior so much that it can be perceived even though we have only answered a few questions? Obviously, many questions could be asked about this topic. Today we will discuss one of the most general questions: Do projective tests work?

Think & Write #2

Hypothesis formation

Have students form a hypothesis regarding whether or not they think projective tests work. Urge them either to give support for their answer or to give an example of what they could do to find support.

In our first activity, we saw something similar to a real projective test. What do you think scientists would have to do to be convinced that the tests actually work? As with any controversial topic, different people have varying opinions on the use of projective tests. Some think projective tests help scientists learn accurate information about an individual's personality. Others feel these tests cannot possibly provide precise information about all people. What are some groups of people who might be interested in whether or not projective tests should be used?

A few sample groups/professions, along with their educational requirements, are listed below

Clinical Psychologist. Clinical Psychologists help patients with psychological problems and often use projective tests to help learn about the personalities of their patients. Clinical psychologists attend four-year colleges and then go on to earn graduate degrees.

Judge. Judges preside over court cases in which projective tests are used as evidence. Judges attend four-year colleges and then go on to law school.

Lawyer. Lawyers can use projective tests to help their clients. Lawyers can also try to discredit people who use projective tests. Lawyers attend four-year colleges and law school.

Social Worker. Social workers use the results of projective tests to evaluate clients. Social workers attend at least four years of college and may attend graduate school for two additional years and earn a Master's of Clinical Social Work (MCSW) degree.

What about you? Do you think scientists should use projective tests?
(Ask for show of hands, Yes or No.)

Distinguish Fact From Opinion: Learn What Constitutes Scientific Evidence

3

Fact Versus Opinion: What Constitutes Evidence?

Opinions are interesting, but scientists have to check the facts. They do not rely on opinions or the thoughts of other people. They need facts to convince them that an answer is right or wrong. Scientists use several criteria to evaluate whether or not projective tests actually succeed at assessing personality. These criteria are:

Validity: Validity means that the tests are actually measuring what they claim to be measuring. A test that is supposed to measure your personality, but consists only of math problems, is not valid. A projective test would need to measure personality accurately to have high validity. If it did not measure personality, then it would not be valid.

Reliability: A test is reliable (or has reliability) if it measures consistently from time to time. A test is reliable if a person taking the test more than once receives similar results each time the test is taken. If a person takes a projective test five times and is labeled depressed only once, then the test is not reliable.

Independent agreement: A test shows independent agreement if multiple scientists using the test draw the same conclusions independently of each other. If only one person continually gets the same results, then it might just be a result of how that one person conducts the test. If multiple people find the same result, we can have greater confidence that the test is accurate.

It is only when scientists answer a question in a way that is valid, reliable, and with independent agreement, that they can be said to have solid evidence to make a decision.

Just to make sure things are clear, let's go over a few examples. Which of these is an example of meaningful evidence?

Marcia takes a projective test for fun and finds out she gave the same answer for one of the questions as did her friend who suffers from depression. Marcia then begins to worry that she might be depressed as well.

A scientist would not consider Marcia depressed, because depression was not measured in a valid way, given the absence of other symptoms of depression.

Becca has been seeing a therapist for several months and, after taking a well-respected projective test given to her by her therapist, she was diagnosed with bipolar disorder. After she started taking medication for bipolar disorder, Becca started feeling significantly better.

The example with Becca represents a valid and reliable test.

Shawn and his friends wrote a bunch of questions about personality and gave them out to friends. After scoring his best friend's test, Shawn said he should see a psychologist because something was wrong with him.

Shawn's concern may eventually turn out to be valid. However, it is not based on science. His measure shows neither reliability nor validity.

Weigh Evidence and Make Decisions

Back to our main question: How well do projective tests work? To check, let's test them on the scientific requirements we just discussed: validity, reliability, and independent agreement.

You may want to briefly review the definition of each to ensure student understanding.

The Results: Research on projective tests shows little validity or reliability for most personality traits. This means that the tests did not accurately predict the personality traits they were trying to measure (thus they were not valid), or that they did not make the same predictions across different times (thus they were not reliable). A non-scientist might read this information and claim that projective tests are without value and should never be used. However, research has shown that projective tests may be valid and reliable measures for some psychological disorders. Disorders such as schizophrenia, bipolar disorder, and dependency appear to be regularly identified using projective techniques.

