

Case 1.

Meriam is interested in studying stress in college students. As a health psychologist, she wants to know whether UC Merced students are less stressed than UC Davis students. She administers the Stress Questionnaire to 60 UCM students and 60 UC Davis students. The questionnaire is scored out of 10, where a score of 10 reflects extremely high stress and a score of 0 reflects no stress. The α has been set to .05. UC Merced students had a score of 5 and UC Davis students had a score of 8. She finds that UC Merced students had lower stress scores than UC Davis students ($p = .03$).

- What is the null hypothesis? UCM mean stress = UC Davis mean stress
- What is the alternative hypothesis? UCM mean stress < UC Davis mean stress
- Is the alternative hypothesis directional or non-directional? Directional
- What can you conclude based on the results? Reject the null hypothesis

Case 2.

Yazeed is a personality psychologist. He heard that reading aloud can affect your IQ. He recruited 100 participants to complete his study. 50 read aloud every for 3 months and 50 read silently instead. He then gave everyone an IQ test. The α has been set to .05. The reading aloud group had a mean IQ of 100 and the reading silent group had a mean IQ of 110. The p -value was .30.

- What is the null hypothesis? Reading aloud mean IQ = Reading silent mean IQ
- What is the alternative hypothesis? Reading aloud mean IQ \neq Reading silent mean IQ
- Is the alternative hypothesis directional or non-directional? Non-directional
- What can you conclude based on the results? Fail to reject the null hypothesis