

HIGH VALIDITY

If the center of our target represents the idea we are attempting to measure, notice that the darts throw at the targets on the left side are all centered around the middle.

HIGH VALIDITY, BUT NOT RELIABLE

But the target on the bottom is scattered further from the center because it can't hit the center reliably each time.

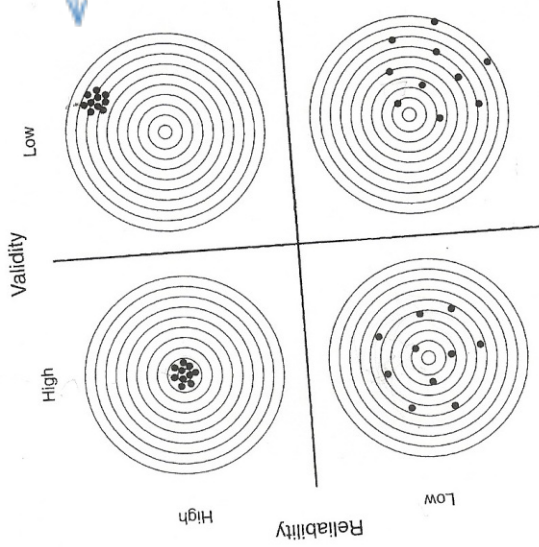
HIGH RELIABILITY

Notice that the darts throw at the two targets in the top row are all close together.

HIGHLY RELIABLE, BUT NOT VALID

But if the center of our target represents the idea we are attempting to measure, the target on the right side has low validity. They hit about the same spot each time, but are not in measuring what we want it to.

FIGURE 3-1
The Reliability/Validity Diagram



Reliability and Validity

The concepts of reliability and validity can be clarified by an analogy. Figure 3-1 shows four different patterns. Each of the four pictures shows a target—a bull's eye on a dartboard. The dots on the diagram are the marks of the darts thrown at each target. Each of the rows and columns on the diagram are labeled to show what they represent. The top row shows the results when reliability is high, and the bottom row shows low reliability. The column at the left contains the patterns for high validity (or at least potentially high validity), and the one at the right shows low validity.

Validity and Bias

Both targets in the left column of the diagram contain marks that are centered on the bull's eye. Although the marks on the lower target are spread over a wider area, they're in a random pattern, centered around the bull's eye. Nothing is pushing or pulling all the marks in one direction. By contrast, the patterns on both targets in the right column are off the mark. All tend toward one direction, but person throwing the darts at the target at the upper right had a steady hand, but

Alreck, P. L., & Settle, R. B. (2004). *The Survey Research Handbook* (3rd ed.). Boston: McGraw-Hill.