

Doctoral Programs Dashboard

Tableau · Data Visualization · DAT-210 | Logan Pride

Tableau

Data Visualization

DAT-210

Higher Ed Analysis

Dashboard Design

Logan Pride

PROJECT OVERVIEW

Overview

This Tableau project investigates what factors influence the offering of Doctoral programs across U.S. universities. Using a real-world institutional dataset, I designed and built a three-part interactive dashboard that explores enrollment size, religious affiliation, and public vs. private institution status as potential drivers of Doctoral degree offerings.

The central research question: "What factors influence the offering of Doctoral programs in universities?" was broken into three specific sub-questions, each answered through a distinct Tableau visualization: scatter plot, grouped bar chart, and regional bar/line chart.

RESEARCH QUESTIONS

The Three Questions

1. Is there a correlation between university enrollment size and offering Doctoral programs?
2. Does religious affiliation impact whether a university offers a Doctoral program?
3. Are private universities more likely to offer Doctoral degrees compared to public universities?

DASHBOARD

Tableau Dashboard

The full three-part dashboard built in Tableau, showing all visualizations with interactive filters and tooltips:

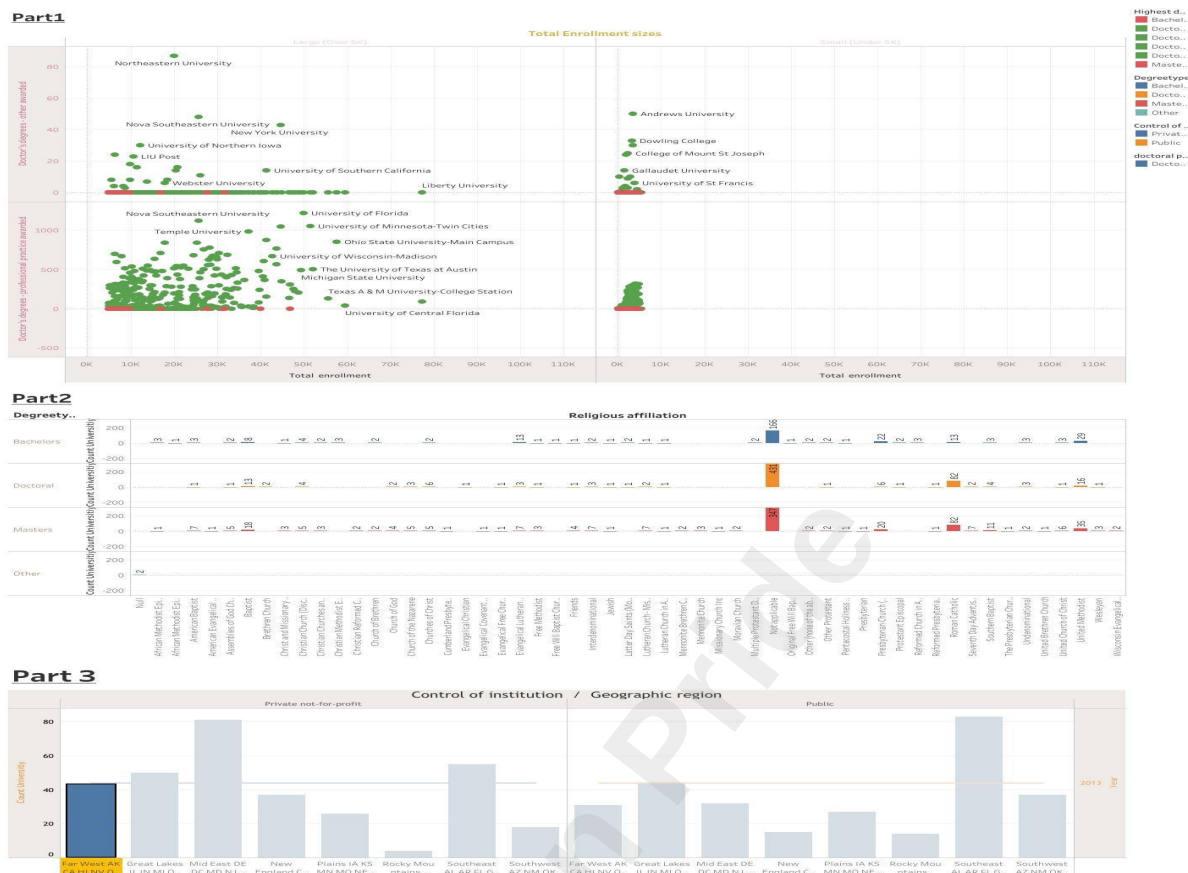


Tableau dashboard — Doctoral Programs analysis across U.S. universities (Part 1, 2 & 3)

