PROSPECT OF MARRIAGE ACTUALIZATION FOR UNDERGRADUATE COLLEGE STUDENTS

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ABSTRACT

Do the opinions that students have on future marriage plans vary across college majors? An observational study was conducted at the University of Maryland's College Campus during the spring semester of 2022. Students were surveyed regarding their choice of major, opinion on marriage, and the likelihood of getting married in the five years. 145 surveys were taken, 55 non-STEM students and 90 STEM students. By conducting a chi-squared test for independence we were able to conclude that the type of major you may choose is independent of how likely you are to be married.

Author Keywords

Major, Marriage

1. INTRODUCTION

1.1

Marriage is a culturally and often legally recognized union of two people that establishes rights and obligations between them. It has an impact on career trajectory as it changes the scope of consideration an individual must have when determining what they wish to pursue.

At the undergraduate level, students are in prime positions to make decisions about their careers because as young adults, the trajectory of their careers is determined by the decisions they make in the present. Continuing education, professional development, and research opportunities can be threatened or enhanced by the prospect of lifelong commitment.

The probability that a woman will get married by the age of 25 is 50%, and the same is true for men at the age of 27 (Hendrick, 2009). These age groups fall in the post-graduation state of college where most students have embarked on a path of work typically relating to their undergraduate studies.

Assuming the natural succession of post-graduate work resembling undergraduate studies, variation in marriage preferences amongst students enrolled in different majors can exist.

1.2 The Myth

Stereotypes exist across numerous occupations. The involvement of professions can dictate the stress experienced by participating employees, leaking out into portions of their personal life and indirectly or very directly affecting their interpersonal relationships.

The consensus amongst researchers finds that careers spawning from college studies generally lead to stable-income opportunities that result in lower probabilities of divorce likelihood. The divorce rates of college-educated personnel are significantly lower than that of non-educated spouses, carrying an incentive for more undergraduate students to pursue marriage as a sustainable goal. Within the population, the divergence of marital status is influenced by the intended profession. The association between profession and marital status has been popularized by the portrayal of divorce rates of certain professions as anti-advocates for marital pursuit. Of the top twenty marriage rates by major, the four leading majors were;

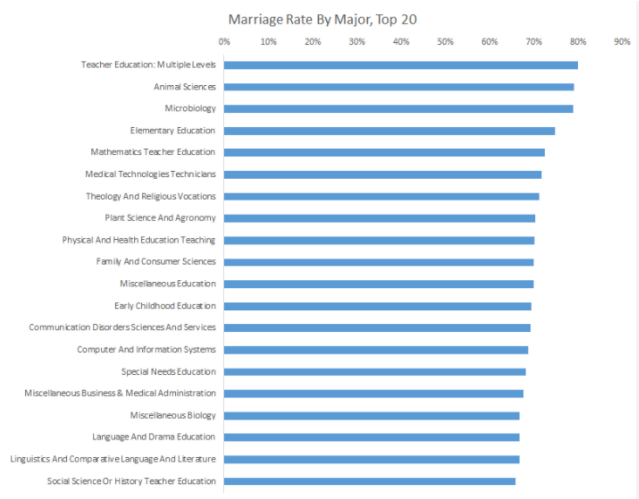

Figure 1: Marriage Rate By Major, Top 20

Education (Multiple Levels) leads the way at roughly 80%.

Animal Sciences is a close second at also about 80%.

Microbiology ties at about 80%

Elementary Education meets the others at about 75%. (Luther, 2017).

Based on this analysis, non-STEM Majors take the advantage over STEM majors with the optimism of having higher marriage rates by age 30. The underlying cause of this varies, but motivators such as income, work-life balance, and the possibility of vertical movement (promotion) allow those partaking in these studies to be more open to marriage. STEM majors study concepts that are extremely objective and critical, which bears a heavier stress load from a technical point of view. 18 out of the top 20 highest paying occupations belong to STEM major categories, and relative income is a strong predictor of marital status. Based on this fact, STEM majors are perceived to be more prone to a successful marriage, and it would make sense that those studying these majors would be stimulated by career expectations to pursue marriage.

The duality of both non-STEM and STEM majors having a positive impact on the likelihood of marriage pursuit is connected to the conditional nuance of a college education. This study will examine and identify any variation between the undergraduate populations at the university.

1.3 Study Design

This is an observational study with no random assignment. The question being asked is "Is there a difference of the desire to get married between STEM and non-STEM major undergraduate students."

The null hypothesis and alternative hypothesis are:

H_0: Type of major and likelihood of getting married in the next 5 years are independent.

