PROVO STATS COMPREHENSIVE REPORT

A Summarized Analysis of Survey Data Collected By Instagram's @UtahStats

Abstract

Utah's young adult demographic and its culture are enigmatic to many, both to outsiders and those living among it. This report explores the lifestyle and behaviors of young adults in the Utah area, delving into unique features such as college activity, relationships, social habits, political stances, and religious activity.

Jackson Passey
BYU Statistics MS
Email: jxnpass@gmail.com
URL: https://jxnpass.github.io

Jacob Dunn
BYU Psychology BS
Email: JDeppy@gmail.com
URL: @UtahStats

Table of Contents

Introduction

As a psychology student at BYU, Jacob Dunn had a desire to explore niche facts about college students living in Utah. He learned how statistics can be utilized to study various populations. With a framework in mind, he created the first @ProvoStats survey (as it was named then) to collect data, originally passing out fliers to invite students to take the survey and contribute their experiences. Once enough data was collected, Jacob posted unique findings on Instagram. Overtime, the page grew tremendously. As he kept posting more of his findings, Instagram followers demanded more answers to questions about young adult culture. This led to Jacob further enrichening his range of topics by creating multiple surveys with specialized questions. This opened opportunities for followers from outside Utah County to respond to surveys and contribute to the data, leading to the rebranding of the page to @UtahStats.

How does @UtahStats work? Participants are presented with survey questions, and their responses are recorded and processed using Qualtrics. Canva is the tool for designing and posting visuals on Instagram. Followers in the Utah area wishing to participate can submit their responses to the surveys linked in the profile.

The data featured in this report only presents the data collected by Jacob Dunn and @UtahStats from the UtahStats Dating Survey. This report, written by Jackson Passey, facets and groups them by topic, and at times explores overlapping areas of interest (e.g. politics and relationships). Our aim was to cover the most interesting questions within each section while scrutinizing findings with statistical accuracy. The analyses, visuals, and tests in this report were performed using the R programming language. The coding can be reviewed on this GitHub repository (for privacy reasons, only the code and select figures are seen).

How to Read this Paper (Quickly)

The fastest way to pull the top insights is to review the **Table of Contents** and select the sections that are most interesting to you. When you find your sections, read the displayed visuals and tables and skim the captions below each figure to understand the top finding(s). Those wishing to learn more from the research can find short descriptions about each figure in neighboring paragraphs.

A typical reader will find this paper very math heavy, so we provided a glossary below that defines the symbols or statistics reported throughout the document.

Statistical Terms for Reading

***p* (or *p*-value)**: the scientific definition of a *p*-value is the value describing how likely your data occurred if there was no significant change or difference between groups. In simple terms, and for this paper, we use *p*-values to assess whether results among findings are worth mentioning. Any *p*-value below 0.05 will be considered significant. Smaller values indicate a greater significance.

95% CI (Confidence Interval): synonymous with the *p*-value, CIs provides a statistical range of what an average for a group could be. If the interval from one group fails to cross over into another, we then believe there is a significant difference between these groups.

r (correlation coefficient): how connected one variable is to another. Stronger correlations are closer to -1 or 1. Weak ones report closer to 0.

μ (mu): Greek symbol for mean or average.

σ (sigma): Greek symbol for standard deviation. Higher values suggest a greater spread.

N (or **n**)**:** sample size, or how many people are behind the data.

This report utilized numerous statistical testing methods for generating p-values and confidence intervals, from t-tests, chi-squared tests, ANOVA, pairwise comparisons, proportion tests, and different regression models. To prevent any oversaturation of math terminology, we do not name each one directly within the report. To view the tests used for each section, you can view the GitHub repository here.

Limitations

Please note that since this paper highlights trends and analytics from survey data, there are a couple of key characteristics when interpreting findings. First, the data is inhibited by both **response and sampling bias**. This means that conclusions about trends, findings, or other claims cannot be easily generalized to the population of all young adults living in Utah County. You will also find that the sample has five times as many respondents from BYU than UVU, which may influence our calculated results to be faulty. Second, **all claims are observational,** not causal. We cannot make any statements that suggests one attribute directly impacts others, but we can certainly hypothesize *why* they may be associated. Despite these limitations, however, survey data is still very valuable and can teach us insightful things about people's experiences and opinions!

Sample Demographics

Data was collected from the UtahStats Dating Survey, with 2,101 respondents filling out the Qualtrics survey from August 2023 to May 2024. The survey was advertised via Instagram. Of the 2,101 respondents, 1,881 had usable data. The 220 respondents were removed from the sample as they either were not from the Provo/Orem area nor were in the young adult age (18-30, as classified by the Church of Jesus Christ of Latter-day Saints in May 2024).

Sex	Female (N = 1001)	Male (N = 866)	Overall* (N = 1881)
Age (Years)			
μ (σ)	20.9 (2.15)	22.1 (2.19)	21.5 (2.24)
[Min, Max]	[18, 29]	[18, 30]	[18, 30]
Height (feet)			
μ (σ)	5.47 (0.25)	5.94 (0.25)	5.69 (0.35)
[Min, Max]	[4.67, 7.00]	[4.58, 6.67]	[4.58, 7.00]
Weight (lbs)			
μ (σ)	143.55 (27.22)	176.29 (28.88)	159.11 (32.57)
[Min, Max]	[64, 270]	[112, 350]	[64, 350]
Ethnicity			
White	923 (92.2%)	779 (90%)	1712 (91.0%)
All Other	78 (7.8%)	86 (9.9%)	168 (8.9%)
Origin			
Utah	328 (38.2%)	306 (35.3%)	637 (33.9%)
Western U.S.	382 (38.2%)	307 (35.5%)	696 (37.0%)
Eastern U.S.	96 (9.6%)	87 (10.0%)	184 (9.8%)
Midwest U.S.	66 (6.6%)	57 (6.6%)	123 (6.5%)
International	37 (3.7%)	46 (5.3%)	85 (4.5%)
College			
BYU	752 (75.1%)	652 (75.3%)	1413 (75.1%)
UVU	133 (13.3%)	132 (15.2%)	266 (14.1%)
Other	16 (1.6%)	10 (1.2%)	26 (1.4%)
None	100 (10.0%)	72 (8.3%)	176 (9.4%)
Relationship			
Single	671 (67.0%)	578 (66.7%)	1257 (66.8%)
Dating	165 (16.5%)	146 (16.9%)	317 (16.9%)
Engaged/Married	158 (15.8%)	134 (15.5%)	292 (15.5%)
Separated/Widowed	6 (0.6%)	7 (0.8%)	13 (0.7%)
LDS Member			
Yes	963 (96.2%)	836 (96.5%)	1807 (96.1%)
No	38 (3.8%)	30 (3.5%)	74 (3.9%)
Mission			
U.S.	243 (24.3%)	256 (29.6%)	501 (26.6%)
Foreign	166 (16.6%)	403 (46.5%)	571 (30.4%)
No	592 (59.1%)	207 (23.9%)	809 (43.0%)

Table 1.1: A summary of the 1881 respondents from the UtahStats Dating Survey

From **Table 1.1**, we note of several results about our sample that relate to our expectations of the Provo/Orem area.

- While the range of our sample covers ages between 18 and 30, 75% are below 23 years of age.
- 75% of survey respondents attend BYU and 14% attend UVU. This indicates **a major response bias towards BYU/Provo young adults being more prevalent participants in the survey than Orem/UVU.**
- 96% of survey respondents are of the LDS faith.
- 57% of survey respondents served missions (54% of RMs served foreign).

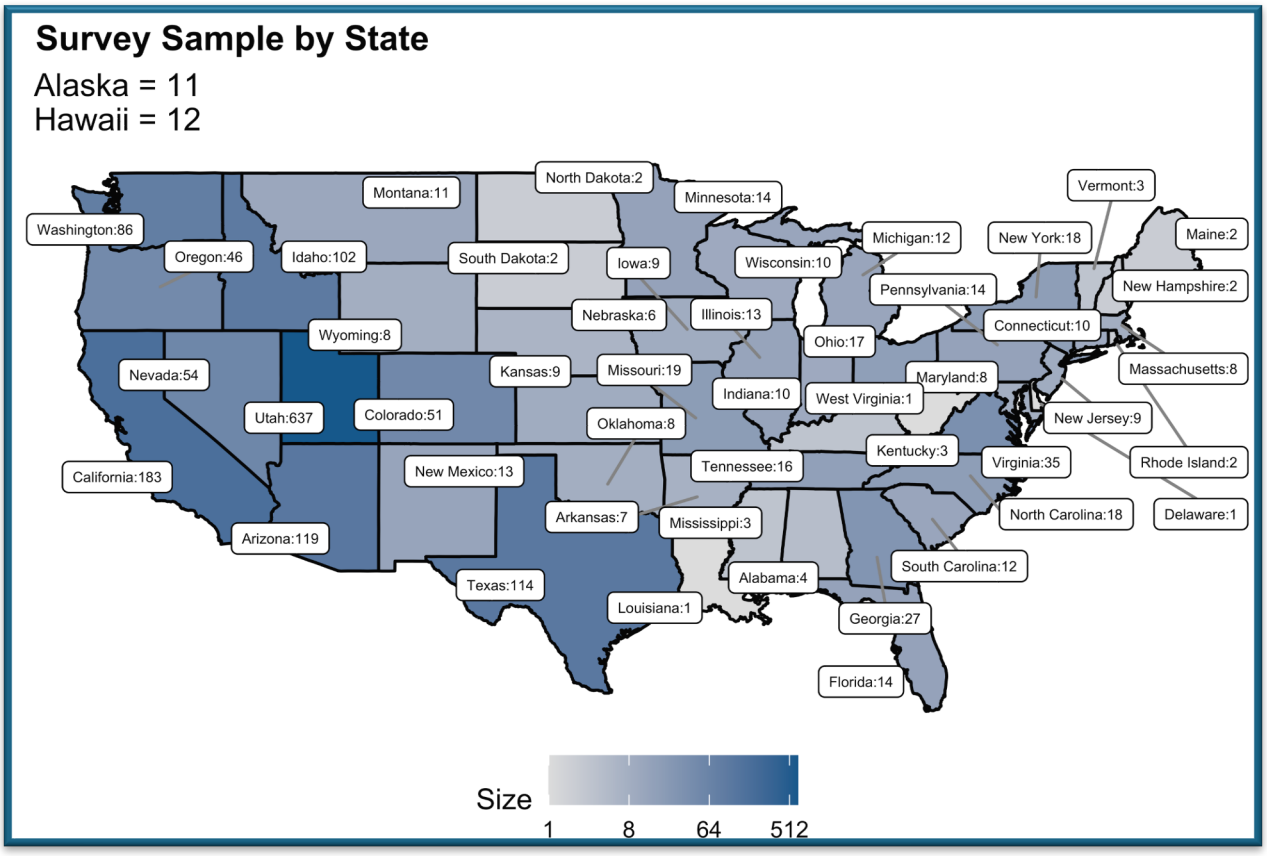


Figure 1.1: US Map of UtahStats survey respondents

According to **Figure 1.1**, young adults living in the Provo/Orem area tend to originate from states bordering the Utah area, with lesser populations from eastern states. While this may align with expectations for our survey, it reveals a stark contrast from other college towns: approximately 1 out of 5 students venture out of state to attend college, compared to our sample where 2 out of 3 students are from outside of Utah. With the area naturally serving as a hub for young adults to attend college, socialize, and meet other like-minded individuals, it becomes very clear why this area attracts many from around the nation.

Diversity lacks, however, when viewing what **Figure 1.2** reveals about ethnicities. There is a large majority of white individuals in the Provo/Orem area (about 91.2%). The second largest demographic is Hispanics at 3.97%.

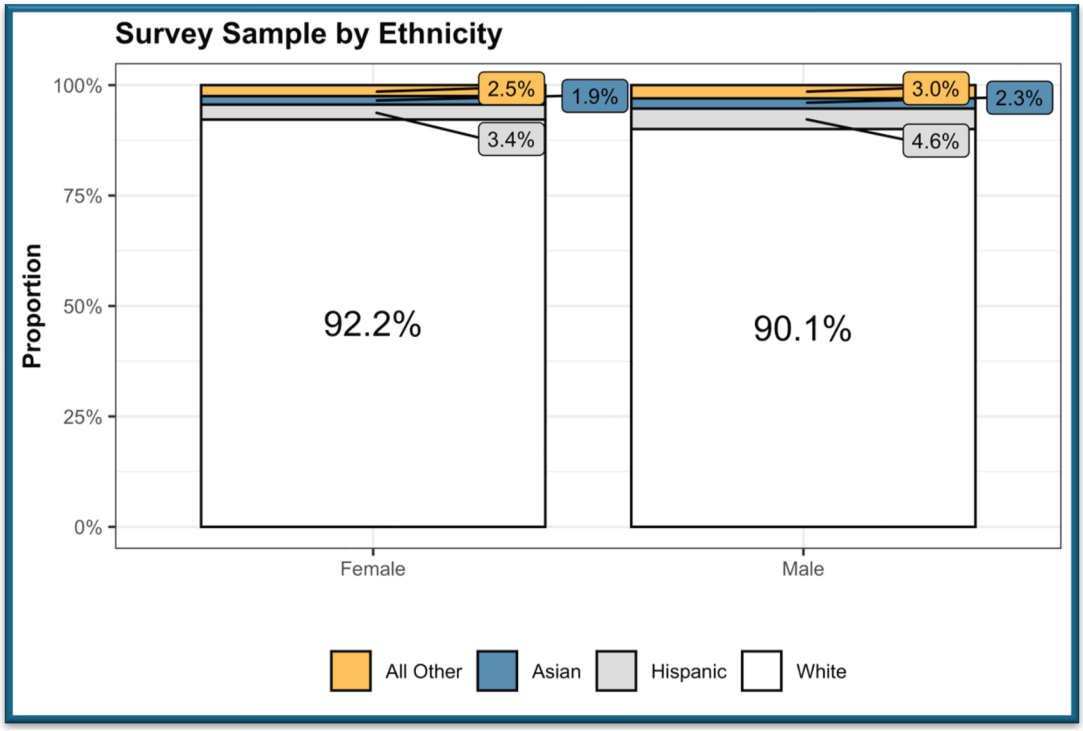


Figure 1.2: Survey respondents and ethnicity

The demographic faceted by gender seen in **Figure 1.3** reveals that there is a slightly greater majority of women who have taken the sample then men, with a very small proportion of individuals who do not identify with either. This is on par with reports where admitted BYU students are 52% female and 48% male.

Progressing further into our report, any groups with low representation, such as those who prefer not to identify as either male or female, will be omitted or generalized in other groups.

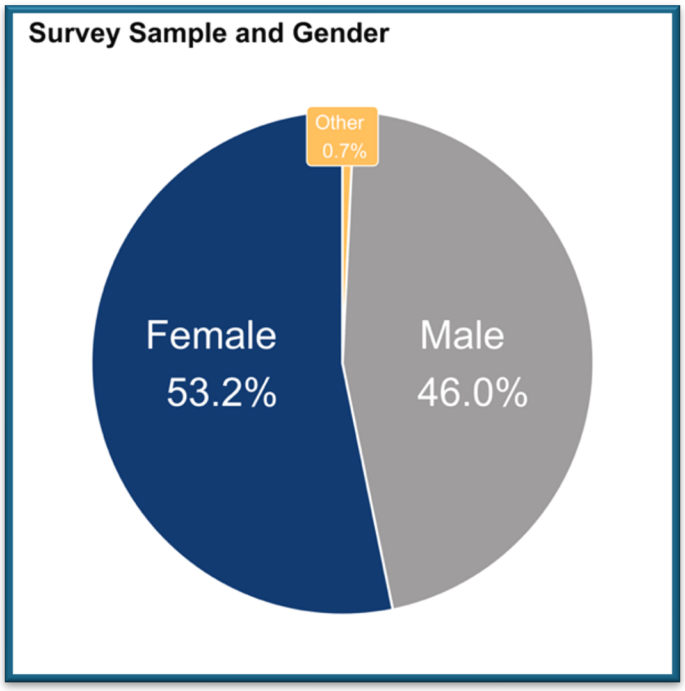


Figure 1.3: Survey respondents and gender

College Statistics

This section explores colleges and its attending students. **Table 1.1** identifies most respondents reportedly attend BYU, with a lesser proportion attending/graduated from UVU or not attending any school. For the remainder of this report, universities with low representation like Utah University, Utah Tech, Snow College, etc. will be placed in the "Other" category due (n = 26).

University, Major, and GPA

Figure 2.1 reveals proportions of where young adult respondents are attending college in the Provo and Orem area. Gender reveals little to no influence on attending a particular university. **Figure 2.2** presents the GPAs of those that are students within these different colleges.

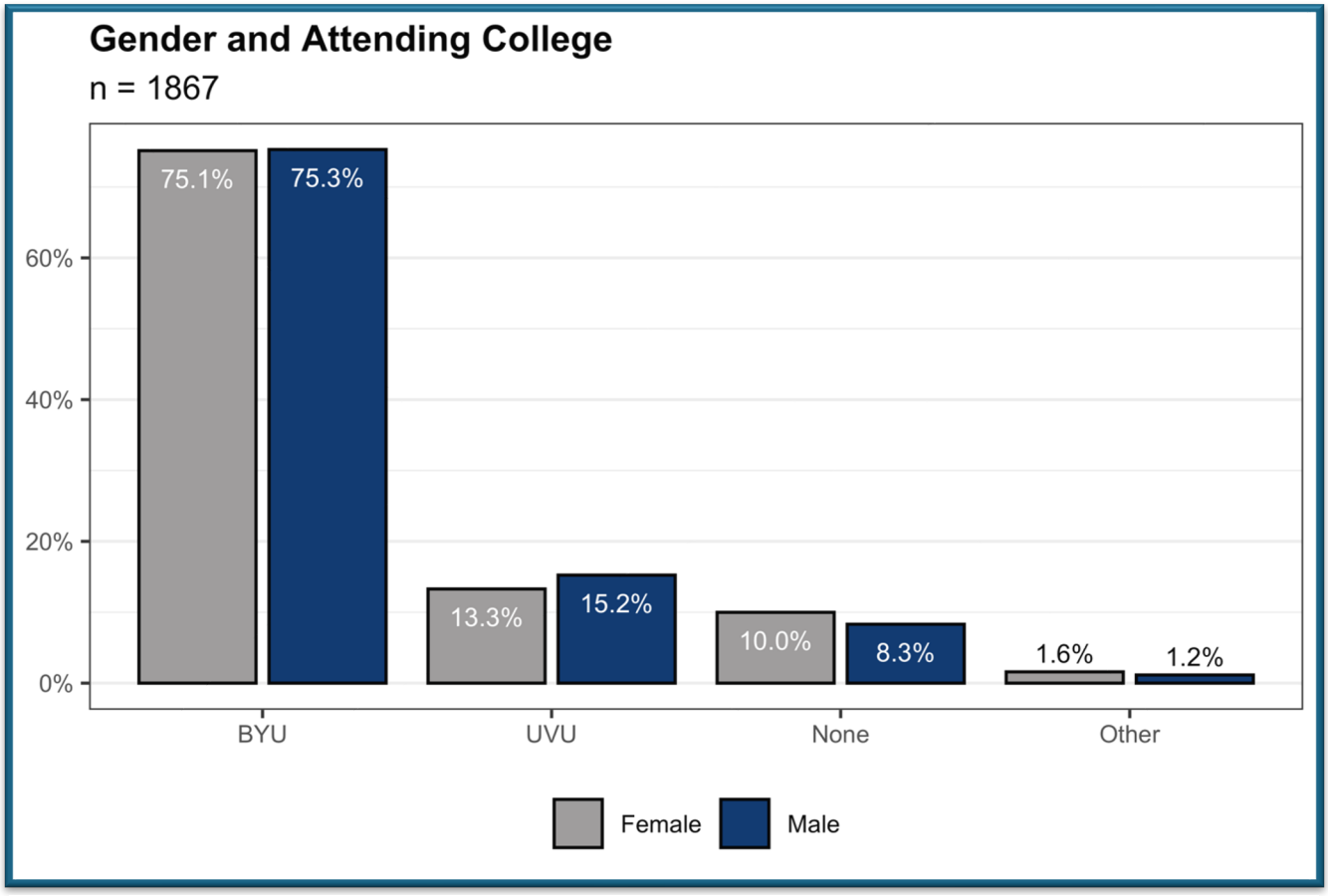


Figure 2.1: Survey respondents with acclaimed college and gender. Most respondents attend BYU

