1. Download File: https://github.com/sandipthanki/RMAIR\_2020\_NSC/blob/master/NSC\_2020.xlsx
2. Import File into Tableau
3. Save Extract
4. Drag GPA and Units to Measures
5. Make Year a String
6. N: COUNTD([Sur P])
7. Progression: if ISNULL([Ret or Grad 1 yr Surp]) then 'No' else 'Yes' END
8. Attribute, Success Measure, Service parameters
9. Attribute: case [Parameters].[Attribute] when 'Gender' then [Gender] when 'Ethnicity' then [Ethnicity] end
10. Service: case [Parameters].[Service] when 'Advising' then [Advising] when 'Tutoring' then [Tutoring] END
11. Success Measure: Case [Parameters].[Success Measure] when 'GPA 1 yr' then [GPA 1 yr] when 'Units Passed 1 yr' then [Units Passed 1 yr] END
12. Success Measure Difference: (AVG([Success Measure])- lookup(AVG([Success Measure]),-1))
13. Drag N to Text
14. Drag Success Measure to Text and change it to Average
15. Go to show me and change it to table
16. Drag Attribute to rows
17. Drag Service under Attributes
18. Show parameter control
19. Name the sheet t-test
20. Create new sheet and name it Chi Square
21. Drag N to text
22. Drag Attributes to Rows
23. Drag Progression to Columns
24. Add Year and Attribute to filter with use all
25. Apply the filters to all using this data source
26. Show filter for year and set it to 2018
27. Change N to %
28. Create a Dashboard and drag t-test and Chi Square to it
29. Bring Attribute filter
30. Make filters dropdowns
31. t-test\_variance: VAR([Success Measure])
32. t\_value: (AVG([Success Measure])- lookup(AVG([Success Measure]),-1))/sqrt([t-test\_variance]/[N]+lookup([t-test\_variance]/[N],-1))
33. t-test\_degrees\_of\_freedom: (([t-test\_variance]/[N]+lookup([t-test\_variance]/[N],-1))^2)/((1/([N]-1))\*(([t-test\_variance]/[N])^2) + lookup((1/([N]-1))\*(([t-test\_variance]/[N])^2),-1))
34. t-test\_significance: if [t-test\_degrees\_of\_freedom] > 30 and abs([t\_value]) > 2.042 then '\*' else '' end
35. drag t\_value and t-test\_significance to tooltips
36. Go to Chi Square Sheet
37. drag [N] to tooltip
38. CS-TotalGrand: WINDOW\_SUM([N])
39. drag it to tool tip and make it "down and across"
40. CS-TotalCol: WINDOW\_SUM([N])
41. drag it to tool tip and make it "down"
42. CS-TotalRow: WINDOW\_SUM([N])
43. drag it to tool tip and make it "across"
44. CS-ExpectedValues: ([CS-TotalCol] \* [CS-TotalRow])/ [CS-TotalGrand]
45. CS-ChiSquareCell: SQUARE([N] - [CS-ExpectedValues])/[CS-ExpectedValues]
46. CS-ChiSquareTable: WINDOW\_SUM([CS-ChiSquareCell])
47. drag it to tooltip and make it "down and across" in edit calcuations
48. CS-PH\_Denom: (([CS-TotalRow]\* [CS-TotalCol])\*(1- [CS-TotalRow]/[CS-TotalGrand])\*(1- [CS-TotalCol]/[CS-TotalGrand]))/[CS-TotalGrand]
49. CS-PH\_Adj\_Stnd\_Res: ([N]- [CS-ExpectedValues])/SQRT([CS-PH\_Denom])
50. Done