This means that scientists have found that projective tests can predict the presence, with some accuracy, of disorders such as schizophrenia, bipolar disorder, and dependency. This is not a large number of disorders, but it is some. Regardless of what he/she thought beforehand, a scientist would take this information as a sign of support that projective tests are not useless, though the evidence suggests that their use should be limited.

Think & Write #3

How about now?

Have students record their thoughts now that they have learned what scientists have found regarding projective tests. Were their hypotheses correct? Do they feel the same as they did during Think & Write 1?

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Weigh Evidence and Make Decisions.

F.Y.I

Schizophrenia is a disease of the brain with a variety of symptoms including, but not limited to, hearing voices and believing people are reading/controlling one's mind or plotting to hurt one.

Bipolar Disorder causes unusual changes in a person's behavior and mood. It is called "bipolar" because people with it can have drastic mood swings, ranging from a person being extremely "up" to a person being extremely "down".

Dependency is the need to rely on an external source (frequently an illicit drug or alcohol) in order to function.

Move From Science to Society

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Move From Science To Society.

Should projective tests be banned and never used again? Some may believe so, but this is an extreme position because projective tests can be useful tools in helping psychologists predict some problems. However, research has found that projective tests tend to be valid and reliable in only a few diagnoses, and thus overuse is a risk.

What if a projective test had the potential to help one of your family members? Would you want to see the test banned, or used? What about the question we discussed earlier: Whether the results of a projective test could help or hurt your defense in a court case? Would you be willing to rely on a scientist who claimed to be able to use a projective test to learn about your personality? Scientists are forced to answer questions such as these frequently.

Revisit, Review, Reflect, and Re-evaluate

Current findings have led researchers to believe that projective tests may be helpful in some aspects, but not in all. Thus, projective tests can best be used in a limited way. However, the last word has not been spoken about projective tests. Scientists constantly revisit previously-answered questions. Perhaps a new method of testing could make projective tests more accurate for a wider variety of personality traits. However, these new findings can only be uncovered if scientists review current and past research. By reflecting on these things, future scientists may re-evaluate past answers and discover that projective tests should not be used, or conversely, they may learn that projective tests can be used for a variety of phenomena. By revisiting, reviewing, reflecting, and re-evaluating, scientists gather new evidence and continue to make contributions to what we know about projective tests.

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Revisit, Review, Reflect, and Re-evaluate.

Think & Write #4

What's next?

Based on what they know now, ask students: What is the future of projective tests? Should clinical psychologists continue to use them? What other things should scientists check regarding projective tests? Why?

Discussion Questions

1. Would you want projective tests used on you? Why or why not?
2. Can you think of any examples when reliability, validity, or independent agreement would not be important?

Homework Questions

1. Find another situation in which reliability is important.
2. Find another situation in which validity is important.
3. Find another situation in which independent agreement is important.

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Quiz Questions

Version A

1. What kinds of criteria do scientists need in order to decide that a test can be used?
 - a. reliability
 - b. validity
 - c. independent agreement
 - d. all of the above
2. Reliability means:
 - a. it is consistent from time to time
 - b. goodness of fit
 - c. different people reach the same conclusion
 - d. best intentions
 - e. it measures what it claims to measure.
3. Validity means:
 - a. it is consistent from time to time
 - b. goodness of fit
 - c. different people reach the same conclusion
 - d. best intentions
 - e. it measures what it claims to measure.
4. Independent agreement means:
 - a. it is consistent from time to time
 - b. goodness of fit
 - c. different people reach the same conclusion
 - d. best intentions
 - e. it measures what it claims to measure.

Quiz Questions

Version B

1. How is it possible that people's interpretations of inkblots can be used to decide diagnoses for mental health purposes? What kinds of criteria do you need in order to decide that such uses are possible?

- a. goodness of fit
- b. independent agreement
- c. reliability
- d. validity
- e. best intentions

2. _____ means a test is consistent from time to time

3. _____ means different people reach the same conclusion

4. _____ means it measures what it claims to measure.

Quiz Questions

Version C

1. How is it possible that people's interpretations of inkblots can be used to decide diagnoses for mental health purposes? What kinds of criteria do you need in order to decide that such uses are possible and appropriate?

2. What is reliability? Explain and give an example.

3. What is validity? Explain and give an example.

4. What is independent agreement? Explain and give an example.