H_a: Type of major and likelihood of getting married in the next 5 years are dependent

The significance level for this analysis was set at 0.01.The population was all college students who have decided on their major. The sample was students at the University of Maryland willingly participating in the study. The parameter is the percent of all students who want to get married within 5 years, and the statistic is the percent of sampled students who want to get married within 5 years. Data was collected through an online formatted survey with Google Forms as the communication medium.

1.4 Expectations

We expect to find a disproportionate amount of STEM degrees pursuing majors to have much more variable opinions on marriage. This will be different compared to students with more liberal/exploratory degrees. There will likely be a more negatively concentrated reaction from students studying degrees that lead to more demanding roles from a stress/time commitment perspective. Causation (assertion) between desired career path and relationship outlook will be visible. This coincides with general stereotypes that paint certain career-seekers as more "marriage-conscious" than others.

Students who are majoring in lucrative fields most likely have a difficult time setting aside time to prioritize marriage or even dating. Our expectations in finding a drastic difference in the desire to pursue marriage between STEM/business and liberal/exploratory degrees are based on the factors such as hours students spend studying and the description and types of the different curricula. Based on an extensive data analysis of The national survey engagement, STEM majors work more than 17 percent harder just on homework than humanities (Shinkansen, 2017). Another important aspect of marriage is communication. "Unsurprisingly, liberal arts graduates were most likely to indicate that their employer recognized their communication abilities (23%), compared to business-related (8%) and STEM graduates (3%)."

This information is valuable because it allows us to see how demanding some fields of study are. It can also be informative to students who are considering different fields of studies, if marriage is an important value for them then they may choose a less demanding field and go towards a field that allows them to get married when they want. This information can also be used to help people choose who they will date because it will help them determine if their partner will be more likely to want to get married in the same timeline as them.

2. EXPERIMENT

2.1 Experiment Description

We conducted research on the students of UMD. Since it is rarely possible to collect data from every person in the group, we aimed to get as many data points as possible from each school and select samples. We collected our data in multiple methods. Initially, we sent the survey link to our fellow classmates via the GroupMe app, text messages, and emails, which is also known as convenience sampling.

Our survey for the data collection includes seven active variables. These variables are School of Major, Year of Class, Age group, Marital Status, Marriage Importance Rating (MIR), Marriage Likelihood Rating (MLR), and Presence of religious Impact. To make sure we get data on each of these variables, we asked 7 questions that directly correlate to information on the active variables.

We operationalized our research questions into a testable hypothesis by taking and dividing the variables we decided to include during the collection of the dataset. We came up with different questions that can help us answer various types of questions about whether or not the major of students affects their desire for marriage within the next five years. Our questions also included other factors that could impact their decision related to marriage outside of their major.

The questionnaires for the survey were designed with "Multiple-choice", "Likert scale", and "Select all that apply" answers. After distributing the survey, the response rate was fast. We were able to gather this information faster because we designed and utilized different ways our participants can access the survey. Two of those ways are QR codes, which were useful for mostly android users, and Airdrop for Apple users.

2.2 Data Description

We were successful in getting data points. However, we noticed we only surveyed students taking the same classes as us at the same level. The sample is not representative of all the students at your university. To solve this problem, we altered our way of collecting data. We started targeting students who are in non-STEM schools by directly asking students to fill out the survey. We first asked each student to enter what college they belonged to and then categorized them in the end by STEM and non-STEM based on the work that is required by each school.

3. DATA

3.1 Data Analysis

To find the number of observations we needed we conducted a Chi-Squared power calculation with the effect size of 0.346 as we didn't believe there would be a large difference between the majors voting. We used a degree of freedom of 4 as there are 5 columns and 2 rows. We checked for a power of 80% and the significance level of 0.01. This test resulted in a N = 139.9, meaning a minimum of 140 observations were needed.

The survey that was conducted collected data on the rating of 145 students on their likelihood of getting married in the next five years. The students were categorized into 2 groups, STEM, and non-STEM. 55 non-STEM students responded and 90 STEM students responded.

	1	2	3	4	5	
Non-STEM	7	13	9	16	10	55
Stem	13	14	24	17	22	90
	20	27	33	33	32	145

Figure 2: Frequency table showing the number of observations per response

Since we were using categorical variables and the split between STEM and non-STEM observations were not equivalent we conducted an analysis using a mosaic plot.

