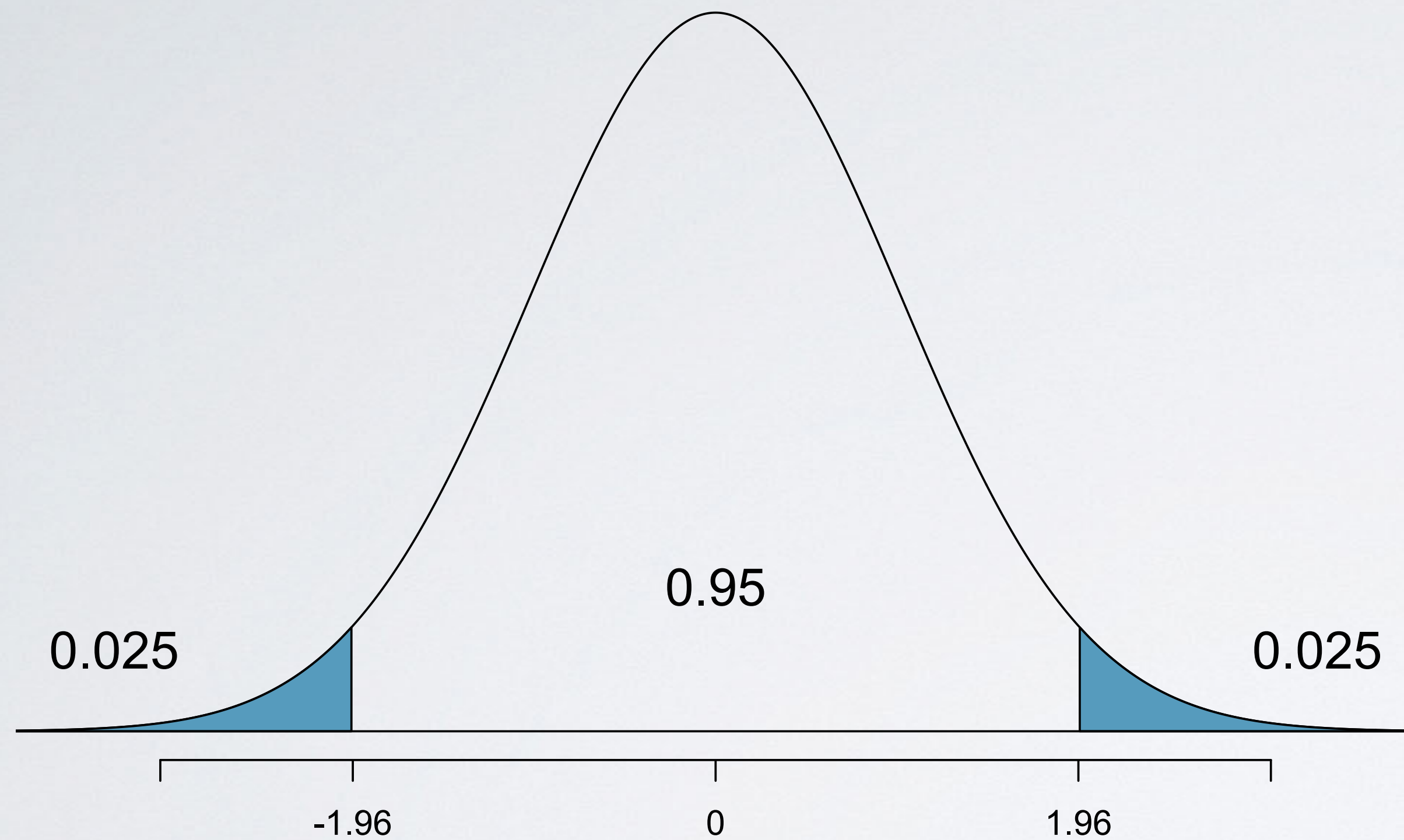


significance vs. confidence level

two sided HT
with $\alpha = 0.05$



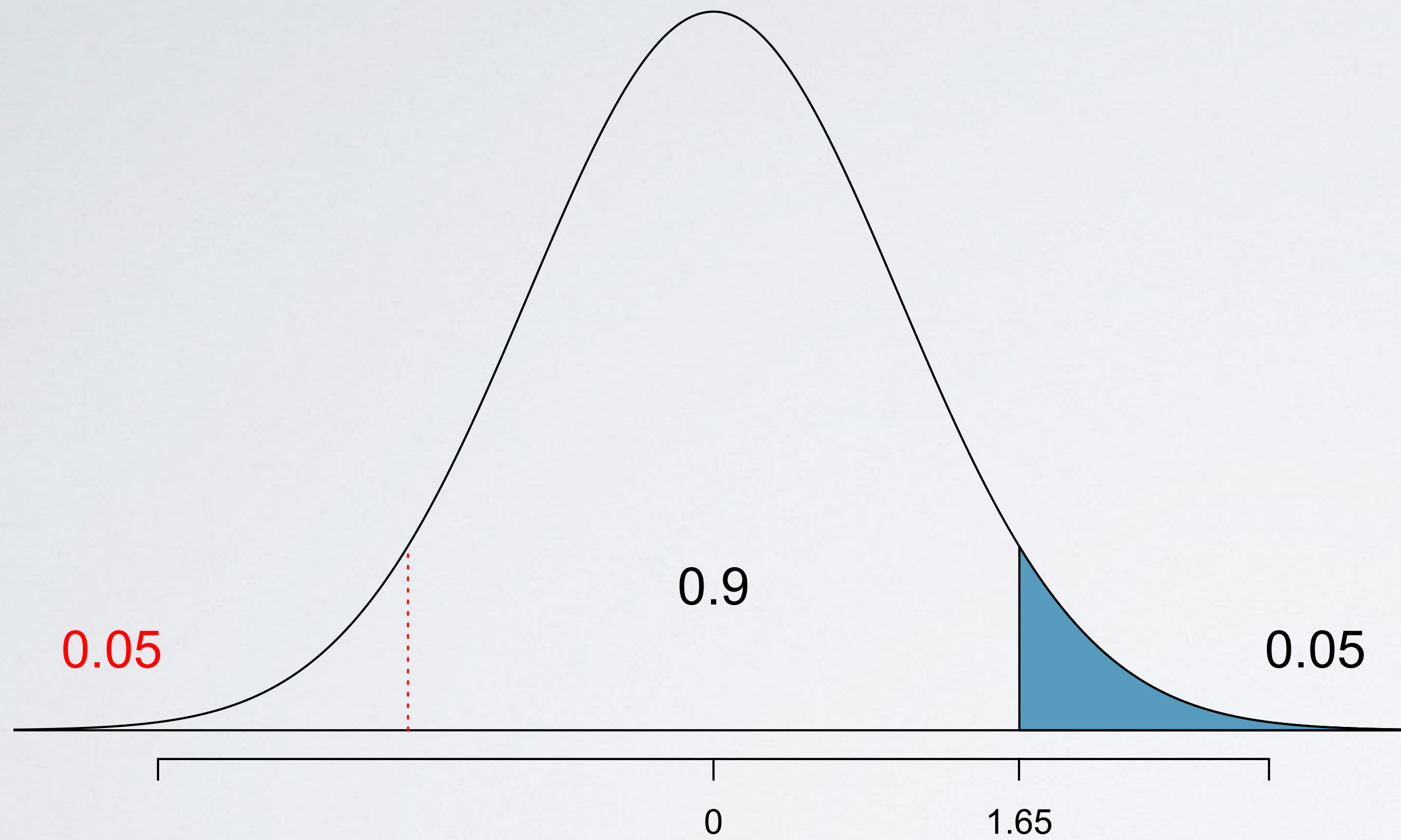
95% confidence
interval



one sided HT
with $\alpha = 0.05$



90% confidence
interval



agreement of CI and HT

- ▶ A two sided hypothesis with threshold of α is equivalent to a confidence interval with $CL = 1 - \alpha$.
- ▶ A one sided hypothesis with threshold of α is equivalent to a confidence interval with $CL = 1 - (2 \times \alpha)$.
- ▶ If H_0 is rejected, a confidence interval that agrees with the result of the hypothesis test should not include the null value.
- ▶ If H_0 is failed to be rejected, a confidence interval that agrees with the result of the hypothesis test should include the null value.