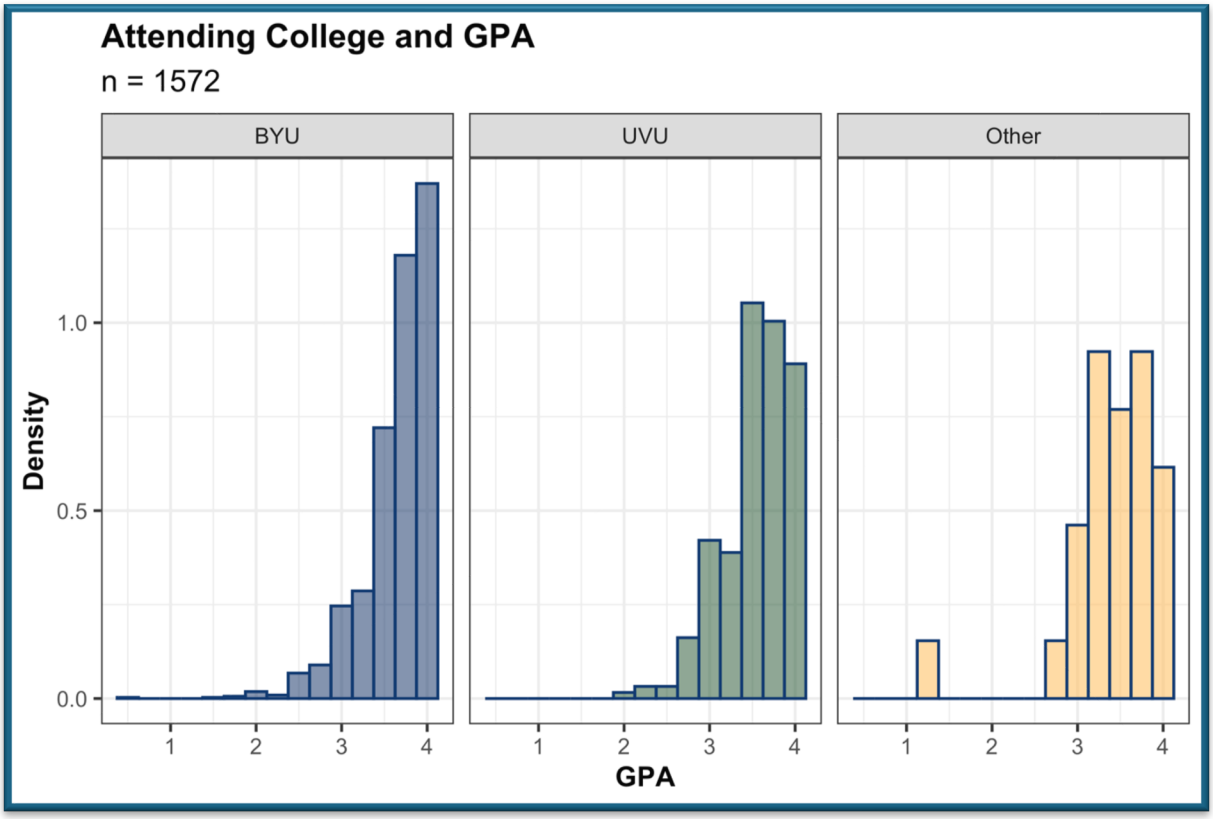


Figure 2.2: GPAs of college students by attending university. GPA ≥ 3.9 common among BYU students

We opted to further showcase BYU students within their field of study in two different facets: the BYU college name (e.g. Marriot School of Business or Life Sciences), and the department (e.g. Biology, Communications, or International Studies). While we only have data for college majors, department names are synonymous to them, and for most majors, defaulting to department removes the emphasis of the major, making it much more generalizable. **Table 2.1** views GPA statistics by the top 5 most attended colleges (of 12). **Figure 2.3** views the top 10 most featured departments (of 53) and mean GPA.

Figure 2.3 arranges the top 10 departments by the mean GPA from highest to lowest. In order from Mechanical Engineering to Biology, the mean GPAs for each department are 3.72, 3.72, 3.70, 3.68, 3.65, 3.64, 3.60, 3.59, 3.55, and 3.53. These GPA means were not significant between department, gender, nor interaction (p = 0.12, 0.14, 0.45). However, and as expected, declared students enrolled in these departments are significant between genders (p = 4.2e-17).

Table 2.1 highlights the top 5 colleges of BYU and describes more detailed statistics of GPA. There were no significant differences between college, gender, nor interaction (p = 0.33, 0.22, 0.76). Again, enrollments between colleges are significant among genders (p = 1.2e-19).

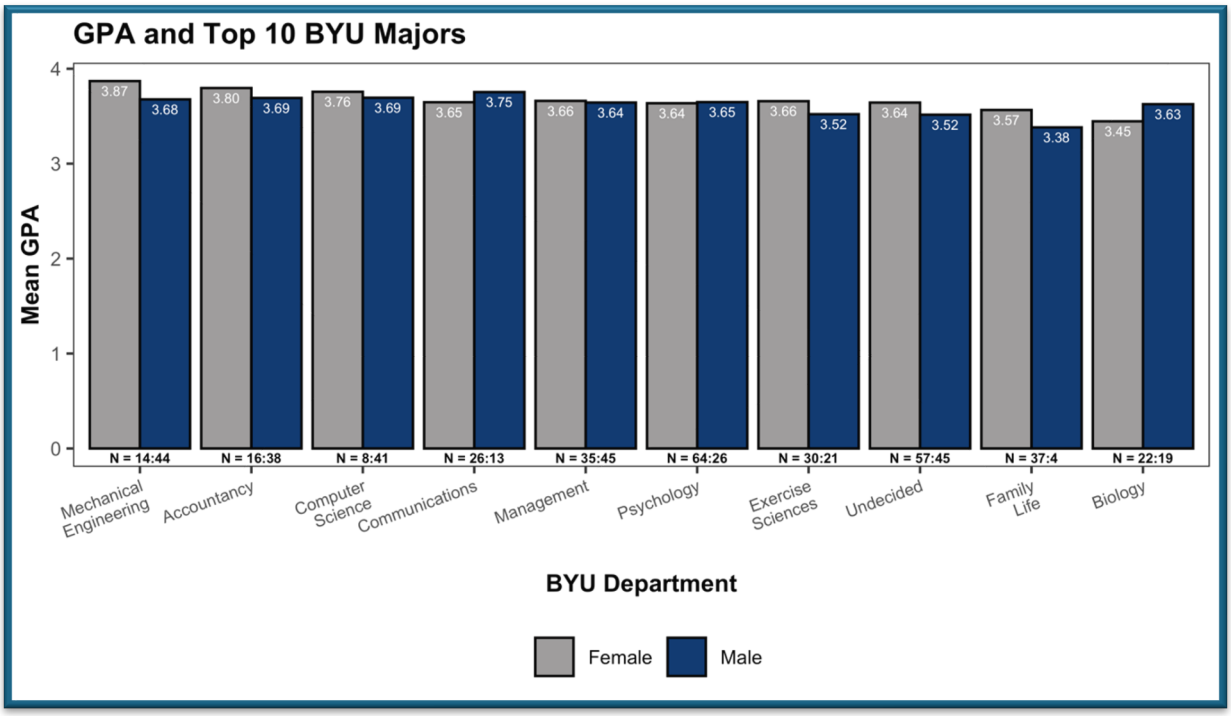


Figure 2.3: Top 10 Most Popular BYU Colleges, Mean GPA, and Gender. Gender ratios displayed in F:M

	Female (N = 397)	Male (N = 481)	Overall (n = 878)
Marriot School of Business	N = 75	N = 144	N = 219
μ_{GPA} (σ_{GPA})	3.68 (0.41)	3.66 (0.34)	3.67 (0.37)
95% CI	(3.59, 3.76)	(3.60, 3.72)	(3.62, 3.72)
Life Sciences	N = 120	N = 83	N = 203
μ_{GPA} (σ_{GPA})	3.63 (0.34)	3.61 (0.53)	3.62 (0.42)
95% CI	(3.57, 3.69)	(3.49, 3.72)	(3.56, 3.68)
Family, Home, and Social Sciences	N = 132	N = 68	N = 200
μ_{GPA} (σ_{GPA})	3.60 (0.4)	3.58 (0.37)	3.59 (0.39)
95% CI	(3.53, 3.67)	(3.57, 3.74)	(3.54, 3.65)
Physical and Mathematical Sciences	N = 38	N = 90	N = 128
μ_{GPA} (σ_{GPA})	3.67 (0.42)	3.65 (0.43)	3.66 (0.42)
95% CI	(3.53, 3.81)	(3.57, 3.74)	(3.59, 3.73)
Ira A. Fulton (Engineering)	N = 32	N = 96	N = 128
μ_{GPA} (σ_{GPA})	3.75 (0.31)	3.61 (0.39)	3.65 (0.38)
95% CI	(3.64, 3.86)	(3.53, 3.69)	(3.58, 3.71)

Table 2.1: Top 5 most popular BYU colleges, GPA, and gender

GPA and Dating

In **Figure 2.4**, we learn how GPA may be associated to the kiss count from our survey respondents. Quantified GPA is negatively correlated to higher kiss counts ($p = 0.0009$). The trend (and significance) is also found with NCMOs, or non-committal make-outs ($p < 0.0005$), but not in number of relationships ($p = 0.18$). We only visualize Kiss Count in

Figure 2.4 below. **Table 2.2** displays letter grade statistics in connection to the other dating metrics.

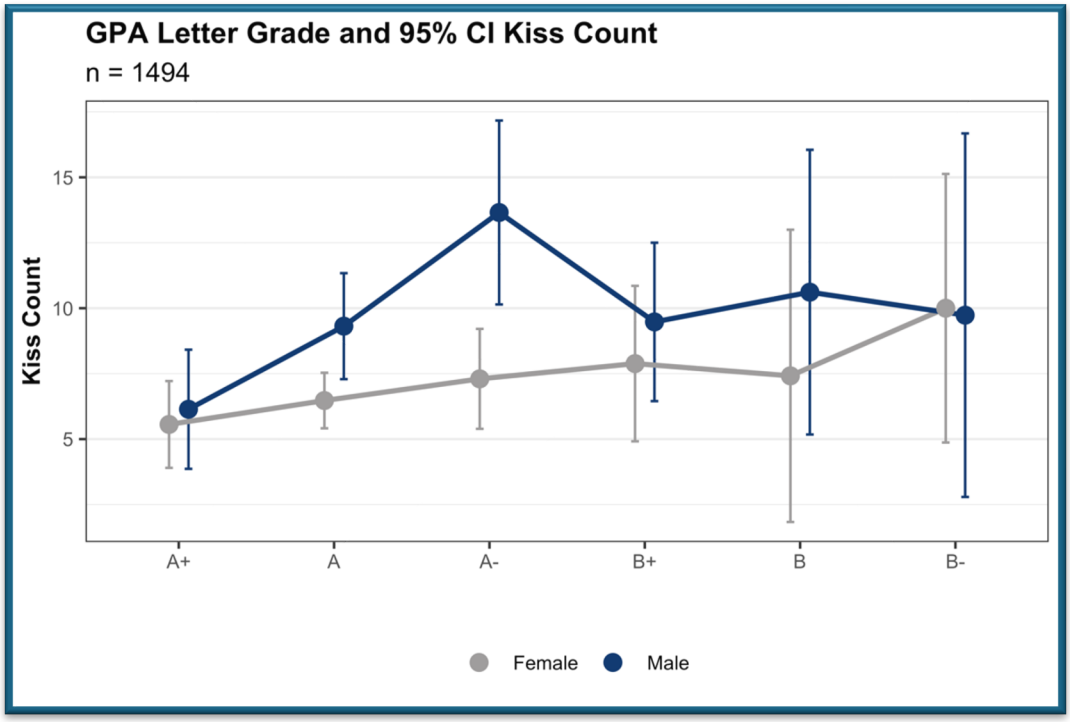


Figure 2.4: GPA letter grade related to kiss count. Slight difference among males (A+ = 4.0 GPA)

	A+ (N = 202)	A (N = 692)	A- (N = 350)	B+ (N = 164)	B (N = 55)	B- (N = 31)
Male	(N = 93)	(N = 318)	(N = 151)	(N = 86)	(N = 31)	(N = 15)
μ_{Kiss} (CI)	6.1 (3.9, 8.4)	9.3 (7.3, 11.3)	13.7 (10.2, 17.1)	9.5 (6.5, 12.5)	10.6 (5.4, 15.8)	9.7 (3.4, 16.1)
μ_{NCMO} (CI)	2.4 (1.1, 3.7)	3.0 (1.8, 4.2)	7.0 (4.3, 9.6)	3.3 (1.8, 4.8)	5.1 (0.9, 9.4)	5.3 (0, 11.1)
$\mu_{Relationship}$ (CI)	1.6 (1.2, 1.9)	2.0 (1.8, 2.1)	2.4 (2.1, 2.8)	2.0 (1.7, 2.3)	2.7 (1.5, 4)	1.5 (0.8, 2.2)
Female	(N = 109)	(N = 374)	(N = 199)	(N = 78)	(N = 24)	(N = 16)
μ_{Kiss} (CI)	5.6 (3.9, 7.2)	6.5 (5.4, 7.5)	7.3 (5.4, 9.2)	7.9 (5.0, 10.8)	7.4 (2.1, 12.7)	10.0 (5.3, 14.7)
μ_{NCMO} (CI)	1.9 (0.8, 2.9)	2.3 (1.6, 3.1)	2.9 (1.3, 4.6)	2.7 (1.5, 4.0)	2.1 (0.3, 3.9)	5.8 (1.4, 10.2)
$\mu_{Relationship}$ (CI)	1.5 (1.2, 1.8)	1.8 (1.6, 1.9)	1.7 (1.5, 1.9)	1.7 (1.2, 2.1)	1.8 (1.0, 2.6)	2.3 (1.6, 3.0)

Table 2.2: GPA letter grade and gender related to kiss count, NCMOs, and relationships (A+ = 4.0 GPA)

University, Major, and Dating

Figure 2.5 highlights university differences in kiss count. According to survey results, UVU averages 8 more kisses than BYU (p = 1.4e-12), and non-student young adults average 10.5 more than BYU (p = 2.6e-12). Those from other schools averaged 5 more than BYU, but this finding was not significant (p = 0.12). Findings for average NCMOs across schools followed the same pattern; when it came to relationships, however, those from "other" universities or schools reported being in more relationships than BYU students on average (see **Table 2.3**).

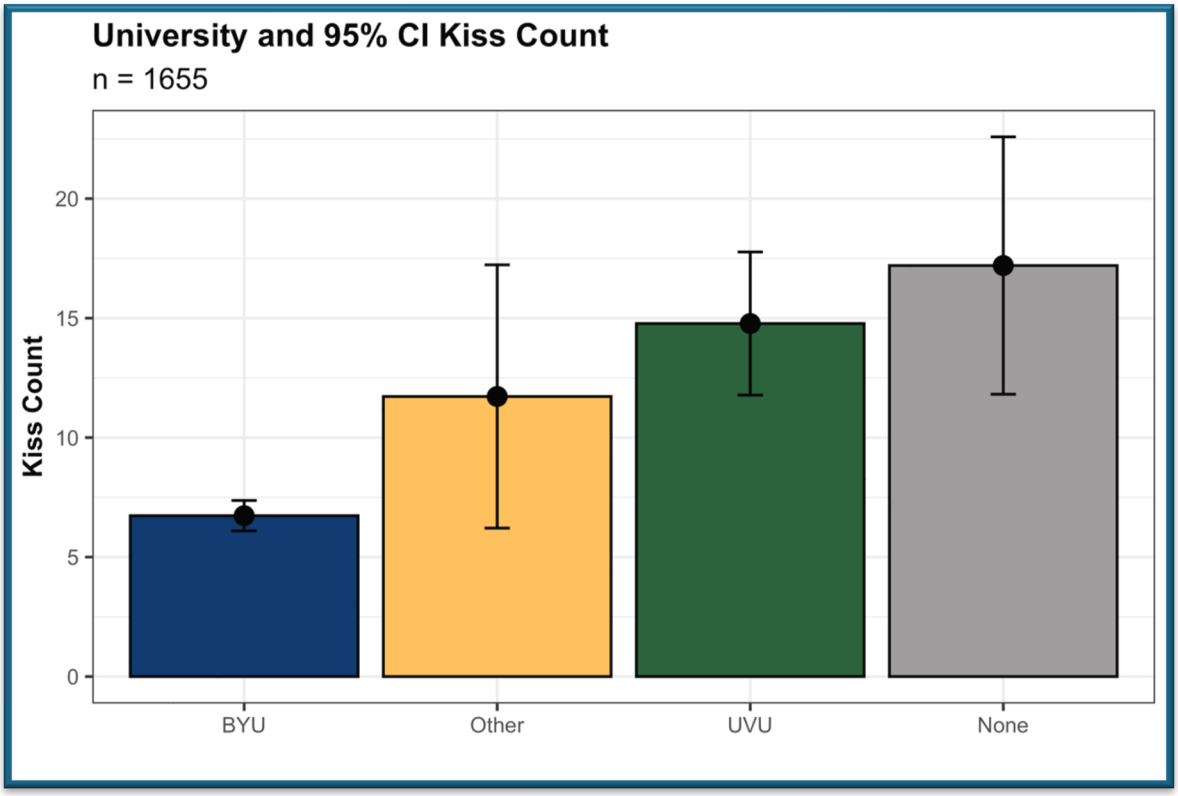


Figure 2.5: University related to kiss count

	BYU (N = 1271)	Other (N = 25)	UVU (N = 234)	None (N = 125)	Overall (N = 1655)
Kiss Count					
μ (σ)	6.73 (11.55)	11.72 (13.35)	14.77 (23.25)	17.2 (30.43)	8.73 (16.26)
95% CI	(6.10, 7.37)	(6.21, 17.23)	(11.78, 17.77)	(11.81, 22.59)	(7.95, 9.52)
[Min, Max]	[0, 143]	[0, 48]	[0, 150]	[0, 167]	[0, 167]
NCMO Count					
μ (σ)	2.33 (7.25)	4.40 (8.59)	6.94 (16.88)	7.03 (17.47)	3.37 (10.40)
95% CI	(1.93, 2.73)	(0.86, 7.94)	(4.76, 9.11)	(3.94, 10.12)	(2.87, 3.87)
[Min, Max]	[0, 96]	[0, 38]	[0, 145]	[0, 120]	[0, 145]
Relationships					
μ (σ)	1.79 (1.76)	2.76 (2.18)	2.1 (1.57)	2.61 (1.98)	1.91 (1.77)
95% CI	(1.69, 1.88)	(1.86, 3.66)	(1.90, 2.30)	(2.26, 2.96)	(1.82, 1.99)
[Min, Max]	[0, 20]	[0, 8]	[0, 8]	[0, 10]	[0, 20]

Table 2.3: University education and kiss count, NCMOs, and relationships

Figures 2.6a and **2.6b** highlight the top 10 attending BYU colleges and declared BYU departments and their kiss count statistics. While there certainly are trends with higher and lower averages within this top 10 grouped view, no single group had significantly more or less kiss counts, NCMOs, or relationships for colleges (p = 0.26, 0.75, 0.48) nor department majors (p = 0.40, 0.87, 0.33).

