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Finding the Link Between Discipleship and Discipline: Does a student's identity as a Christian impact their academic standing, social activities, and other various aspects of their college career?

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Finding the link between Discipleship and Discipline: Does a student's identity as a Christian impact their academic standing, social activities, and other various aspects of their college career?

A statistical analysis conducted by Ellee Banaszak and Valentina Shabi

Abstract:

The debate of the influence of religion over academics and vice versa has remained steadily controversial over decades of research. We studied the link between religious identity and academic standing using a small Google survey over a limited sample of Hope College students. We compared multiple religious and academically based variables and obtained several different distributions, p-values, and other statistics. Our results indicated that for the population of full-time Hope College students, religious or academic activities did not significantly influence each other.

Introduction:

The link between religion and education has been studied by scientists, statisticians, and scholars for decades and has always proven to be interesting and somewhat controversial. There have been arguments held that if you are part of a religion you will do better academically (Fagan 2010.)There have also been studies that show if you join the scientific field you are more likely to lost your faith as compared to experts in other fields (Eckland and Scheitle.) There have even been studies comparing a person's religion (or lack thereof) with academic performance according to a specific race (Jeynes 1999) or economic status (Ecklund and Scheitle.) Hope college is a place known for it's pronounced Reformed Christian faith and its challenging academics. However, thorough personal observations, we have discovered a possible discrepancy where faith and academics meet, being the time spent between the two. We want to compare several variables that are religious and academic in nature to determine if a response to one influences the other. By comparing these variables we believe we will find that the more time, energy and thought students put into academics the less time and thought they spend participating in various religious activities, and vice versa.
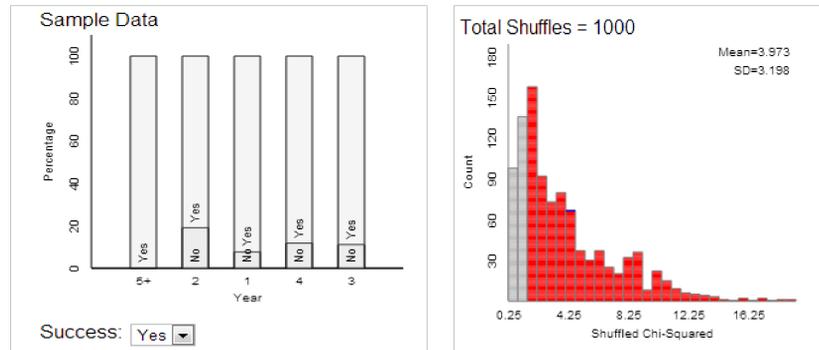
Objective:

The main objective of this investigation was to determine whether a student's academic accomplishments and social activities influence their religious identity and involvement in religiously affiliated activities. *Are the academics and social aspects of a student's life at Hope College influenced by an average student's religious life?*
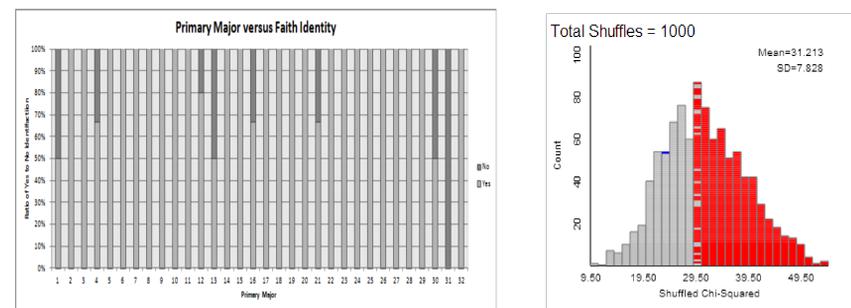
Methodology:

A questionnaire was created based off of a previous questionnaire created by Professor Todd Swanson of the Hope College Math Department in 2007. This questionnaire covered a variety of subjects over a large sample of Hope College students, this study will add to this database by conducting a similar survey with more specifically religious and academic questions.

