**Boston University**

**Senior Research Analyst and Programmer Search**

**Assistant Provost for Academic Data & Decision Support**

**Exercise #1**

In an effort to better understand the state of doctoral education at University A, the institution implements an annual Doctoral Students Exit Survey. All PhD students graduating from their program in a given academic year are expected to complete this survey.

The results of the survey are used to evaluate student perceptions on policies, practices, academic program quality, and campus climate. The data collected is then analyzed and used to improve doctoral student education experience at University A.

Use the attached Excel file (***Assignment 1 – Proprietary Dataset)*** to develop an analysis and presentation of some of the main highlights and findings based on a sample of the data collected through this survey. The sample dataset excludes all of the identifying variables, and other confidential data.

PLEASE DO NOT SHARE THIS DATAFILE WITH ANYONE ELSE. IT IS SOLELY FOR THE PURPOSE OF THIS EXERCISE. ONCE YOU HAVE COMPLETED THE EXERCISE, PLEASE SEND BACK YOUR DATAFILE TO ME (INCLUDING ANY CHANGES YOU HAVE MADE TO IT FOR THE ANALYSIS). AFTER THIS SEGMENT OF YOUR INTERVIEW IS COMPLETE, PLEASE DELETE IT FROM YOUR FILES.

The survey instrument has also been provided for your reference.

Data fields in the data set have been color coded to identify questions and sub-questions related to specific areas: ***Demographics, Overall Satisfaction, Program Quality, Program Training, Support, Faculty Mentoring and Advising, Professional Development, Post-Graduate Plans, Obstacles to Success***

1. You may use the attached SAMPLE presentation PPT file as a template (to save time), and design your own presentation and visuals based on a completely different topic. **OR**
2. You may create something completely original from scratch**. OR**
3. You may keep the core of the attached presentation as-is, then complete visuals for some (or all of the other areas), and work on it to make it even more effective, accurate, and insightful. If you choose to do #3, then please pay special attention to the following issues:
   1. Verify all the statements on ‘statistical significance’ that exist in the current presentation. Which ones are accurate and which ones are not? Update the statements as needed.
   2. In the slides titled “Methodological/Technical Notes”
      1. describe your recoding and scoring strategy – if you have used any.
      2. explain which tests of statistical significance you used for this exercise, and why.
      3. If you have weighted some of the variables in your own version of the analysis, identify which ones you weighted, and explain why.

**Please Note: You do NOT need to analyze ALL of the data in the data set. You may choose a few core areas of your choice (no more than 3-4), and design your analysis and presentation based on those areas.**

**Also, developing something completely new will not in and of itself result in a higher score. This assignment is more about how you present your findings and highlights - and the accuracy thereof – and not so much about individual creativity.**

**Exercise#2**

Write a two-three page summary about your approach to the presentation and analysis. Your summary could include some of the following discussions:

1. How did you prepare the data for analysis?
2. How did you address any missing values?
3. Which statistical methods did you use for your data analysis, and why?
4. Did you determine response rates for the different questions? Why or Why not?
5. Did you consider weighting any of the data? If yes, Why?
6. What appropriate tests of statistical significance did you consider using (and used), when evaluating differences across different sub-populations?