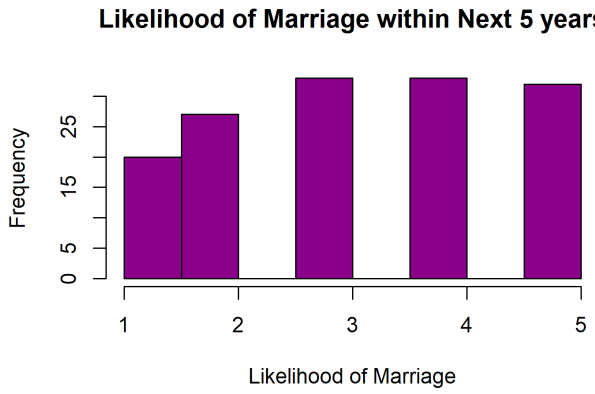

Figure 3: Histogram showing the frequency of each observation

The histogram above shows the frequency of how people scored their likelihood of getting married within the next 5 years By just analyzing the histogram we can see it is almost completely uniform except for a very small left skew, showing slightly fewer people believe they will get married within the next 5 years.

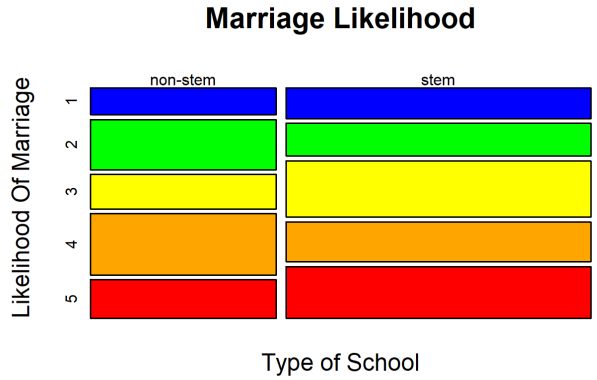

Figure 4: Mosaic plot comparing non-STEM and STEM school observations distribution between scores.

The mosaic plot shows that there are some slight differences between the ratings for non-STEM and STEM students. There doesn't seem to be any extreme differences between the two sides voting.

3.2 Statistical Analysis

Further analysis was done with a Chi-Squared test of Independence as the variables that were collected were all categorical ordinal.

```
        Pearson's Chi-squared test

data:  table(marriage$school, marriage$likely_mar)
X-squared = 5.0303, df = 4, p-value = 0.2842
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Figure 5: Pearson's Chi-Squared Test for Independence done in RStudio

With the Chi-Squared test, the p-value that was returned was 0.2842. With a p-value larger than 0.01, which was the alpha being used, we failed to reject the null as there was not enough significant evidence.

4. CONCLUSION

In conclusion, the type of major a student belongs to, STEM or non-STEM, is independent of their beliefs on their likelihood of getting married within the next five years. With this conclusion, the myth of the type of school you belong to affects the likelihood of when you will get married has been busted. It seems as though all students no matter the school have different ideas as to when they will get married, as it varied almost evenly between how likely they believed they would get married within the next 5 years.

5. LIMITATIONS

A limitation of the study is that it does not consider students who may later go on to get Bachelor's degrees in a field that is unrelated to their major. Those who decide to move into a STEM/non-STEM field would become influenced by the conditions of such a career, and that would inevitably impact their opinions on marrying. An example of such is that students may decide to apply to law school or pursue an MBA even though their undergraduate major did not focus on law or finance. If a STEM studying individual were to make this switch, they would subject themselves to factors from two groups of study. To mitigate this, surveying the certainty of participants within their field of study would help rule out the chance that their responses are tentative.

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6. ACKNOWLEDGMENTS

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7. REFERENCES

[1] Career or marriage: cultural contradictions and gender roles. (2009). International Journal of Educational Development,

29(1), 107–108. https://doi.org/10.1016/j.ijedudev.2008.04.006

[2] Gould, E. D. (2008). Marriage and career: the dynamic decisions of young men. Journal of Human Capital, 2(4), 337–378.

[3] Hendrick, B. (2009, June 30). *Who marries and when*. WebMD. Retrieved May 15, 2022, from https://www.webmd.com/sex-relationships/news/20090630/who-marries-and-when

[4] Luther, D. (2017, May 2). *Major marriage metrics: How your major affects your marriage rate*. Zippia. Retrieved May 15, 2022, from https://www.zippia.com/advice/major-marriage-metrics/

[5] Shukman, H. (2017, April 5). *This is how much harder STEM majors actually work*. The Tab US. Retrieved May 15, 2022, from https://thetab.com/us/2017/04/05/STEM-majors-work-harder-64458

[6] Subramanian, S., & Chavre, P. P. (2021). Marriage and career issues. Indian Journal of Anaesthesia, 65(1), 87–87. https://doi.org/10.4103/ija.IJA_1570_20