- Our version of the questionnaire was conducted using Google documents and sent to the emails of a sample of Hope College students (a list that complied 300 email addresses with 75 people in each stratum.)
- A stratified sample of Hope College students was used with the intention of each year at Hope being represented fairly.
- The 34 questions featured a variety of fill-in-the-blank and multiple choice questions; there was one pull down options question.
- The questions were created with heavy emphasis on both religion-based context and strictly academic based context. The 34 question variables were written to obtain a large and diverse database; however, only 7 variables were used in analyzing data.
- The analyses of our data (responses) were conducted using different applets (Rossman Chance Applets) found online on the Hope College Mathematics Statistics page.
- Although the variables are self-explanatory, it is important to note that in tests 3 (Fig. 5,6) and 4 (Fig. 7,8) the quantitative data was averaged due to repeating explanatory variables so that the statistical analyses could be simpler and more direct.
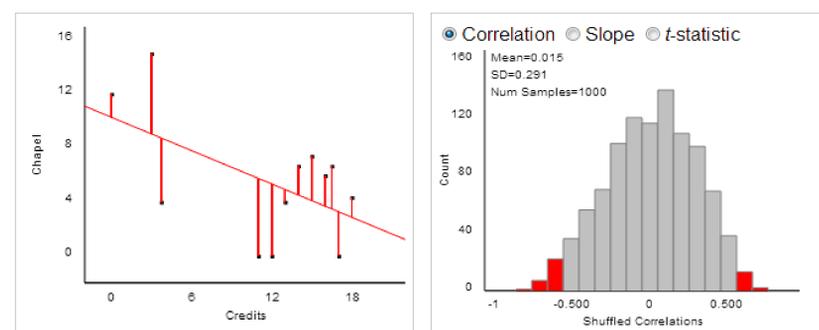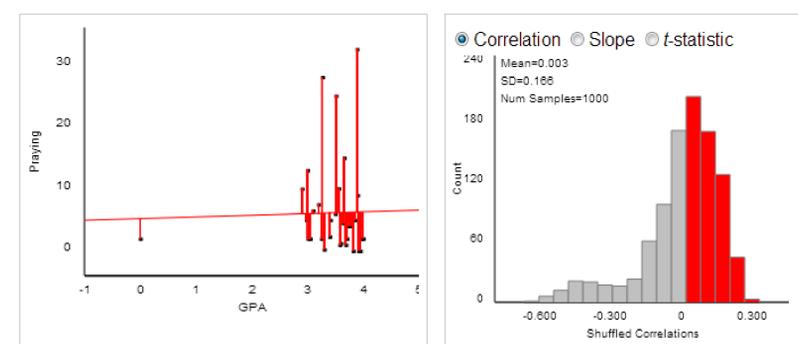
Results:

Figures 1 and 2 (both above) display data comparing the student's year versus Christian identity, with success identified as a "yes" response. The multiple proportions applet was used. The data revealed a p-value of 0.7660 and an observed chi-squared value of 1.59.

Figures 3 and 4 (both above) display data comparing the student's primary major of a student versus Christian identity, with success identified as a "yes" response. The multiple proportions applet was used. The data revealed a p-value of 0.5960 and an observed chi-squared value of 29.39.

Figures 5 and 6 (both above) display data comparing the number of credits the student is currently taking versus how often then have attended chapel in the last month. The linear regression/correlation applet was used. The data revealed an SAE of 40.08, a correlation coefficient of -0.540, and a p-value of 0.0600.

Figures 7 and 8 (both above) display data comparing the GPA of the student versus how many hours they have spent in the last month praying, reading the Bible, and/or meditating. The linear regression/correlation applet was used. The data revealed an SAE of 190.72, a correlation coefficient of 0.023, and a p-value of 0.5370.

- Two multiple proportions tests (tests 1 and 2; fig. 1,2,3,4) and two linear regression/correlation tests (tests 3 and 4; fig 5,6,7,8) were used to determine the significance of our data. Chi-squared statistics for each multiple proportion test were used because there were not equal proportions between each year in the first test and there was not equal representation of each major in the second test. A correlation coefficient for each linear regression was used to determine the strength of the data.

Discussion & Conclusions:

- The primary goal of this experiment was to observe trends between whether or not students identified themselves as Christians and aspects of their academic and social lives.
- Out of the four tests run, all of them led us to conclude that the null hypotheses were highly probable. Therefore, we concluded that a student's identity as a Christian has little to no significant impact on their academic standing, social activities, and other various aspects of their college career.
- Our research correlates to the studies mentioned in the introduction because of the similar topics. We did not find trends which supported that students who join the scientific field had a significantly smaller number of Christians than other subject areas. However, we did not compare the year of the students in each major to their Christian identity; this investigation may provide different results. Our results were also not consistent with other aspects of some of the previous research found.
- Our findings help the field move forward because our data was not taken from a random sample, and cannot therefore be generalized to an entire population. So, we pose the challenge of broadening this study and potentially finding connections between different races, regions, and ages. Our research provides a basis which can be used for many years to come. As an example idea, incoming freshman classes can be compared to those who preceded them. Our findings can help the field move forward because we now have statistics of Hope students which have been compared to one another to show trends, and this may spark interest by other academic fields which may lead to different surveys asking various other questions to further their knowledge and observe new trends.
- Limitations of our study were response bias, inability to generalize to a population, and unequal proportions of responses to represent each category. The response bias caused unequal sample sizes from each year. This influenced the results and led us to use chi-squared tests because the statistic multiplies by sample size rather than the individual categories and therefore treating groups with much smaller quantities equally as important as groups which had a very large number of responses. Our overall research provides a foundation of the Christianity aspect of Hope and how it correlates to the academic success and social lives of students.
- We found that there were no statistically significant impacts; however, we were able to discover very intriguing trends.

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Fagan, Patrick F., Dr. "Religious Practice and Educational Attainment: How Worship Influences Academic Success." *Family North Carolina* Fall (2010): 1-7. *Family North Carolina : Spotlight*. Web. 02 Dec. 2013.

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Jeynes, William H. "The Effects of Religious Commitment on the Academic Achievement of Black and Hispanic Children." *Urban Education* 34.4 (1999): 458-79. *Sage Journals*. University of Chicago. Web. 02 Dec. 2013.

Acknowledgements:

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