VISUALIZATION BREAKDOWN

Part 1 — Enrollment Size vs. Doctoral Offerings

A scatter plot comparing university enrollment size against the number of Doctoral degrees awarded. Universities are split into two groups: large (over 5K students) and small (under 5K) and color-coded by degree type (Doctoral vs. non-Doctoral). Key findings:

- Large universities (50K+ enrollment) show a strong concentration of Doctoral professional practice programs, schools like University of Florida, Minnesota-Twin Cities, and Ohio State dominate the upper quadrant.
- Small universities under 5K rarely offer Doctoral programs, with notable exceptions like Andrews University and Gallaudet University.
- The scatter plot uses calculated fields to partition enrollment into two subsets and tooltip details showing institution name, enrollment size, and Doctoral program status.

Part 2 — Religious Affiliation & Degree Type

A grouped bar chart breaking down university counts by religious affiliation and degree type (Doctoral, Master's, Bachelor's, Other). Key findings:

- ▶ **Non-affiliated (Null) and Roman Catholic institutions have the highest counts of Doctoral programs: 166 and 43, respectively.**
- ▶ Smaller denominations (Evangelical Lutheran, Assemblies of God, Free Methodist) cluster almost entirely at the Bachelor's level with minimal Doctoral offerings.
- ▶ Religious affiliation alone is not a strong predictor of Doctoral programs; institution size and control type appear to matter more.

Part 3 — Private vs. Public by Geographic Region

A bar chart comparing private not-for-profit and public universities by geographic region, with a 2013 reference line overlay. Key findings:

- ▶ **Private institutions in the Southeast and Great Lakes regions have the highest counts of Doctoral-offering universities.**
- ▶ Public universities are more evenly distributed across regions, with the Southeast leading slightly.
- ▶ The Far West region shows notably higher private Doctoral offerings compared to public, driven by large private research universities on the West Coast.

TECHNICAL HIGHLIGHTS

Technical Highlights

Tool	Tableau Desktop
Dataset	Real-world U.S. university institutional data
Part 1 Chart	Scatter plot: enrollment vs. Doctoral degrees awarded
Part 2 Chart	Grouped bar chart: religious affiliation × degree type
Part 3 Chart	Bar chart: private vs. public by geographic region
Calculated Fields	Enrollment size groups (5K threshold), Doctoral type classifier
Filters	Total enrollment size, degree type, institution control, geographic region
Dynamic Features	Tooltips with institution name, enrollment, and program details
Color Coding	Degree type differentiation across all three charts

KEY FINDINGS

Conclusions

- ▶ **Geography is a significant factor; urban and coastal regions have more universities offering Doctoral programs.**
- ▶ Religious affiliation shows weak correlation with Doctoral offerings; Baptist and Catholic institutions trend slightly higher, but the effect is not strong.
- ▶ Private universities are generally more likely to offer Doctoral programs than public universities across most regions.
- ▶ Enrollment size is the strongest individual predictor; very few small institutions (under 5K) offer Doctoral programs at all.

- ▶ For prospective graduate students, institution type (private) and location matter more than religious affiliation when searching for Doctoral programs.

TAKEAWAYS

What I Learned

- ▶ How to translate a real research question into a structured visual analysis; breaking one main question into three measurable sub-questions, each answered by a specific chart type.
- ▶ Tableau calculated fields and filters, building enrollment size groups and degree type classifiers from raw data to enable meaningful comparisons.
- ▶ Dashboard composition, arranging three independent charts into a cohesive, readable story where each panel builds on the last.
- ▶ How to read and reason about data distributions, interpreting scatter plots, grouped bars, and regional comparisons to draw evidence-based conclusions rather than assumptions.
- ▶ The value of interactive features (tooltips, filters) in making a static dataset explorable and accessible to different audiences.

Full Tableau workbook available upon request — loganpride525@email.com