Souvenir N: Rule of Thumb for SEV

> Can we assume that if SEV($\mu > \mu_0$) is a high value, $1 - \alpha$, then SEV($\mu \leq \mu_0$) is α?

Because the claims $\mu > \mu_0$ and $\mu \leq \mu_0$ form a partition of the parameter space, and because we are assuming our test has passed (or would pass) an audit, else these computations go out the window, the answer is yes.

> If SEV($\mu > \mu_0$) is high, then SEV($\mu \leq \mu_0$) is low.

The converse need not hold – given the convention we just saw in Exhibit (ix). At the very least, "low" would not exceed 0.5.

A rule of thumb (for test T+ or its dual CI):

- If we are pondering a claim that an observed difference from the null seems *large* enough to indicate $\mu > \mu'$, we want to be sure the test was highly capable of producing *less* impressive results, were $\mu = \mu'$.
- If, by contrast, the test was highly capable of producing *more* impressive results than we observed, even in a world where $\mu = \mu'$, then we block an inference to $\mu > \mu'$ (following weak severity).

This rule will be at odds with some common interpretations of tests. Bear with me. I maintain those interpretations are viewing tests through "probabilist-colored" glasses, while the correct error-statistical view is this one.