

Animal studies suggest that the anticholinergic drug physostigmine improves memory. This could have some clinical applications in humans (e.g., senility, Alzheimer's disease). Studies with humans typically report that we remember an average of seven of 15 words given an 80-minute retention interval. These studies also suggest that a standard deviation for the population is two. The mean number of words remembered by the 30 subjects receiving the drug is 8.35. Using $\alpha = 0.05$ can we conclude that physostigmine improve memory in humans?

Answer: Yes. Rejection region for $\alpha = 0.05$ is $z > 1.65$, since in this case $z = 3.697$, hence physostigmine improve memory in humans.