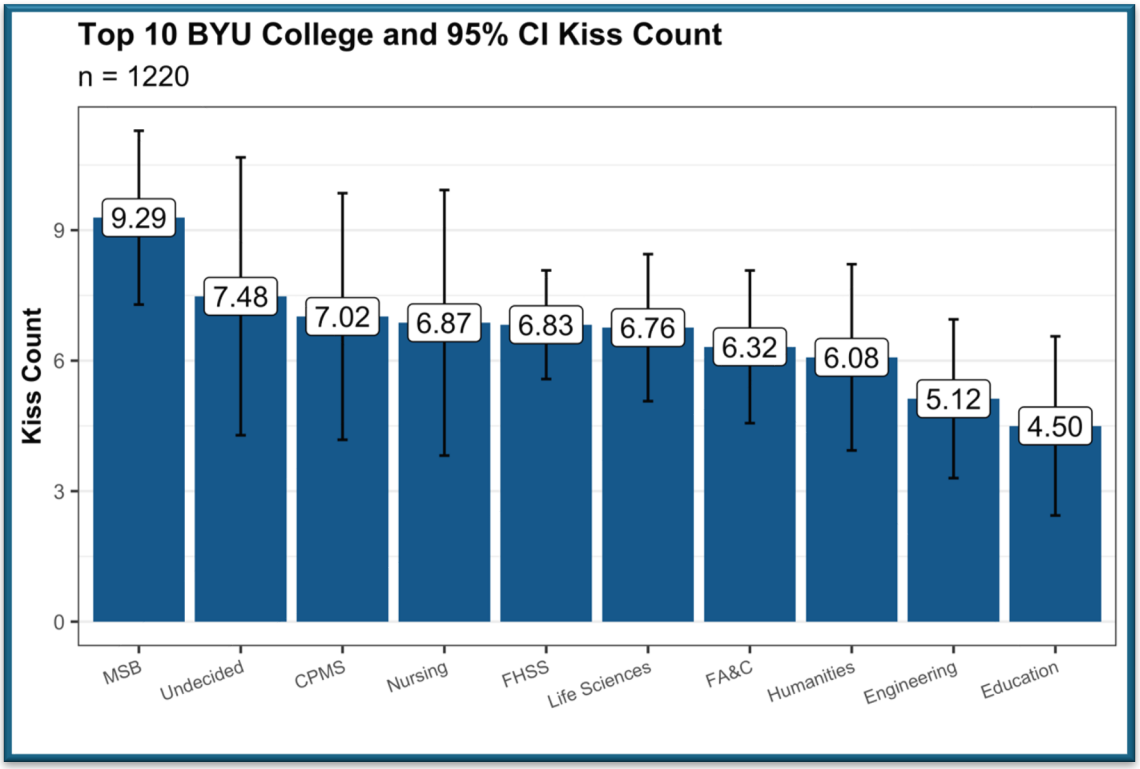


Figure 2.6a: Top 10 Attended BYU College related to kiss count

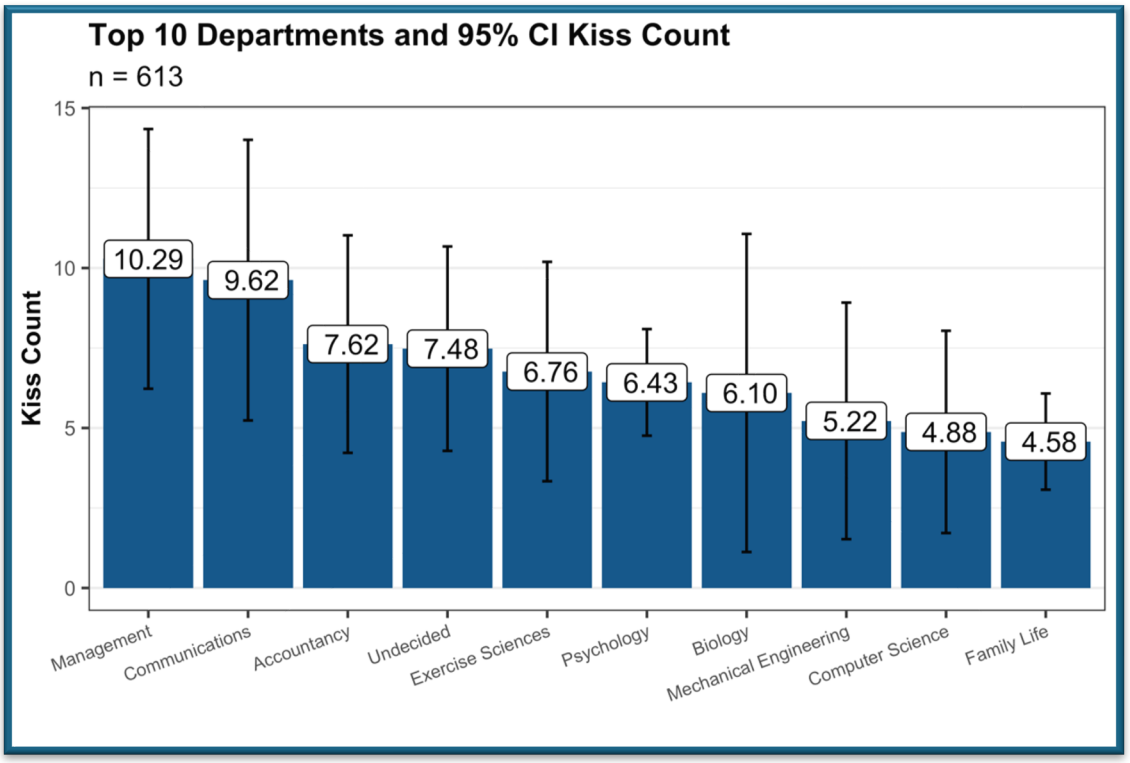


Figure 2.6b: Top 10 Declared BYU Department/Major related to kiss count

Church Activity and Religion

From **Table 1.1**, recall that 96% of survey respondents are LDS church members. We can learn a lot about young adult church members by evaluating their missions, church activity, and current beliefs of church doctrine.

Mission Statistics

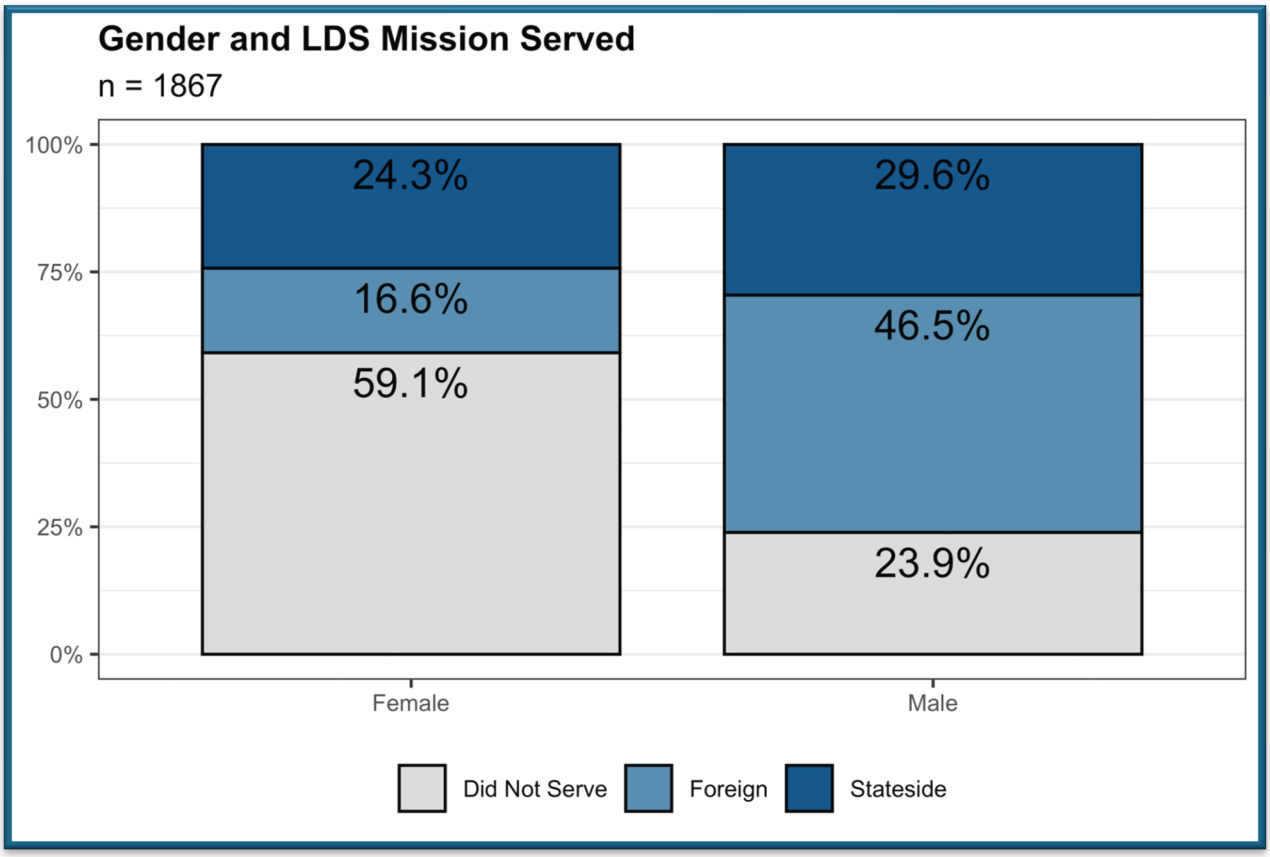


Figure 3.1: Gender Influenced by mission and mission assignment

Figure 3.1 reveals a fundamental and unsurprising difference between men and women regarding missions. 66% of male young adults who have taken the survey are returned missionaries, compared to only 41% of female young adults. Additionally, 61% of male RMs went to a mission outside of the United States, compared to only 41% of female RMs. This difference was significant (p = 1.0e-60).

In connection to relationships and dating, however, serving missions is unrelated. In **Figure 3.2**, while it does appear that serving a mission increases odds of marriage, this influence is not significant for females (p = 0.64) nor males (p = 0.21). There is also no significant difference between proportion of single males to females (p = 0.09). These tests were done to compare individuals above 21 years of age (which is generally the age when both males and females return from missions).

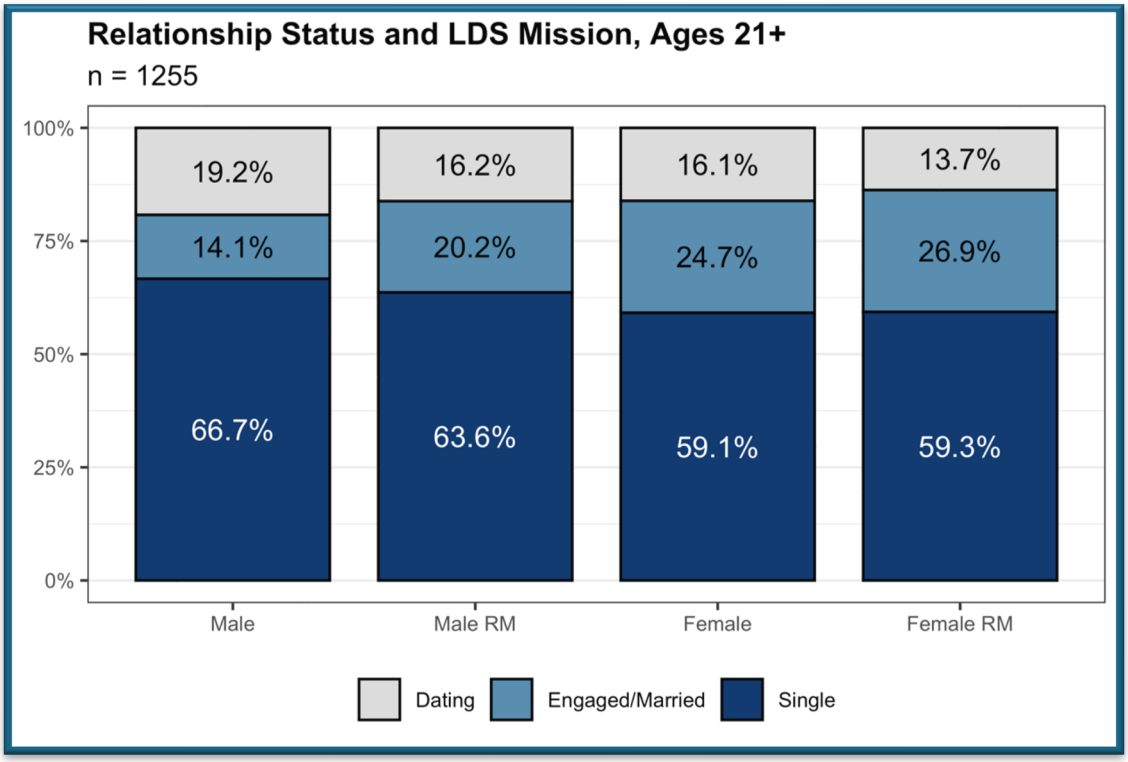


Figure 3.2: Relationship status not influenced by serving missions

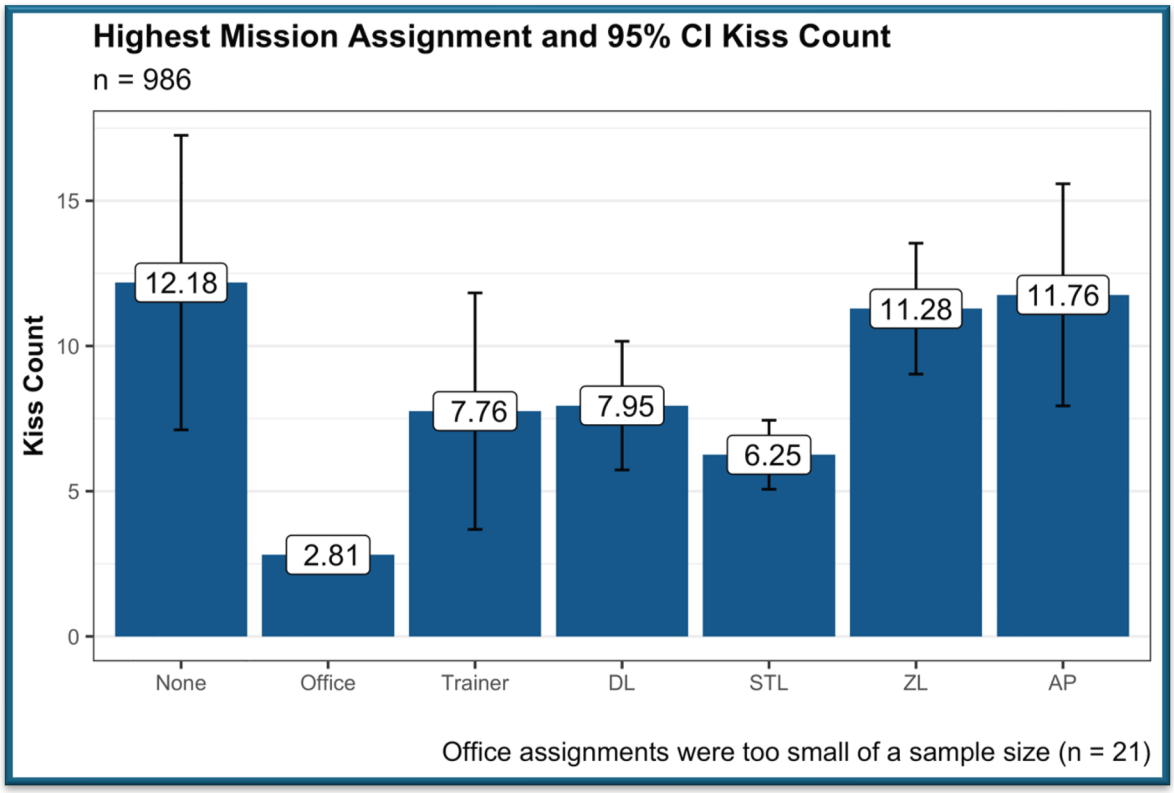


Figure 3.3: Mission leadership and associations with kiss count

A typical LDS mission embraces a leadership hierarchy that usually (but not always) connects to a one's diligence to convert church investigators and obey mission standards. There is also an implied association of extraverted personalities and mission leadership. Mission leadership for men, from bottom to top, are the district leaders (DLs) in charge of 6-12 missionaries, zone leaders (ZLs) in charge of 3-4 DLs, and finally assistants to the mission president (APs) in charge of 3-8 ZLs each and expected to present themselves as model standards for missionary work. Sister training leaders, or STLs, serve as mission leaders to assist sister missionaries in a zone or mission and thus are comparable to ZLs or APs, depending on the mission. Both men and women can serve as trainers, or as office missionaries: they specialize in assisting with various mission-wide tasks like finances, technology, or transportation. Mission leadership tends to be a typical yet comical cultural stereotype among young adults in Utah that they associate with confidence in dating.

In **Figure 3.3**, we can view how different roles from the mission relate to dating statistics. The difference in mean kiss counts between mission callings were indeed significant (p = 0.002), but the main pairwise comparison lies between STLs and ZLs (p = 0.02). Office missionaries didn't have a large enough sample size with n = 21, but as of now they clearly have the smallest count. For NCMOs, the role differences were significant (p = 0.008), with STLs having significantly less than those who served without a leadership role (p = 0.02). Role differences in relationships were not significant (p = 0.06).

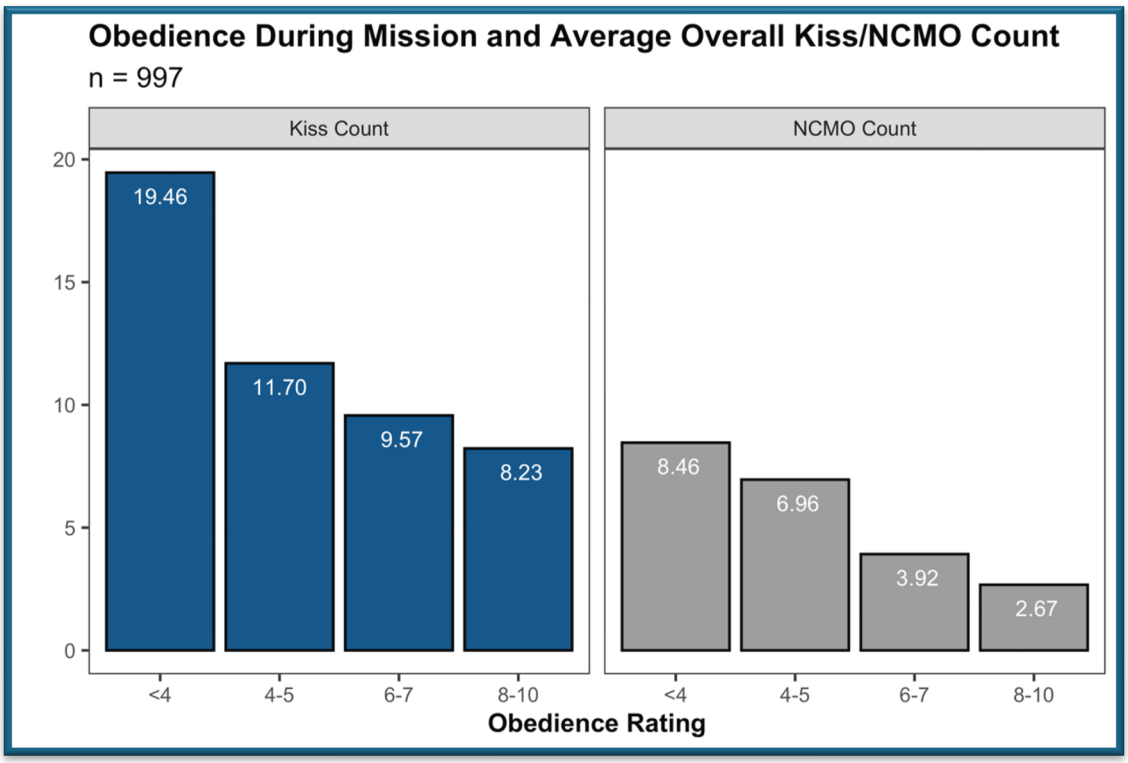


Figure 3.4: Mission obedience negatively correlated to lifetime kiss count and NCMOs

Figure 3.4 displays how different self-reported ratings of obedience (scaled 1-10) during the mission is related to the same dating metrics. In this case, kiss count is negatively (and

significantly) correlated to the obedience rating (r = -0.09, p = 0.005). For fans of regression models, a one-point rise in obedience yields an expected 0.5 decrease in lifetime kiss count. Simultaneously, NCMO and obedience is also negatively correlated (r = -0.13, p = 3.1e-5), where a one-level increase in obedience rating is related to an expected 0.2 decrease in NCMO count.

