The proper model of the employee selection decision problem is the standard economics of information model. The selection decision problem is an instance of the Becker-DeGroot-Marschak reference lottery, and is as follows. There are two acts – to hire and to not hire, and there are two states of nature – the worker would be successful and the worker would be unsuccessful. If hired and successful, there is a gain (to the firm, in amount $G$); if hired and unsuccessful, there is a loss (to the firm, in amount $-L$). There is some probability $p$ that a randomly chosen applicant would be successful, so that $1-p$ is the probability a randomly selected individual would be unsuccessful.

Suppose the firm uses a selection rule involving a test. The test sends one of two signals – pass the test and fail the test. Suppose the selection rule states that the firm hires an individual who passes the test and does not hire an individual who fails the test.

For ease of exposition, suppose 50% of the individuals would be successful (so that $p = 1-p = .50$). Also assume that the test is correct only 40% of the time on each signal. (This is typical of such tests.) Then the decision problem is as follows:

Since the selection rule (i.e., the Bayes strategy) is if an individual passes the test, then you hire the individual; if an individual fails the test, then you do not hire the individual (i.e., <hire, not hire>), we must have $.4G+.6(-L) > 0$ and $.6G+.4(-L) < 0$, respectively. Thus, we must have $.6G+.4(-L) < 0 < .4G+.6(-L)$, so that $.6G+.4(-L) < .4G+.6(-L)$. Rearranging yields $.2G < .2(-L)$ and thereby $G < -L$. But, by design, $G > 0$ and $-L < 0$, so that $G > -L$. Thus, we have a contradiction.

The general case is as follows: if the reliability probabilities of the test are $P(\text{pass}/\text{successful}) = s$ and $P(\text{fail}/\text{unsuccessful}) = u$, then for any prior probability $p$ of successful performance and any assignment of values to $G$ and $-L$, if $s+u < 1$, then <hire, not hire> cannot be the Bayes Strategy. Put differently, if $s+u < 1$, then it is irrational to base the decision to hire or to not hire on the test.
Put differently, if the Bayes strategy is <hire, not hire>, then it must be the case that \( s+u > 1 \). Note that if \( s > .5 \) and \( u > .5 \), then \( s+u > 1 \). Note, also, that we can have \( s+u > 1 \) with \( s < .5 \) or \( u < .5 \), but not both. Thus, it is rational to use a test that is good only at detecting successful employees (i.e., \( s > .5 > u \)), or only good only at detecting unsuccessful employees (i.e., \( u > .5 > s \)), as long as the greater probability is sufficiently large to compensate for the lesser probability (i.e., so long as \( s+u > 1 \)).