Church Activity and Stances on Church Doctrine

In the survey, we found that approximately 72% of respondents are active church goers who strongly support church doctrine. Of those that go to BYU, 74% fit this description.

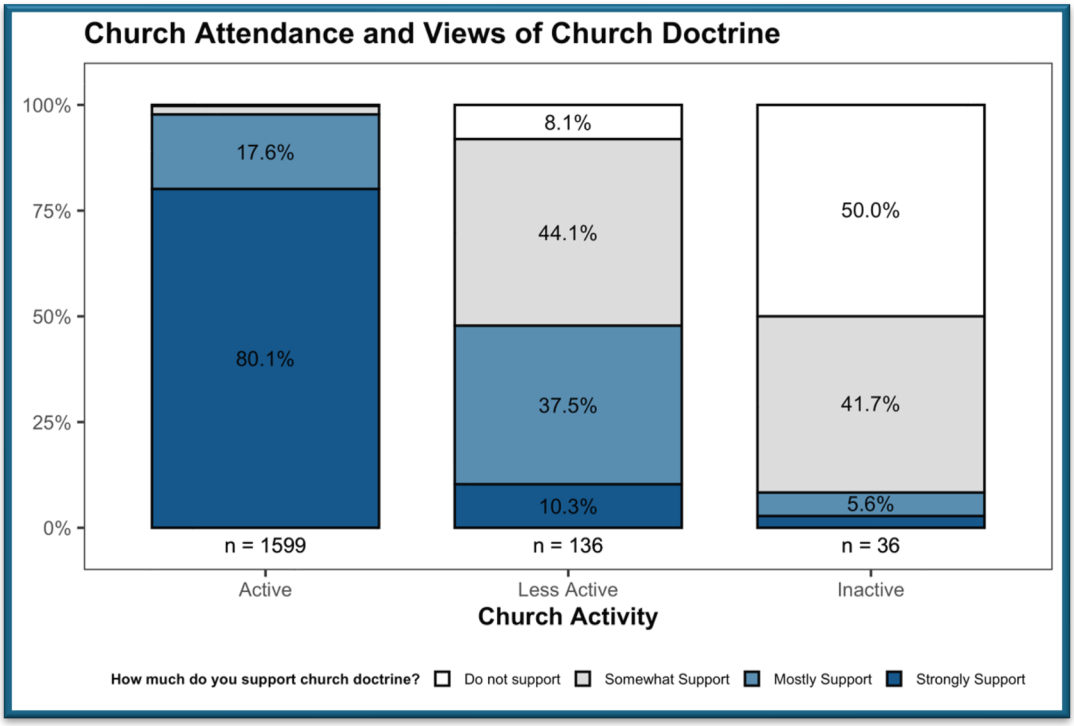


Figure 3.5: Relationship of church activity and doctrines

Figure 3.5 confirms our expectations as to how related are people's view of the church with their activity: 80% of active church goers fully support LDS doctrine. In contrast, only 10% of less active members and 3% of inactive members fully support church doctrine.

In **Figure 3.6**, we connect the mission to support of LDS doctrine. A greater obedience observed during one's mission is positively correlated to greater support of the LDS church (p = 8.7e-9). This positive correlation is mainly influenced by those who strongly support LDS doctrines, as they are significantly more likely to report a greater observed obedience during their mission than those who do not fully support (p = 5.2e-6).

Finally, in **Figure 3.7**, we observe how LDS retention among different leadership roles in the mission. We did observe a significant difference in church retention between roles (p = .03), but given low sample sizes between groups, we urge caution about any interpretations.

However, we can still hypothesize about the effect of mission leadership roles: are fewer opportunities for service in the mission related to a declining testimony?

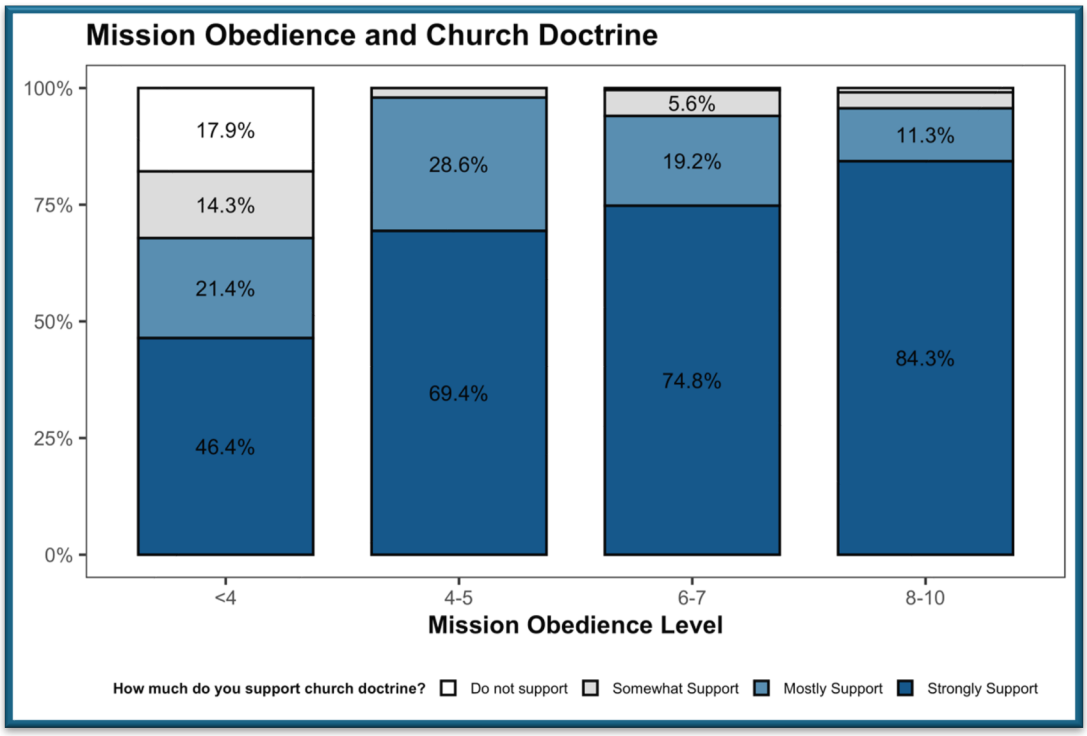


Figure 3.6: Mission obedience positively associated with support of church doctrines

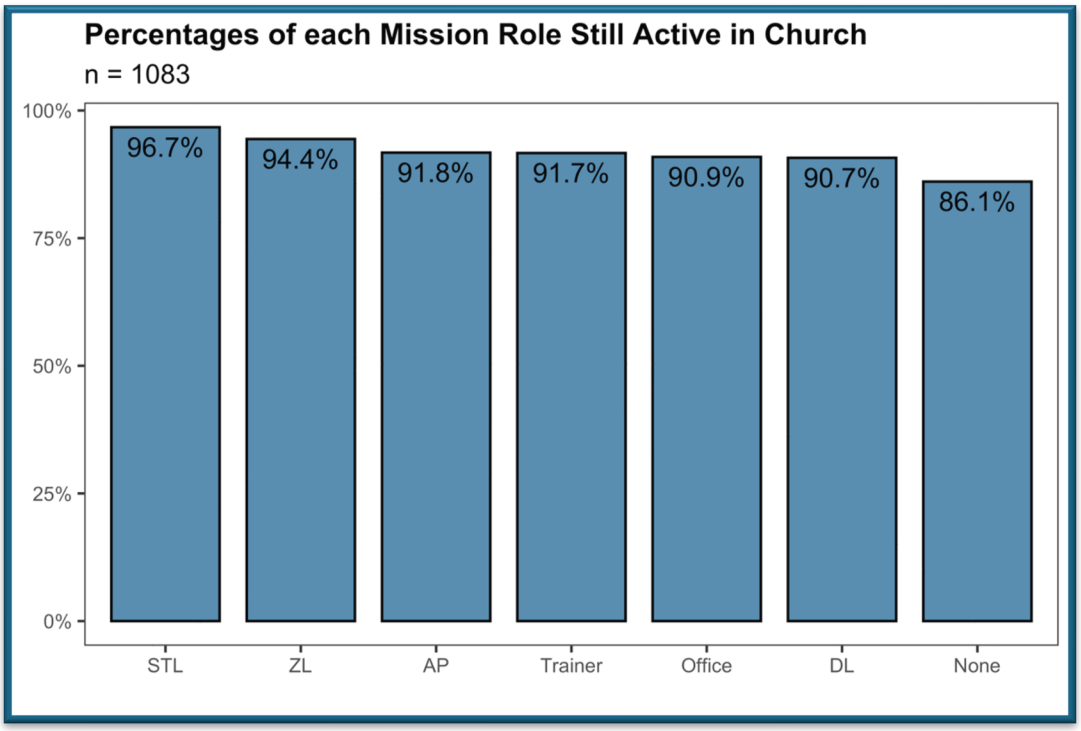


Figure 3.7: Decline in church activity linked to smaller involvement in mission leadership

Lifestyle

College can be a fun time, as it fosters many different activities and experiences for students. However, many college students do not have the same opportunities as others due to situations like finances, health, or other amenities. Here is what we found regarding lifestyle in the Provo/Orem area.

Social Activity

Figure 4.1 highlights how older individuals tend to engage in less social activates per month. 18-year-olds engage in the most monthly social events, followed by those who are 21. This gap is notably the age when most young adults go to serve missions. This begs the following question: do students who stay in Provo/Orem participate in less monthly activities when peers matching their age leave to serve missions? This decline, even when controlling for factors like relationship status, is significant among aging young adults (p = 0.03, r = -0.09).

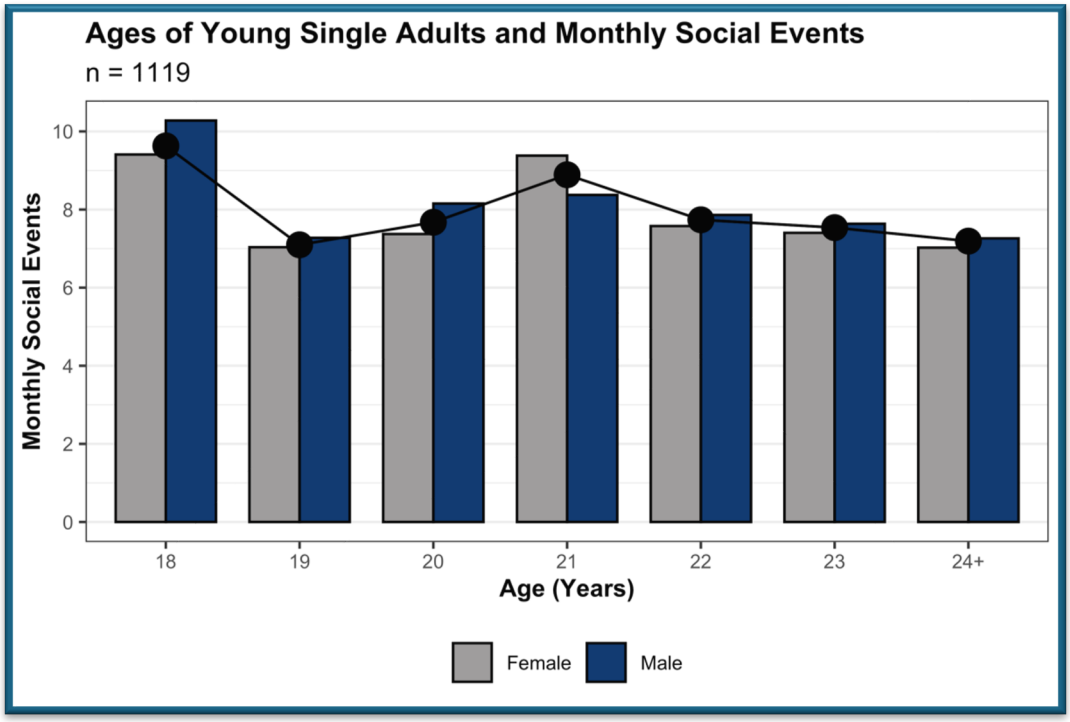


Figure 4.1: Age negatively correlated to monthly social events

Table 4.1 puts **Figure 4.1** in perspective, where living situation is featured alongside sex, age, and monthly social events. Thus, age may be a difficult inference to link decline when the living situation becomes dependent on age and influences opportunities for socializing.

Housing	House (N = 339)	Off Campus Apartment (N = 1113)	Student Housing (n = 223)	*p*-value
Sex				
Male	152 (45%)	599 (54%)	80 (35%)	3.8e-5
Female	187 (55%)	514 (46%)	143 (65%)	
Age (Years)				
μ (σ)	22.61 (2.38)	21.73 (1.88)	18.65 (1.04)	2.8e-12
95% CI	(22.36, 22.87)	(21.62, 21.84)	(18.51, 18.79)	
[Min, Max]	[18, 30]	[18, 30]	[18, 24]	
Monthly Social Events				
μ (σ)	5.71 (5.26)	7.24 (5.84)	9.71 (7.25)	8.7e-14
95% CI	(5.14, 6.27)	(6.90, 7.58)	(8.76, 10.67)	

Table 4.1: Housing significantly connected to sex, age, and opportunities for socializing

Figure 4.2 now reveals how soda shop visits (e.g. Sodalicious, Swig, for a "dirty" soda) differ between men and women among BYU and UVU students. Women average 0.52 visits per week, which is significantly more than men at 0.23 (p = 6.9e-10). UVU students visit soda shops 0.59 times per week, significantly more so than BYU students at 0.35 (p = 0.001). What was most interesting was the stark difference between female BYU and UVU students. As displayed below in **Figure 4.2**, female UVU students average 0.89 visits per week, compared to BYU students at 0.46 (p = 0.0002). The difference between male BYU and UVU students is not significant (p = 0.47).

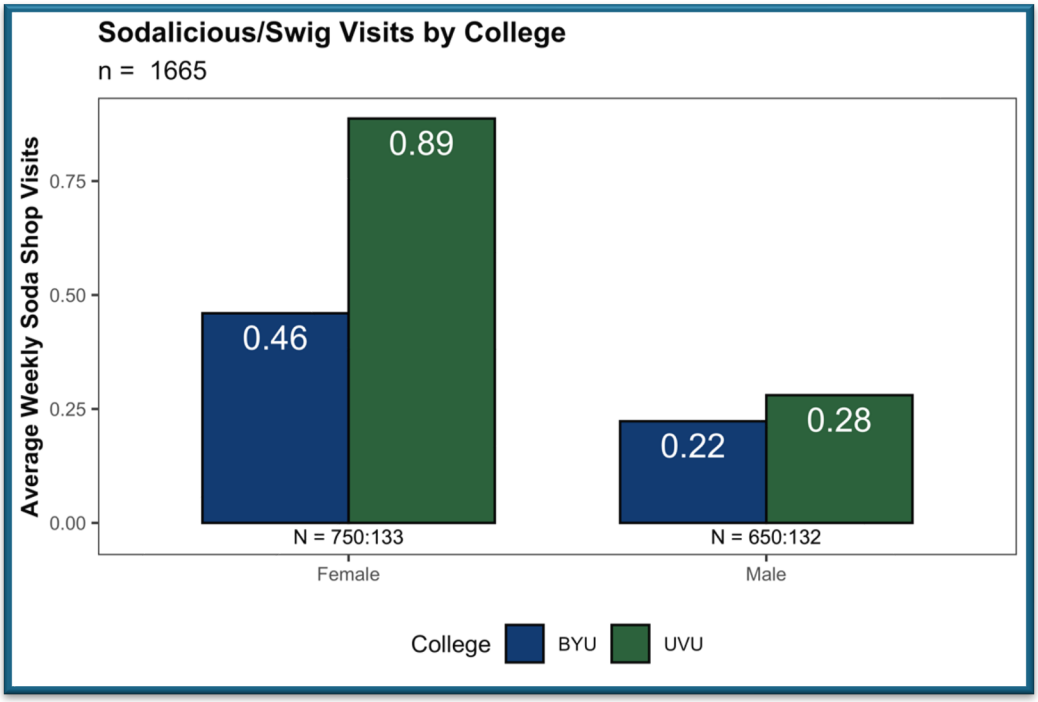


Figure 4.2: Soda shop visits are more frequent among females and UVU students

In **Figure 4.3**, we now compare weekly workouts. UVU students 3.34 times per week, which is significantly more than BYU for an average of 2.85 times per week (p = 0.002). Men and women differences for weekly workouts were also significant with 3.21 times per week for

men and 2.67 for women (p = 7.5e-7). In **Figure 4.3**, when comparing each sex separately, both male and female students from UVU workout more than male and female students from BYU (p = 0.02 and p = 0.04).

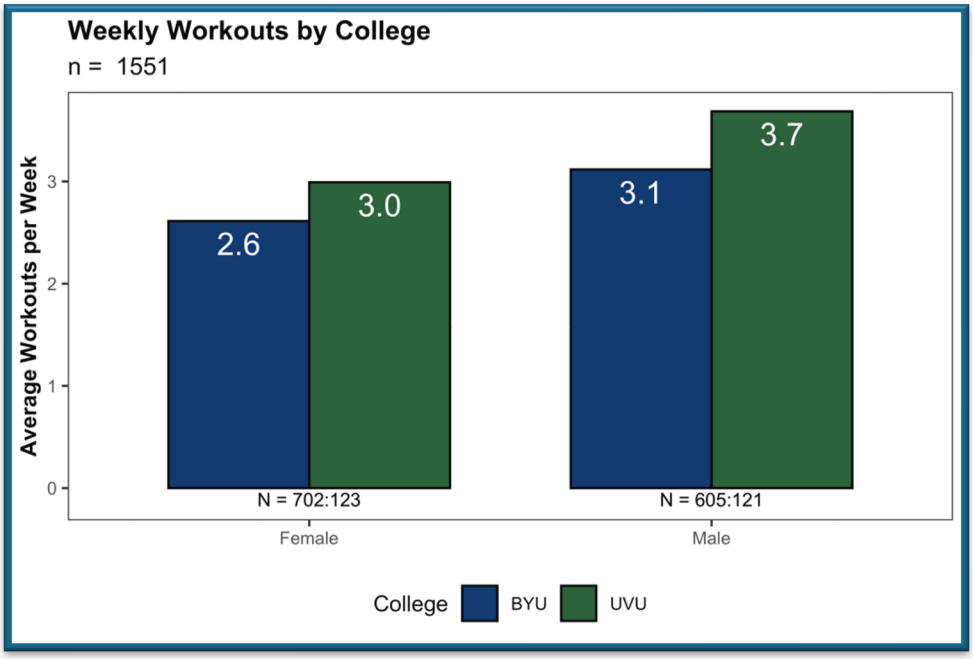


Figure 4.3: Workouts are more frequent among males and UVU students

We found 10% of our sample in the Provo/Orem area had participated in summer sales for at least one summer. Notoriously, individuals participating in summer sales (which generally involves selling pest control, solar panels, home security, or other services door-to-door for a summer) tend to be more comfortable in dating and relationships. **Figure 4.4** views dating metrics and compares this 10% of the sample to the other 90%. Summer sales workers report all measured

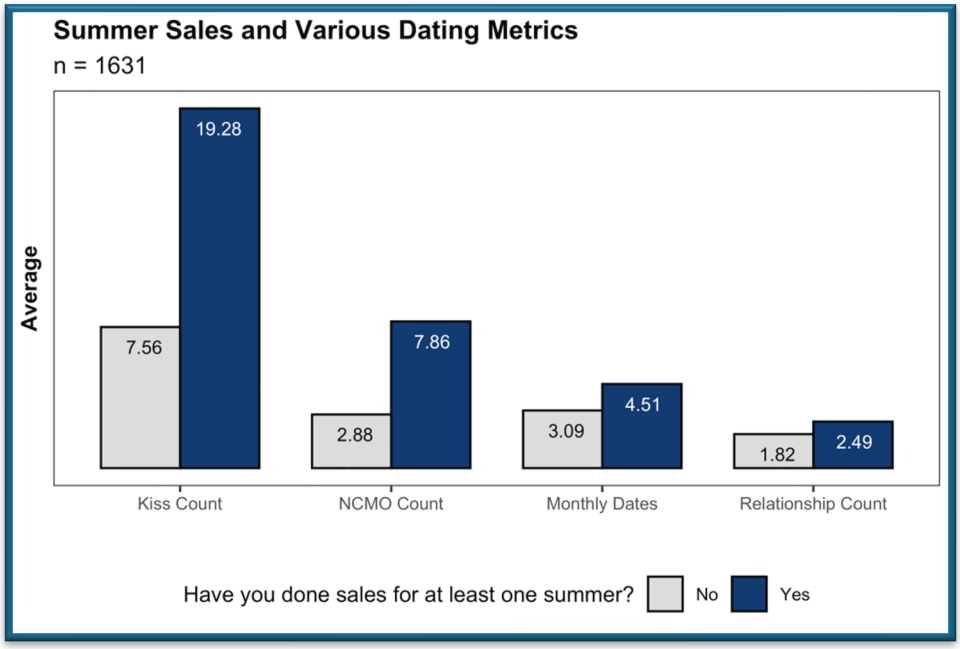


Figure 4.4: Dating statistics are higher for respondents engaged previously in summer sales

statistics to be significantly higher. These are kiss count (p = 4.3e-7), NCMOs (p = 0.0004), monthly dates (p = 4.0e-5), and total number of relationships (p = 0.0007).

Amenities

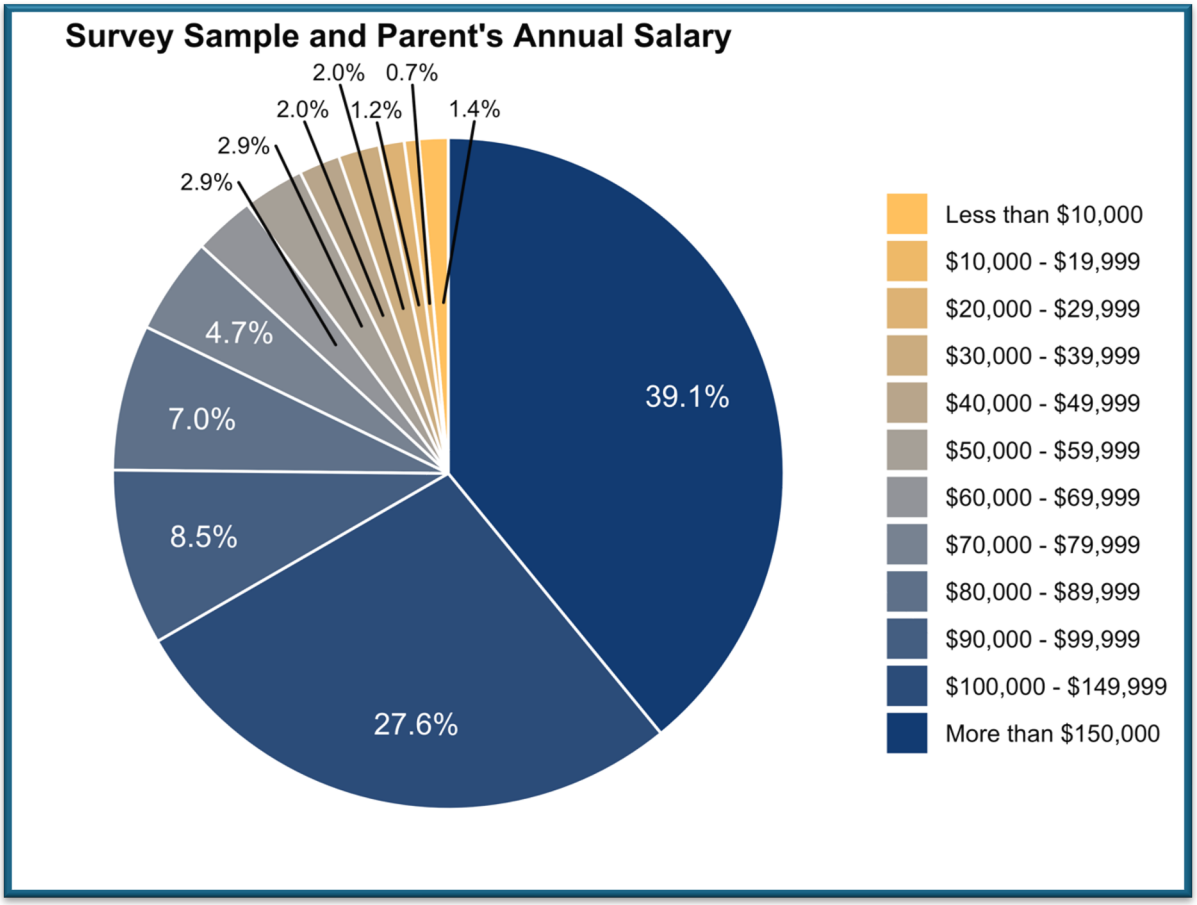


Figure 4.5: 67% of respondents' parents make at least a six-figure salary

Parent income is typically a huge factor as to whether college students can afford attending college or not, and if they do attend college, what they are able to do. Interestingly, the amount of income most parents make is unique among other college towns. According to **Figure 4.5**, approximately 39% of respondents report parents making more than $150k per year, which is starkly different with 24.3% nationwide. Overall, 67% of survey respondents report that their parents earn a six-figure salary or larger.

In addition, parent income also can influence whether their children are able to purchase or own a car or not. In **Figure 4.6**, we find that increased income is positively related to greater odds of owning a car for college (p = 0.006). Another discovery reported through regression modeling claimed that for every added $25k their parents make in a year, the probability that their children own a car jumps 5%.

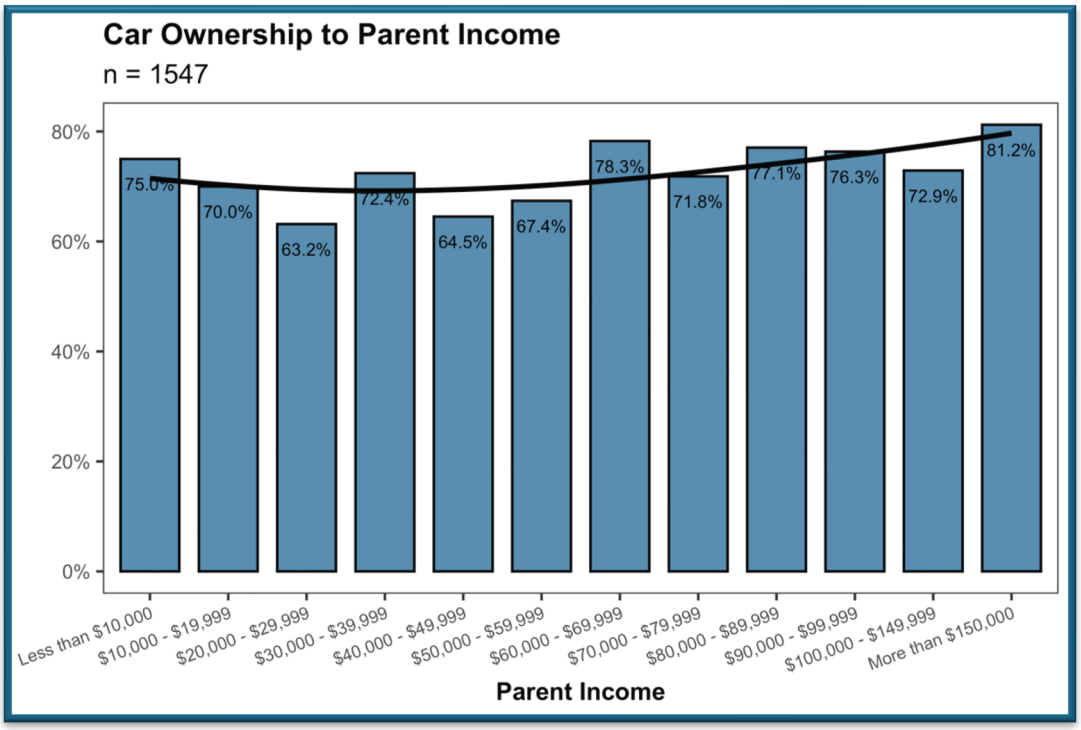


Figure 4.6: Likelihood of car ownership grow when parents make more money

In **Figure 4.7**, we see the effect of car ownership on the number of dates per month. What is astonishing is how different gender and age reacts to car ownership and dating. Apparently, females in this sample under 21 go on significantly more dates when they own a vehicle than females that do not own one (p = 0.004). Males 21 and older who own a car go on significantly more dates than those without a car (p = 1.1e-5).

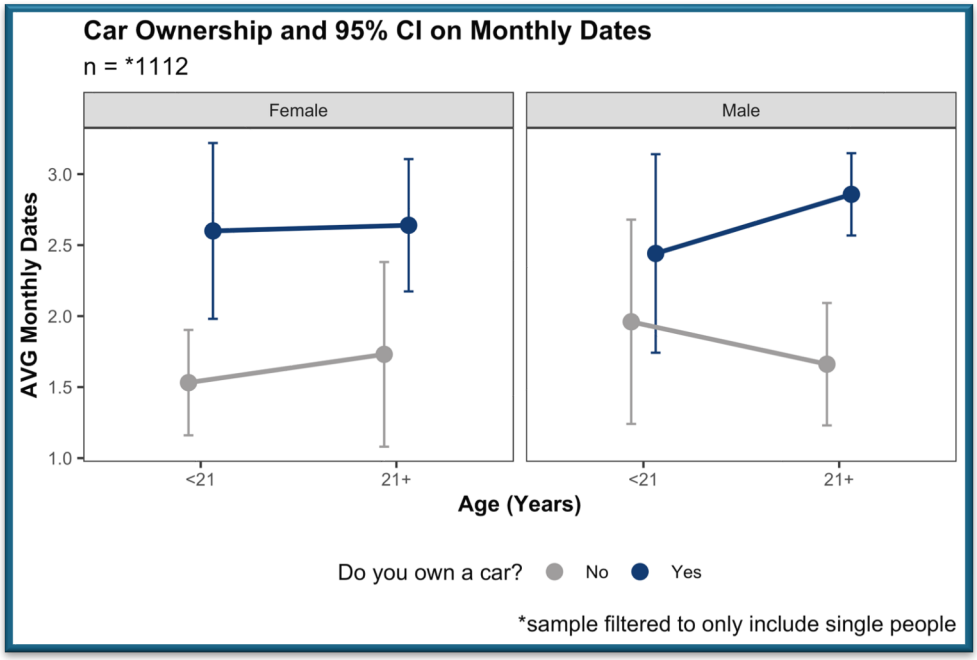


Figure 4.7: Car ownership affects monthly dates differently among age and gender

Work

In this section, we view how much time students spend working each week. **Figure 4.8** connects working hours to the income of their parents. We find dual trends from this figure: on one hand, we find that as the income of the parents increase, the amount of work required of students decreases (r = -0.14, p = 3.3e-7). For every additional $25k the parents earn annually, their children will work 2 hours a week less. The other trend we discover reveals the proportion of students that are without jobs. We see that parent income is correlated with less need for students to work (p = 0.0002). Every $25k parents make increases the probability for a student to enroll in college completely jobless by 1.9%, which ultimately is a negligible difference.

Figure 4.9 facets working hours by college. UVU students tend to work approximately 8 more hours than BYU students (p = 9.7e-30). Those not enrolled in college work on average 12.5 hours more than UVU students (p = 6.3e-25).

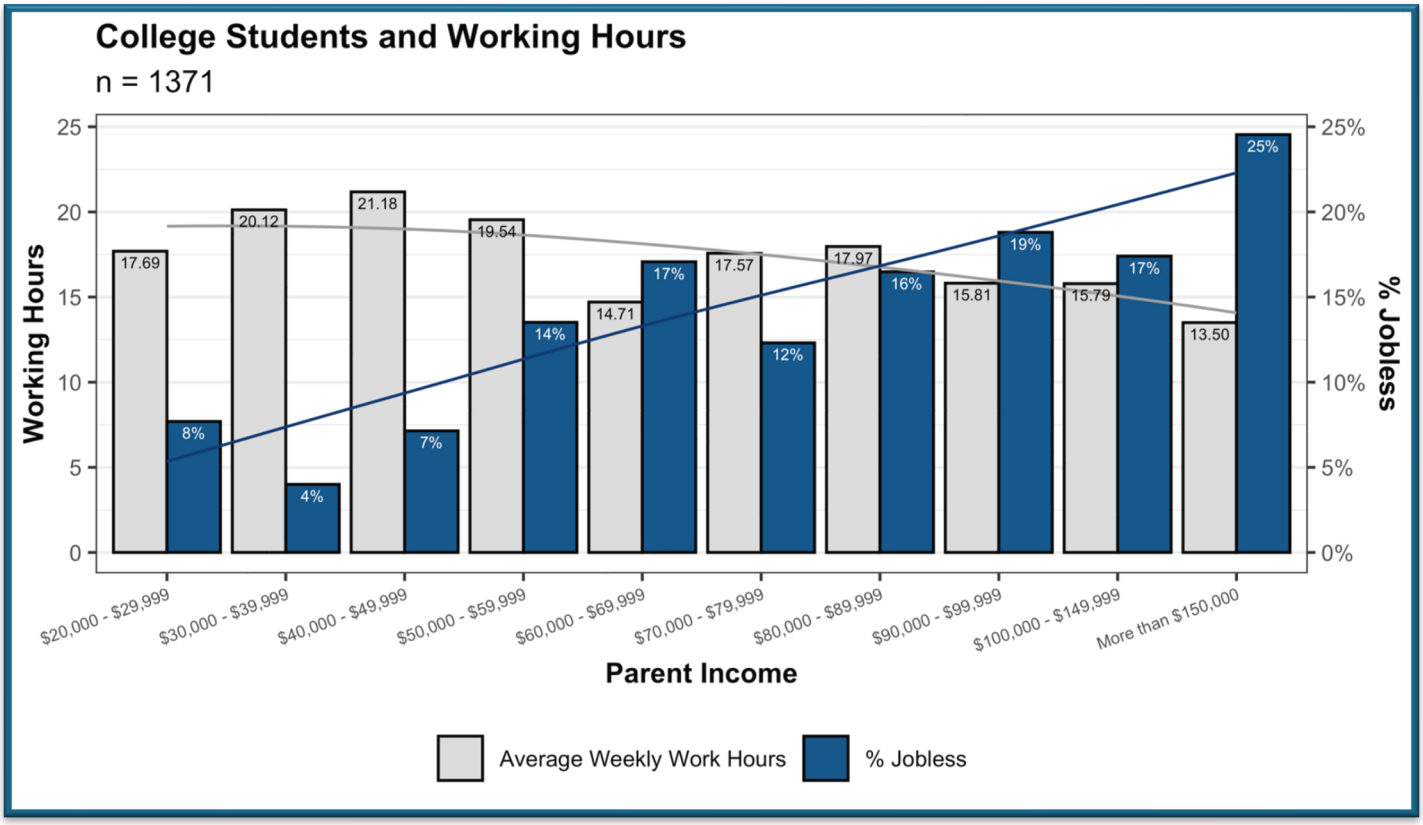


Figure 4.8: College students work less when parents make more income

An additional question arose that warranted hypotheses testing, determining if GPA influenced these working hours among BYU and UVU students. In **Table 4.2**, we expand on **Figure 4.9** to see how GPA grades relate to the working hours. From A+ down to B+, BYU students work significantly less hours a week than UVU students (grades below B resulted in failed significant differences, likely due to lowered sample sizes).

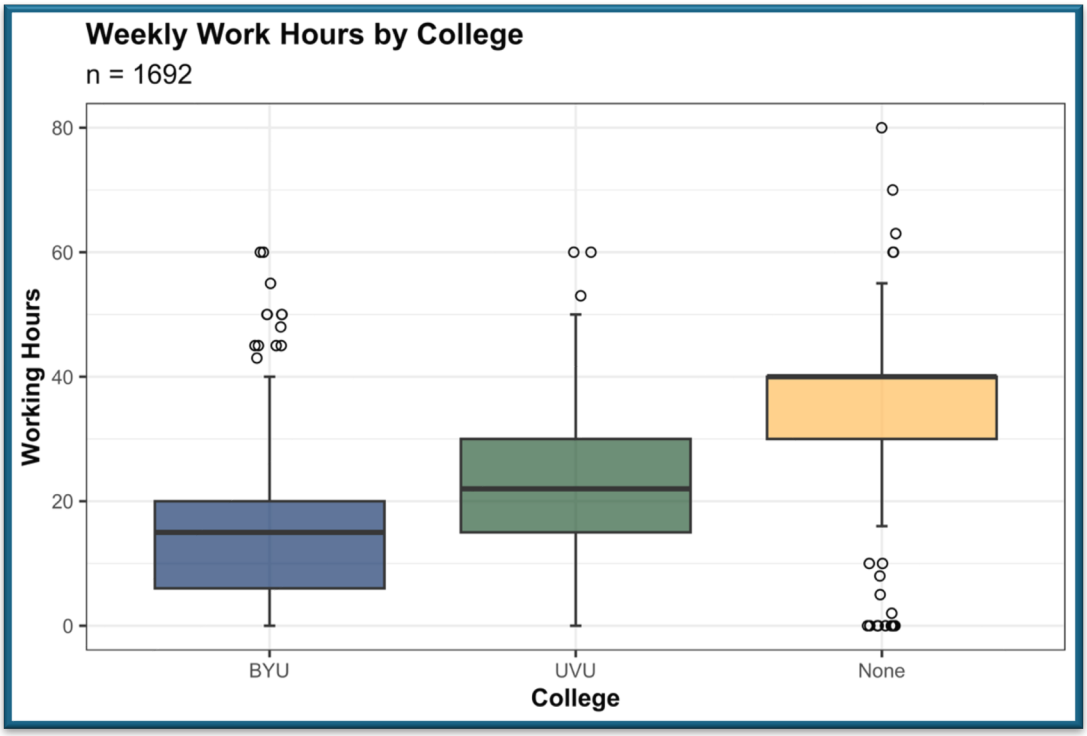


Figure 4.9: Working hours differ among respondents and college institutions

University	BYU (N = 1281)	UVU (N = 244)
A+ (4.0)	N = 190	N = 25
μ_{Hours} (σ)	8.49 (8.61)	22.04 (13.78)
95% CI	(7.26, 9.72)	(16.35, 27.73)
A (3.7 – 3.9)	N = 608	N = 87
μ_{Hours} (σ)	13.73 (9.88)	18.80 (13.43)
95% CI	(12.94, 14.52)	(15.94, 21.66)
A- (3.3 – 3.6)	N = 293	N = 73
μ_{Hours} (σ)	14.89 (9.14)	24.71 (12.98)
95% CI	(13.84, 15.94)	(21.68, 27.74)
B+ (3.0 – 3.2)	N = 122	N = 39
μ_{Hours} (σ)	15.27 (10.74)	23.56 (12.50)
95% CI	(13.35, 17.19)	(19.51, 27.61)
B (2.7 – 2.9)	N = 43	N = 15
μ_{Hours} (σ)	15.70 (10.11)	22.67 (10.75)
95% CI	(12.59, 18.81)	(16.71, 28.63)
B- (2.3 – 2.6)	N = 25	N = 5
μ_{Hours} (σ)	13.92 (11.68)	37.60 (8.88)
95% CI	(9.10, 18.74)	(26.58, 48.62)

Table 4.2: Working Hours and GPA by College

The findings to the different questions in this section seem to underline how BYU scores lower on dating metrics, social events, and weekly working hours. Why is this the case? Potential reasons for such a stark difference include sudden differences in student cultures or fundamentally different curriculum in terms of time needed to study.

Politics

Politics frequently prove to be entangled in demographics, which gives researchers like those at the Pew Research center plenty to study. Utah is notoriously known as a very conservative state, such that Utah has awarded the Republican presidential nominee its electoral votes in the last 13 elections. Congruent with Utah's norms, Latter-day Saints also are considerably more Republican than any other major religious tradition. On the other hand, Democrats dominate in party identification among white college graduates. A conservative-dominant state meshing with typical college student ideologies provides very interesting products to our research.

For this section, we aim to display politics among other factors like sex, religion, and education, and compare it to findings from the Pew Research Center. **Figure 5.1** displays how politics is influenced by gender. Unsurprisingly, male young adults seem to lean further towards conversative values than women of the same age, who lean more towards liberal values (p = 6.4e-16). This aligns with Pew's research on the increasing gender gap on partisanship.

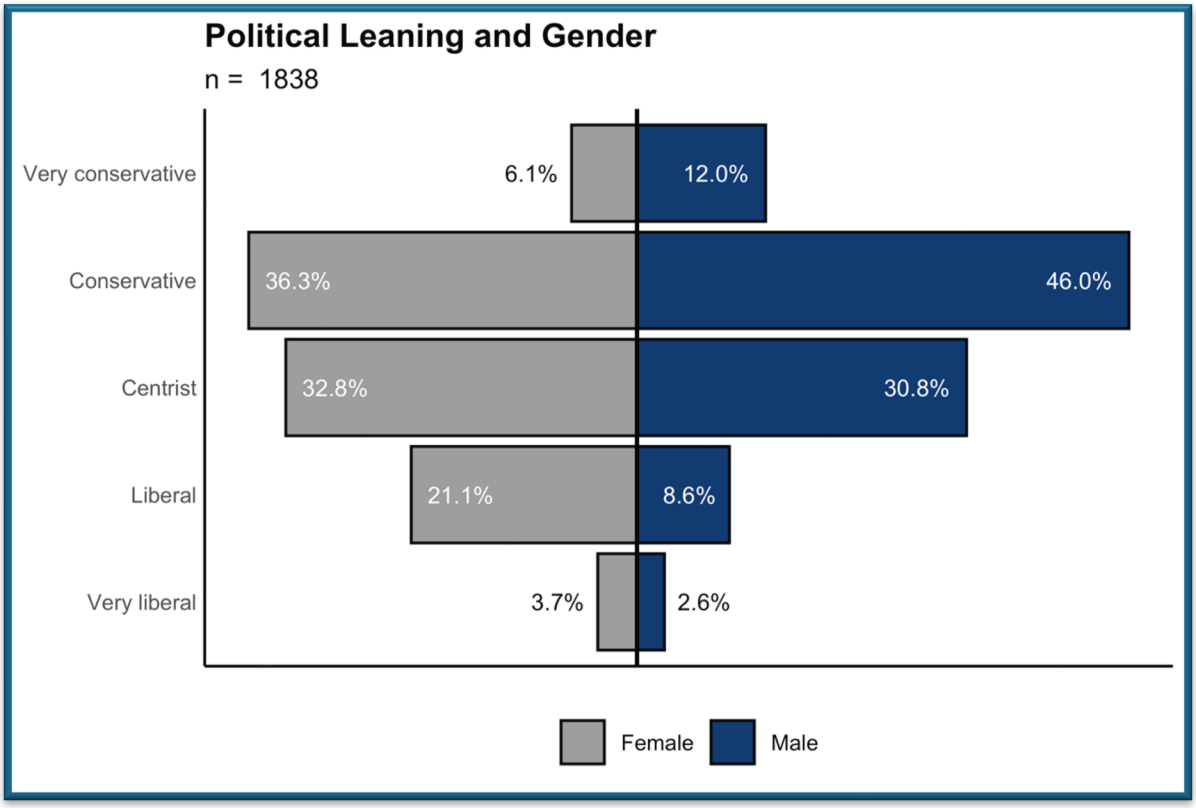


Figure 5.1: Women lean towards liberal values whereas men lean towards conservative values

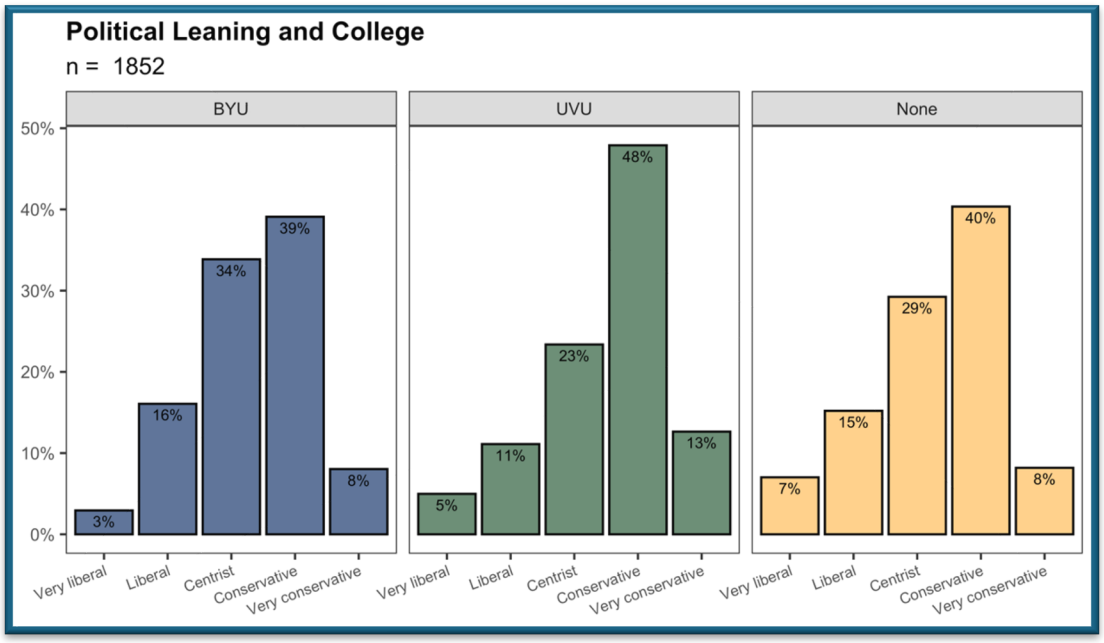


Figure 5.2: UVU leans more conservative than BYU

In **Figure 5.2**, we see how political affiliation is related to attending college. The most notable differences are the political leanings between UVU and BYU students. From our sample, UVU is politically more Republican-leaning than BYU ($p = 0.005$), which is astonishing as this report is inconsistent with many others, including this website that places BYU as the #1 most conservative school and UVU at #36).

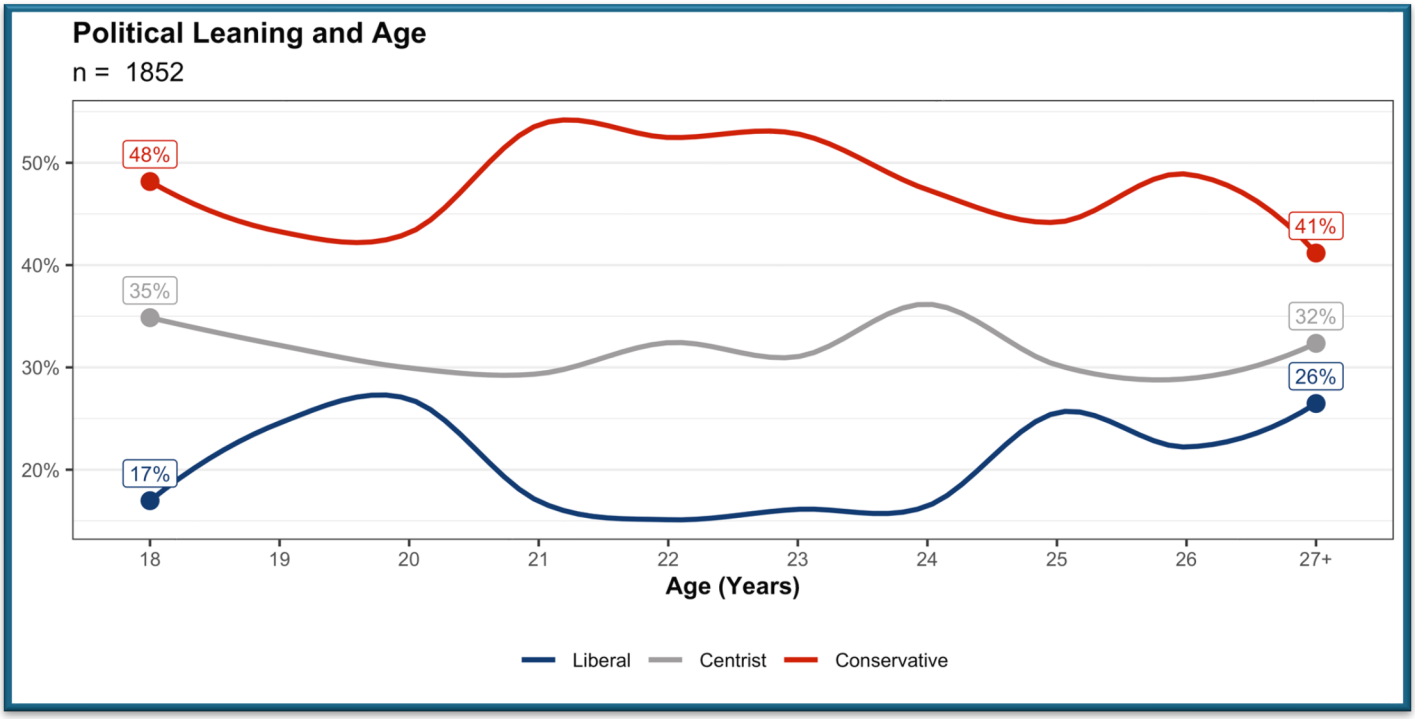


Figure 5.3: Politics balance more among ages 25+ and those at the standard LDS mission age (19-20)

In **Figure 5.3**, we evaluate how ages of our survey respondents relate to political viewpoints. We do notice greater proportions of conservatives between ages 21 and 25, and a greater balance between ages 19-20 and at 25+. This spike at ages 19-20 is likely due to something we noticed in our sample. For this age range, the female to male ratio was 3:1. This may be due to the many young men (who often lean conservative) that leave on missions at these ages, contrasting to where more women (who often lean liberal) typically stay to attend college. This reasoning fails to explain the imbalance for those at 18. New graduates from high school commonly leave to attend college at this age, and having just left home, their faith, beliefs, and political views may still align with those of family back home (which, for Latter-day Saints, is typically conservative). Thus, any independent political views may not be fully developed at this age. The balance towards the latter ages at 25 and older may result in claims about generational differences, such as assertions that Millennials and older Gen Z individuals tend to lean left more so than younger Gen Z individuals, but this belief is unsupported.

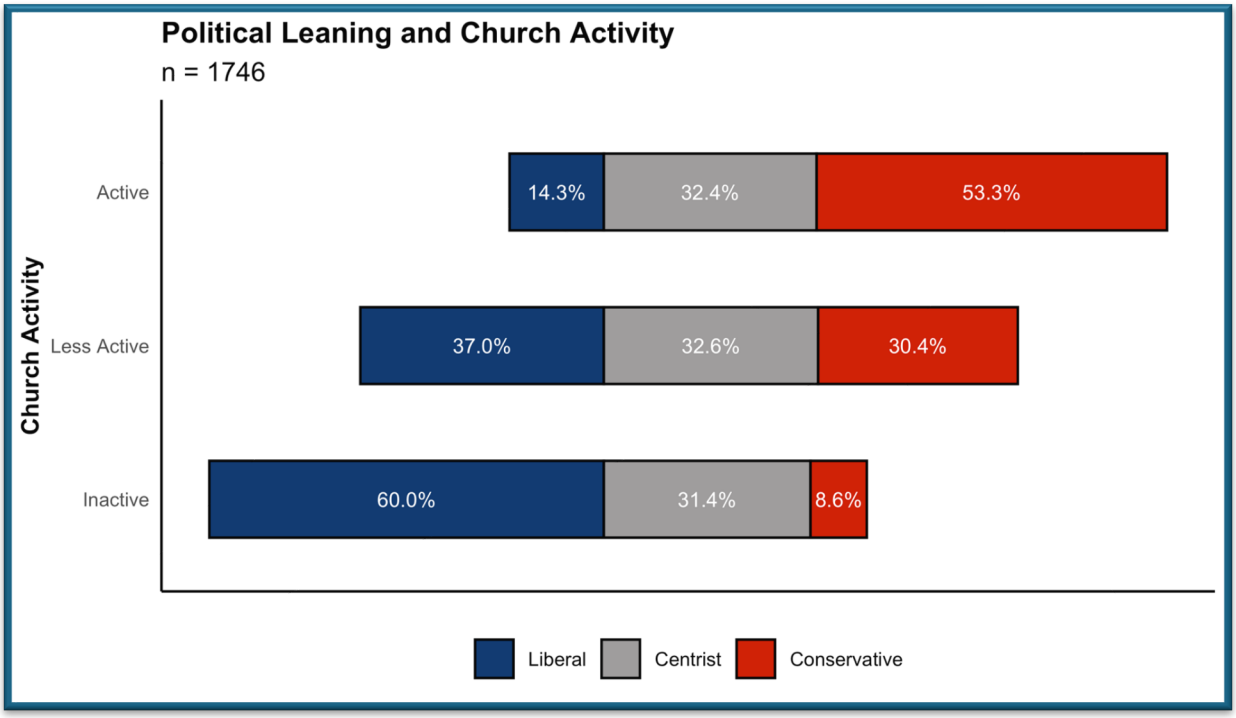


Figure 5.4: Inactivity in the church leans towards the Democratic views politically

As noted previously, Pew claims that Latter-day Saint doctrine align closer to conservative views. In **Figure 5.4**, we discover similar logic, such that those who attend church actively affiliate more so with right-wing ideology than left. The 60% of inactive members affiliating with liberal values could be due to multiple reasons, such as failing to find fellow church members with shared political beliefs or disagreements with church doctrine (recall from **Figure 3.5** that less active and in-active sample sizes were smaller than the active sample).

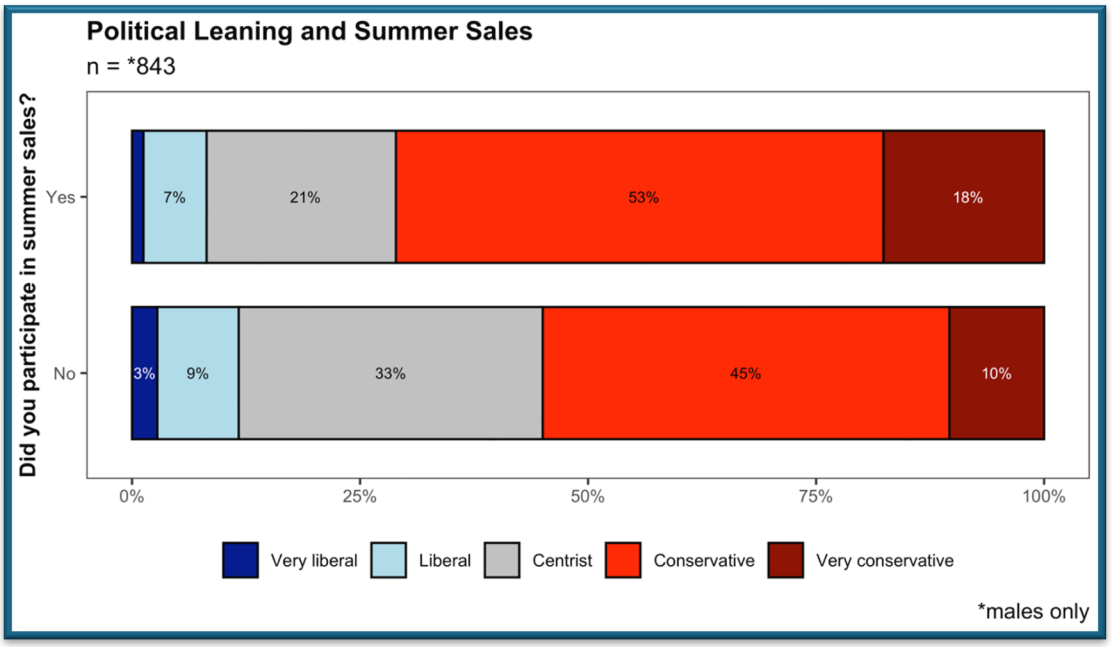


Figure 5.5: Summer salesmen lean more conservative

In **Figure 5.5**, we explore how people who have done summer sales respond to political views. Since most summer salesmen were male, and gender influences political affiliation, we filtered the sample to what is seen in the above figure. 71% of men who have done summer sales report aligning with conservative values, which is significantly different to the 55% of men who never did summer sales and align conservative (p = 0.002).

We now use **Figure 5.6** to analyze how political parties differ with various dating metrics. While there is a very noticeable trend that respondents who are right-leaning report higher dating statistics, two out of four of them are insignificant (NCMO at p = 0.29, relationships at p = 0.45). The only statistically significant different statistics among groups was the kiss count (p = 0.03) and dates per month (p = 2.1e-5).

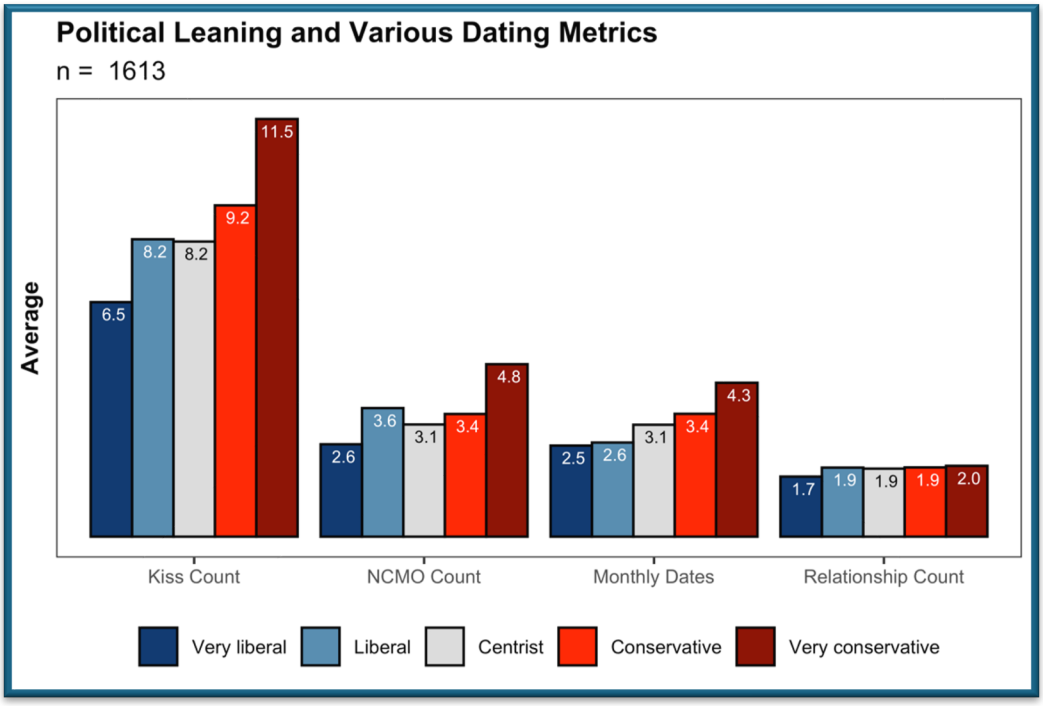


Figure 5.6: Right-leaning politics tend to report higher dating statistics

Relationship Statistics

The next section explores generic dating metrics and evaluates relationships overall.

In **Figure 6.1**, we find how kiss count, NCMOs, and relationships compare among male and female respondents. In this setting, we find that males generally report higher dating metrics than females. This places a lot of other findings in context, such as politics, summer sales, majors, and other factors, such that male-dominated groups tend to report these higher statistics than female groups. All metrics were deemed significant: kiss count at $p = 0.0001$, NCMOs at $p = 0.008$, and number of relationships at $p = 0.001$.

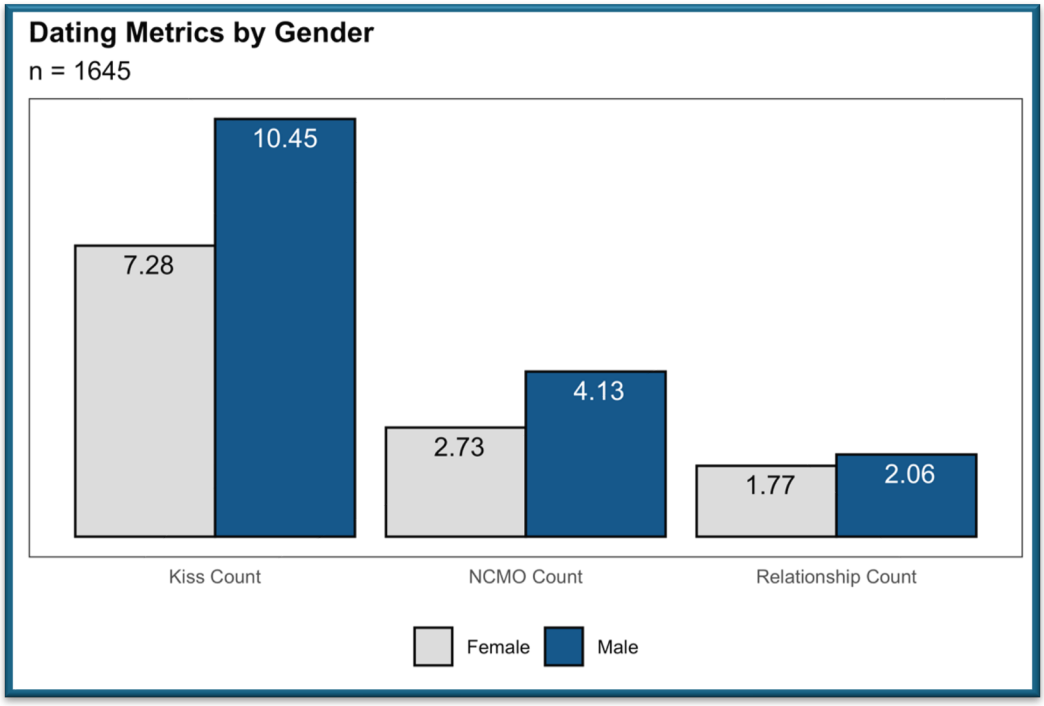


Figure 6.1: Men report significantly higher dating statistics than women

Another way to view these metrics is to evaluate the proportions of individuals who record not experiencing any of these situations, whether that be a kiss, NCMO, or relationship. We analyze this metric in two views, by gender in **Figure 6.2a**, and by college in **Figure 6.2b**.

In **Figure 6.2a**, it appears that women generally are less likely to have at least one of these experiences within dating than men. However, the number of relationships between men and women were significantly different ($p = 1.4e\text{-}5$). The ratio of women to men who have never been in a serious relationship is 3 to 2. On the other hand, kiss count and NCMOs were supposedly too small of a difference to really assess any phenomenal difference ($p = 0.02$ and $p = .34$, respectively).

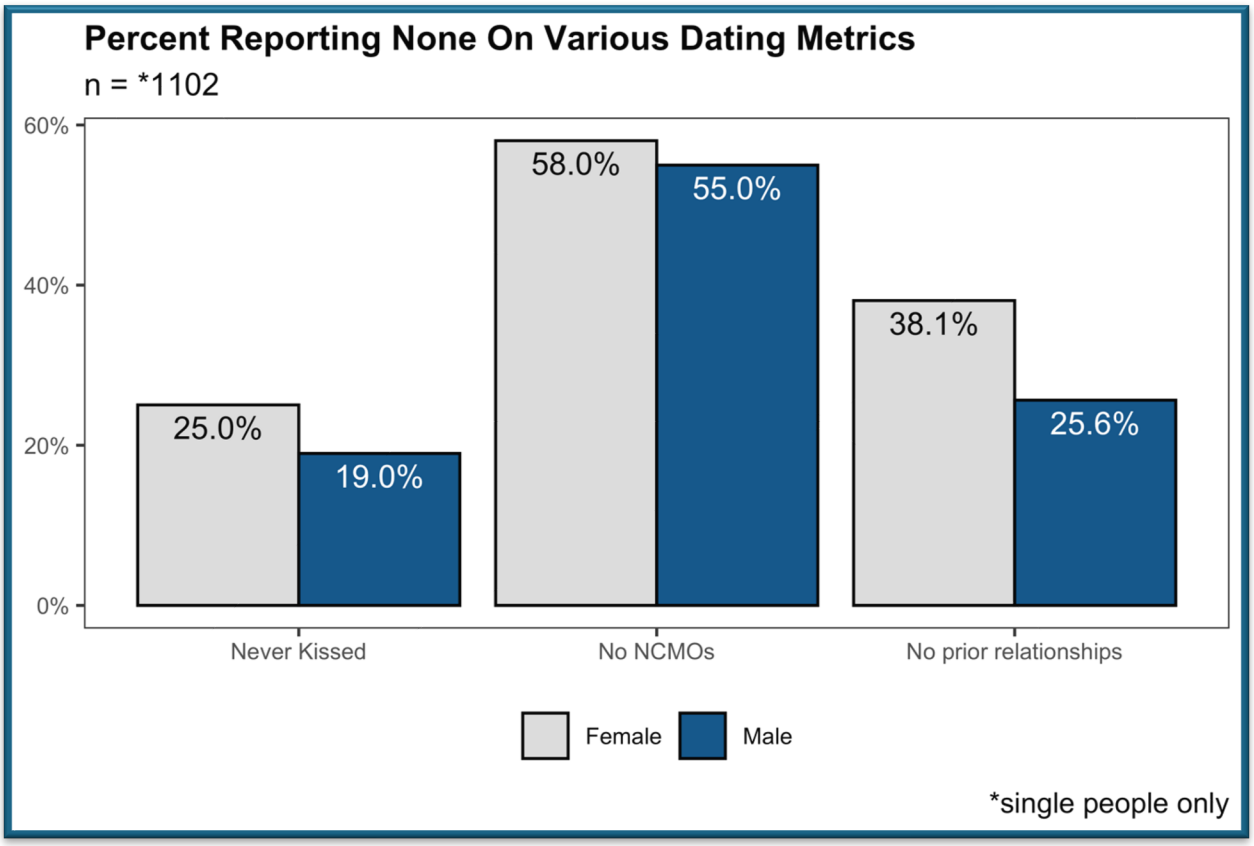


Figure 6.2a: Percent that reported having none over various dating metrics (by gender)

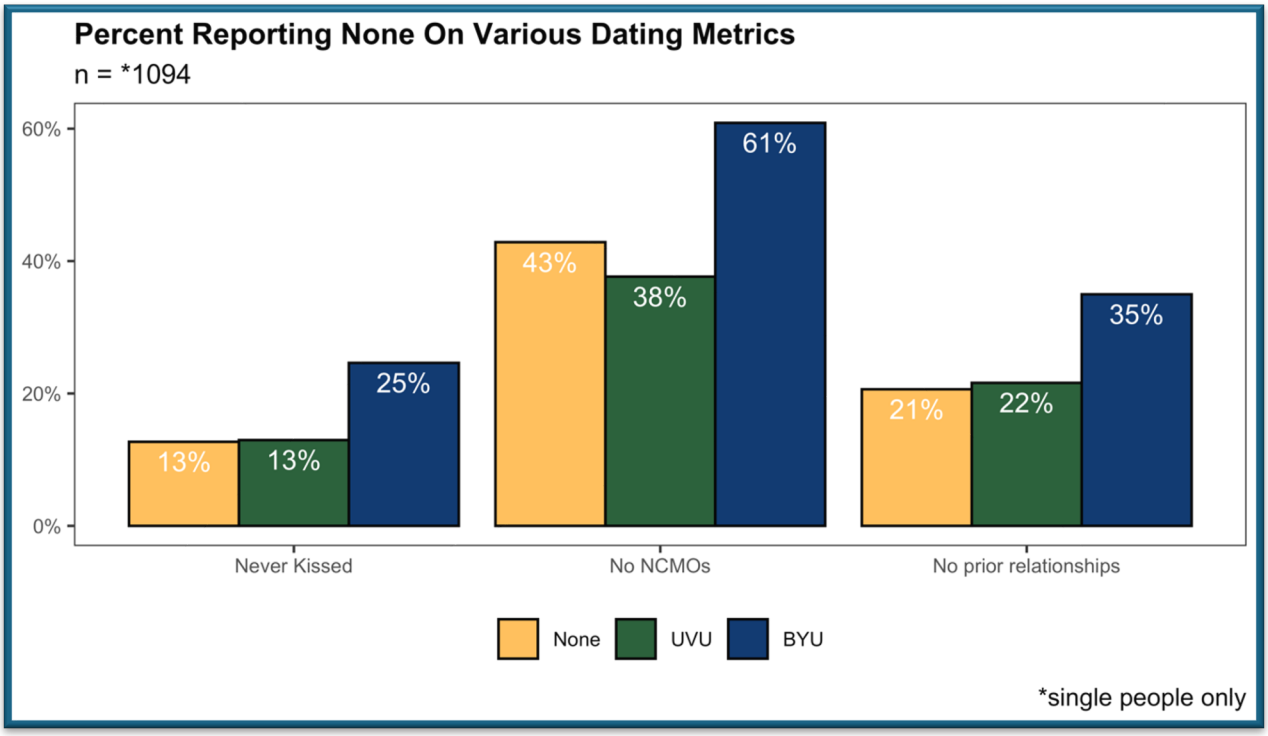


Figure 6.2b: Percent that reported having none over various dating metrics (by college)

In **Figure 6.2b**, BYU has more inexperienced individuals in dating than those at UVU or not enrolled in college (i.e. mainly working). Reportedly, 1 in 4 individuals at BYU have never kissed someone, and 1 in 3 have never been in a serious relationship. Comparatively, 1 in 8 individuals at UVU (and unenrolled young adults) have never kissed someone (p = 0.0008), and 1 in 4 have not been in a serious relationship (p = 0.0005). The largest statistical difference emerged from NCMOs: 3 of 5 BYU students have not been in a NCMO, whereas approximately 2 of 5 UVU students (and unenrolled) have not been in a NCMO (p = 2.6e-8). These findings bolster the more positive stereotypes on BYU's dating scene, suggesting that BYU students are more chaste than UVU students or unenrolled young adults.

Figure 6.3 portrays an infographic displaying various statistics about respondents and their significant other. Some additional statistics are listed below:

- Of the 70% that are <u>not</u> dating, engaged, nor married, 54% of them are female.
- Of the 15% that met at church, 78% attends BYU and is the dominant method for how BYU students meet their spouse.
- 13% of married couples say they grew up together, and 84% of that group attends BYU.
- 7% met through a class, and 89% of that group attends BYU.
- 33% of couples met through "other" means.

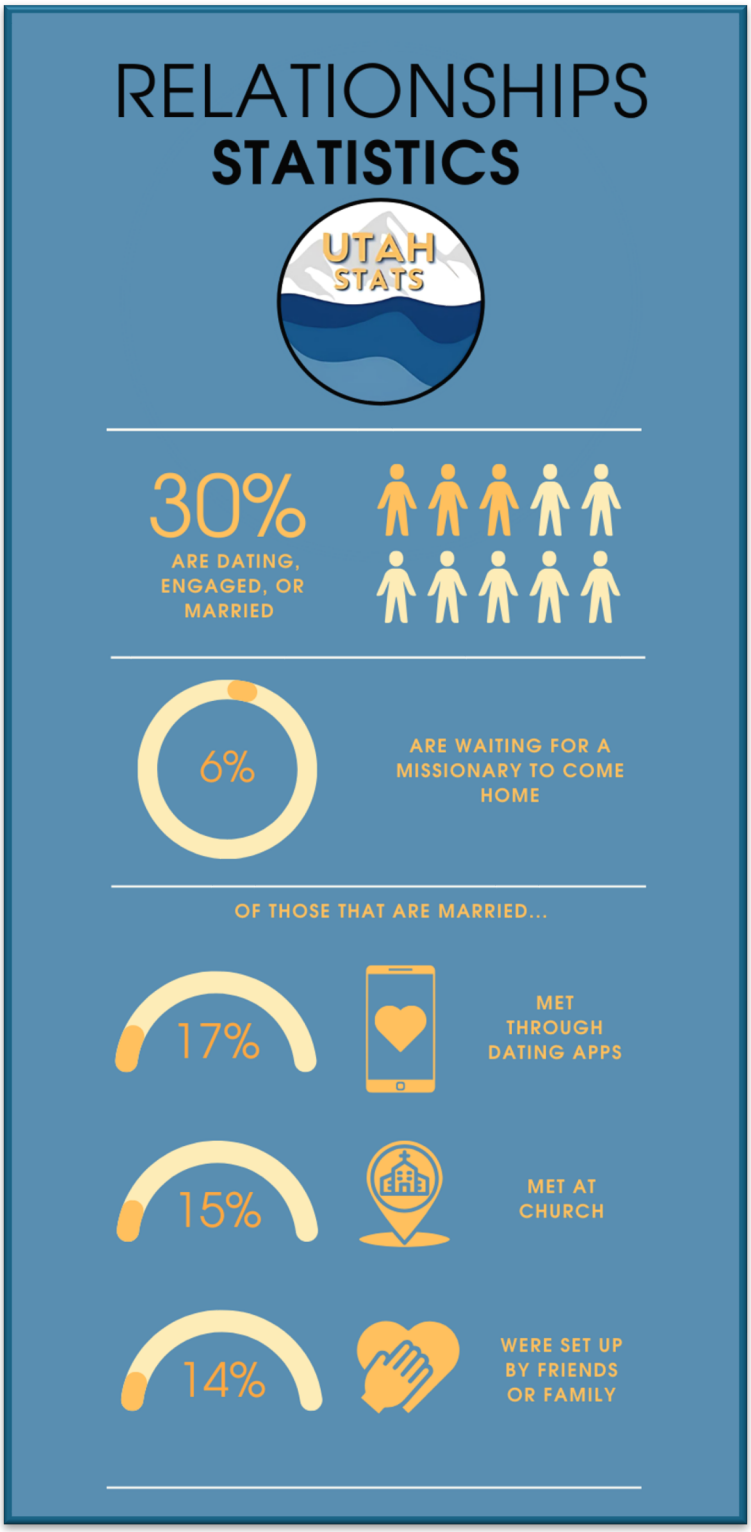


Figure 6.3: An infographic including information about various relationship statistics. Only the top three methods are reported here as to how most couples meet

Finally, **Figure 6.4** reviews how cheating on a partner is associated with being cheated on. By cheating in a relationship, your likelihood of being cheated on increases from 22% to 39% (p = 0.006).

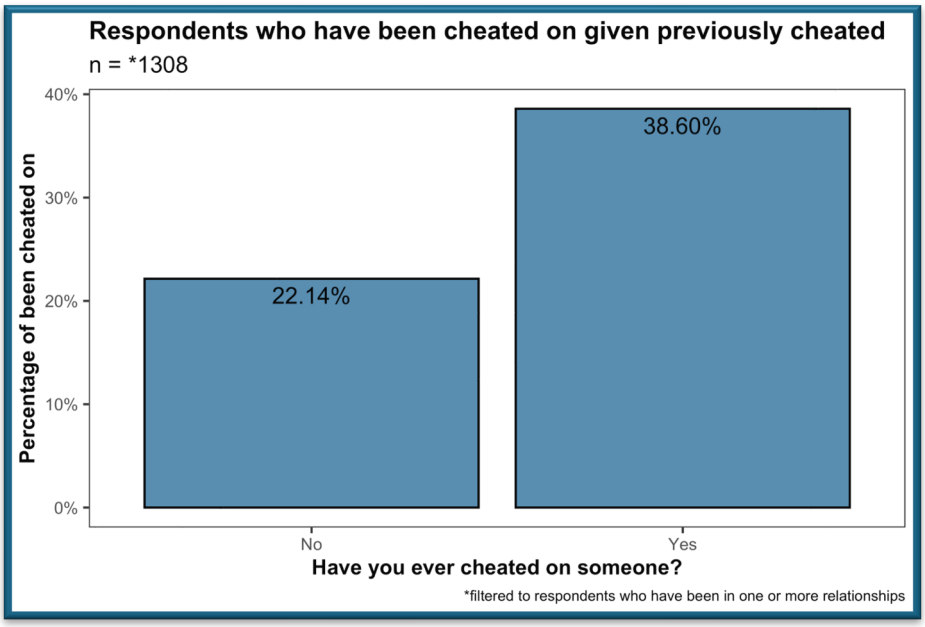
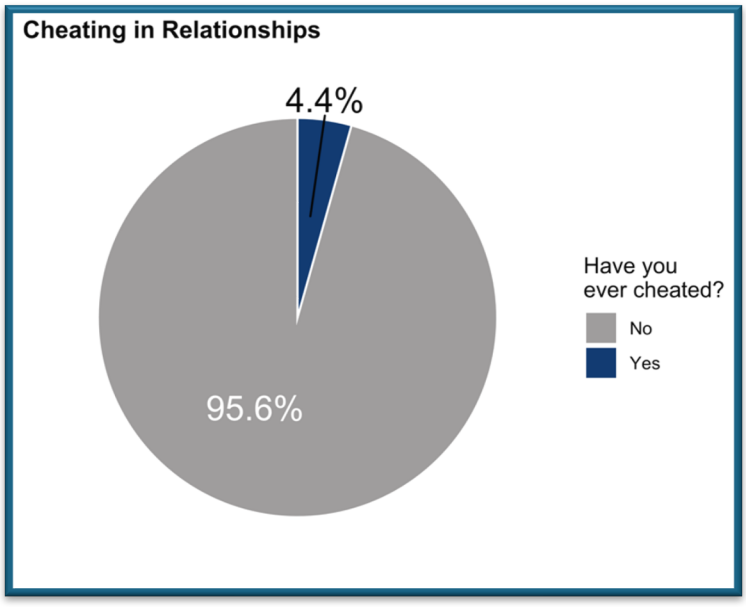


Figure 6.4: Cheating on a partner is associated with being cheated on

This statistic also comes with a surprise: the 4% admitting they had cheated on a partner differs drastically to the 23% that reported being cheated on. That means more people in our survey claim being the victim of an unfaithful relationship than being the cause. Possible reasons for this discrepency include either respondents are more likely to admit others' wrongdoings than their own in a survey, or they perceive themselves as blameless in a previously failed relationship. Either way, it is astonishing how different these numbers emerged.



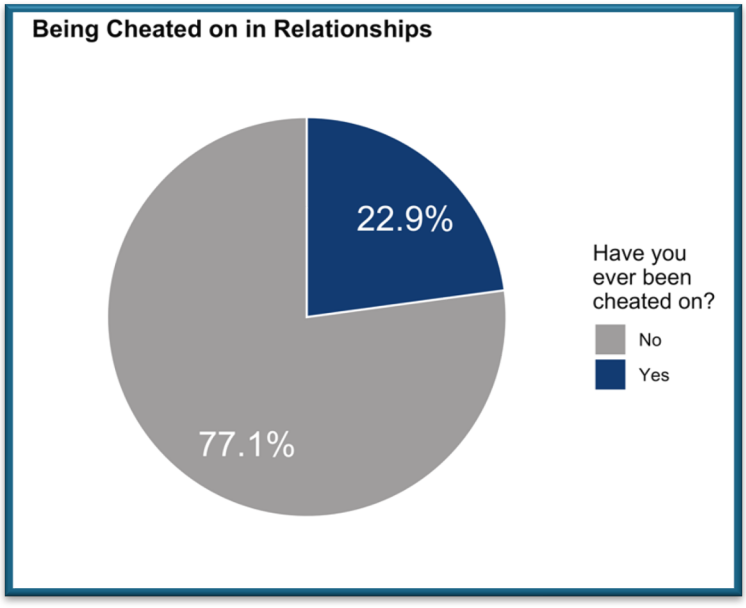


Figure 6.5a and Figure 6.5b:
Major difference between survey respondents admitting to cheating vs. being cheated on.

Dating Preferences

For this next section, we'll take a step towards how respondents in our survey feel about meeting others of the opposite sex (or otherwise identified sexual orientation).

Physical Preferences

Figure 7.1 lists how much of all mentioned genders are straight. For this figure, we'll evaluate the differences between men and women. There are 8.33% more men that identify as being straight than women, and this difference is significant (p = 2.8e-10).

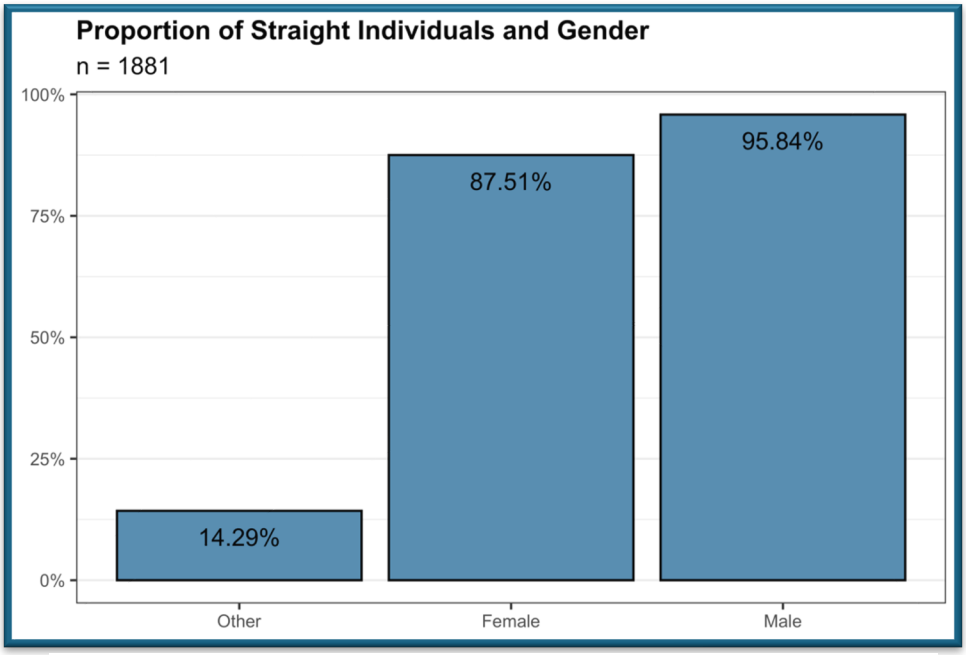


Figure 7.1: Males identify as being straight much more than females

This may correlate with other findings comparing men and women we've explored in the past, such as political affiliation or other dating statistics.

In **Figure 7.2a**, we compare males and females in what they believe is the most attractive hair color in a romantic partner. 71% and 57% of men and women mentioned that brunette hair was the most attractive for the opposite sex, respectively. This differs greatly to the preference for blondes for Utahns over 30 years ago. Blondes follow second as the most attractive hair color at 19% for women's preference and 30% for men's preference. We dive deeper into hair color

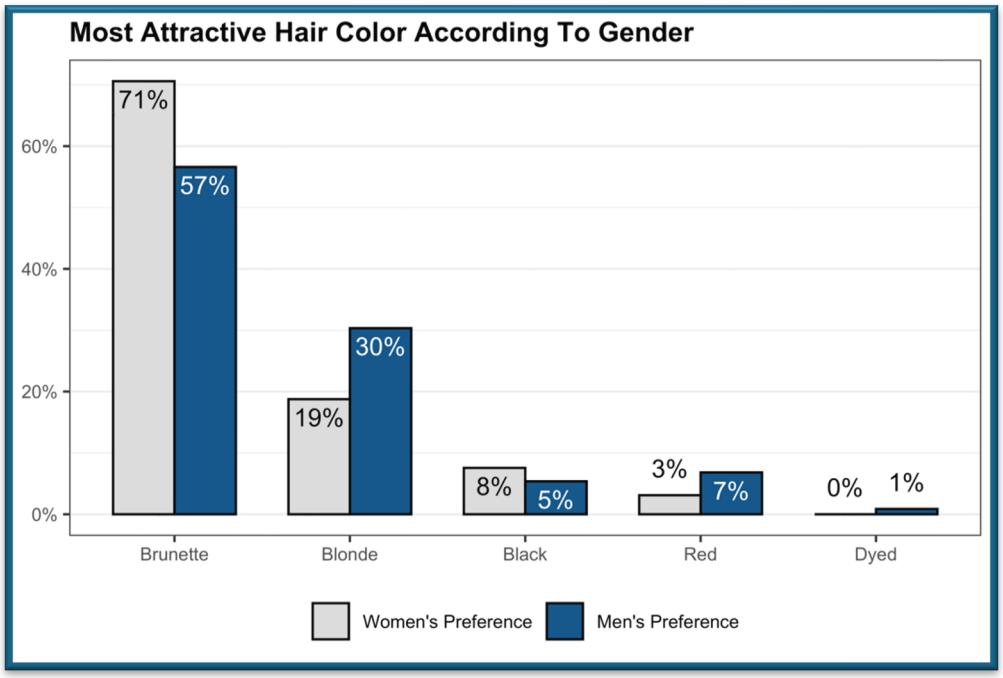


Figure 7.2a: Each gender of respondents pick brunette as the most attractive hair color.

preferences in **Figure 7.2b**, reviewing what different college majors find as the most attractive color. In this figure, we find that the overwhelming preference for brunette hair reported for both men and women change between different majors. For example, there is a greater preference for blondes from 50% men in the management department at BYU than other groups. In addition, 33% of women studying family life prefer blonde hair in men, comparing drastically to the 5% of women studying communications.

Another notable mention from both **Figure 7.2a** and **7.2b** is the fact that men vary much more in preference of hair color than women. Women are more likely to prefer a romantic partner with brown hair than not, and while men predominantly prefer brunette hair, 43% prefer hair of other colors. Very few men, and not a single woman, find dyed hair (meaning with unnatural colors) attractive.

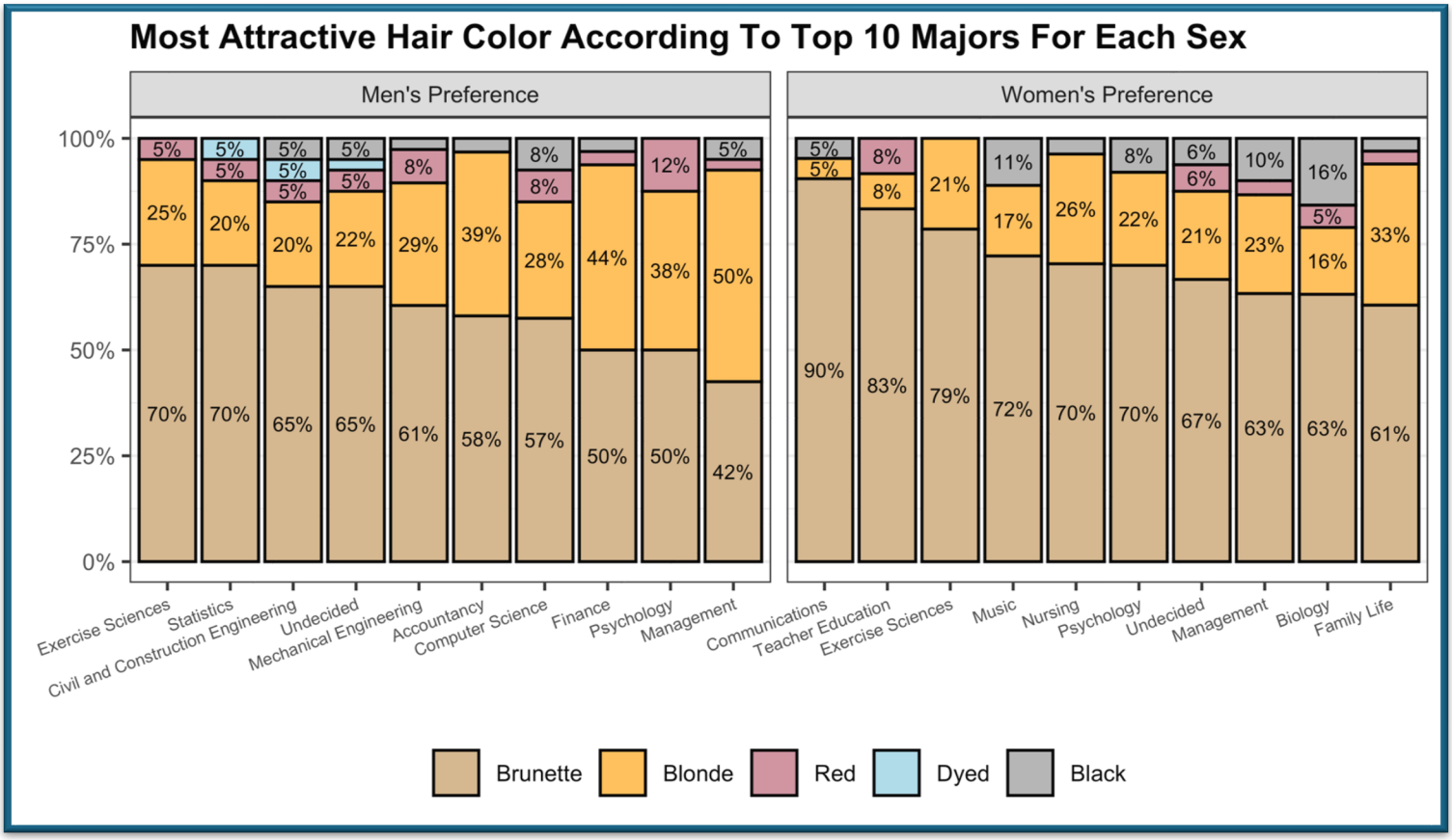


Figure 7.2b: Most preferred hair colors among the most declared majors for each sex

In **Tables 7.1a** and **7.1b**, we view the top 5 most attractive majors according to each gender. For each gender, there is a clear number one candidate major. An overwhelming 36% of men find the nursing major attractive, and 34% of women find business majors as the most attractive.

Top 5 Most Attractive Majors According to Men	Proportion
Nursing	36.1%
Business Management	13.6%
Exercise Science	12.9%
Education	7.4%
Psychology	5.9%

Top 5 Most Attractive Majors According to Women	Proportion
Business Management	34.0%
Engineering	14.8%
Exercise Science	14.7%
Biology	5.8%
Economics	4.0%

Table 7.1a and Table 7.1b: Most attractive major according to each sex

Female's Minimum Height Simulation

As many understand (and is further proven in **Figure 7.7**), women value height as an important characteristic for a male to be a suitable romantic partner. This may be because women report experiencing greater feelings of safety and security when they are around taller men. However, many men feel that women's expectations for men's heights is unrealistic. In our survey, we asked the women how tall a man must be to be an eligible partner. We also asked how tall in inches each male was, and used that to assess, based on those heights, how likely women will be able to find a suitable partner.

The following work presents a simulation that assesses the height differences between males and females, as well as the height difference they want their partner to be compared to their own. The latter is meant to balance preferences between shorter and taller women.

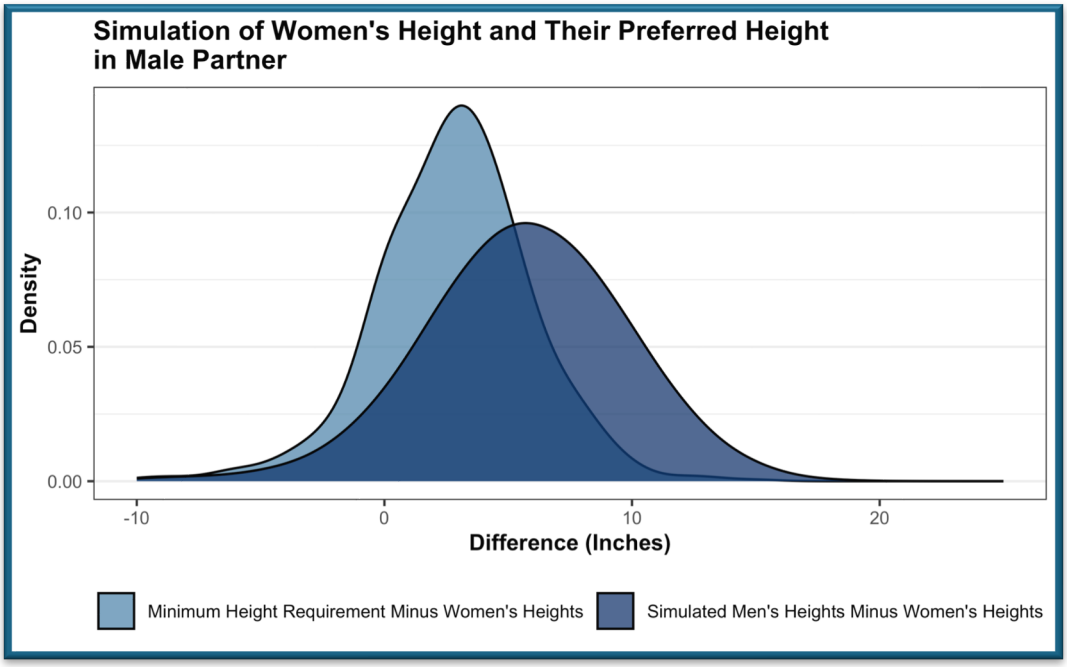


Figure 7.3: Density curves suggest that most men's heights meet many of the women's minimum height requirements for a male partner

Figure 7.3 relays how this simulation plays out. Using the 764 women and 708 men who answered questions regarding height, we created 50,000 "couples" and assessed height differences between men and women. A man is, on average, 5.6 inches taller than their female partner (and thus men are about 8.5% taller than woman, on par with the North American average). This measurement is promising since the preference for women is a man that is on average 2.75 inches taller than them.

Overall, this sounds like the women in our survey have reasonable and logical expectations for the minimum height requirement for men. In this simulation, only 7% of our randomly matchmade couples had the man shorter than the woman, and only 20% of women were paired with someone that did not meet their minimum height requirement. That means that generally, women in the Provo/Orem area hold preferences for men's heights that are very reasonable to the men available.

Regarding how men pair with women's expectations, a man's ability to meet a women's height requirement grows exponentially when going from 65 (5'6") inches to 72 (6'). **Figure 7.4** is an insightful way to analyze this shift. However, newcomers to statistics may find this graph a little tricky to read at first. We will demonstrate how to read **Figure 7.4** as follows:

Let's say you are 70 inches (5"10'). If you follow where the light blue line intersects with the 70 inch-marker (on the x-axis), you can trace the gridline to find that 75% of men are your height or taller (i.e. you are the 25th percentile of men's heights). Conjointly, that also means that your height will meet 75% of women's minimum height requirements when tracing the black line.

However, this becomes increasingly difficult for shorter men. If you were in the 2nd percentile of men's heights, which is about 65 inches (5'5"), you only have a 12.5% chance of meeting women's height requirements. That makes finding a partner much harder, especially since you will be competing against the 98% of men who are your height or taller (reportedly).

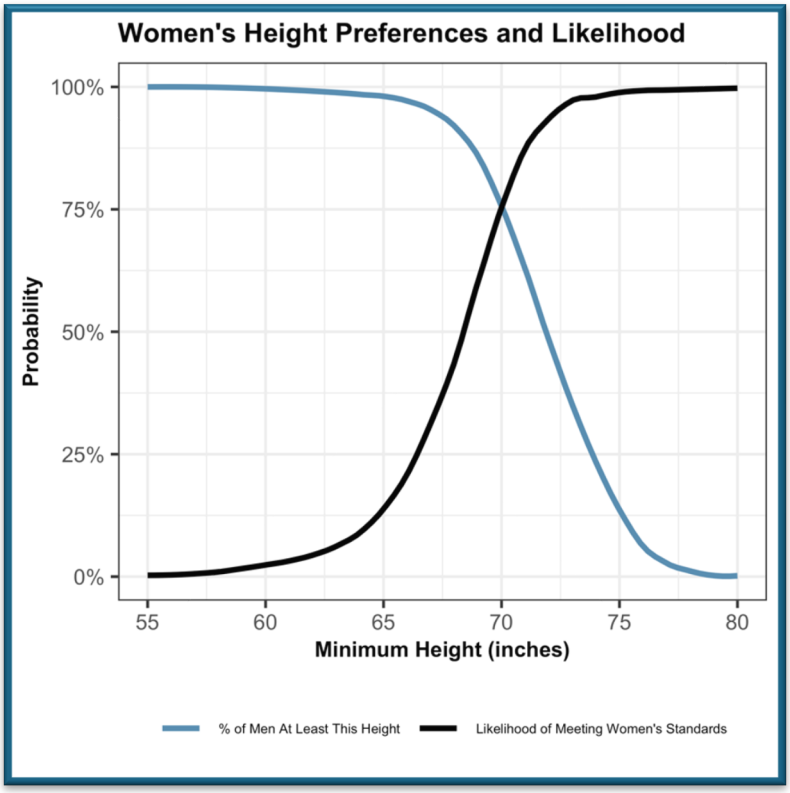


Figure 7.4: Likelihood curves on meeting minimum height requirements and percentage of men at that height

Dating Apps and Preferences

This survey also collected data regarding dating apps utilization. Over 50% of young single adults in our sample admitted to using at least one dating app. In **Figure 7.5**, the most prevalent dating app to use is Mutual, where almost 40% (2 of 5 single individuals) have the app, followed loosely by Hinge (for 1 of 4).

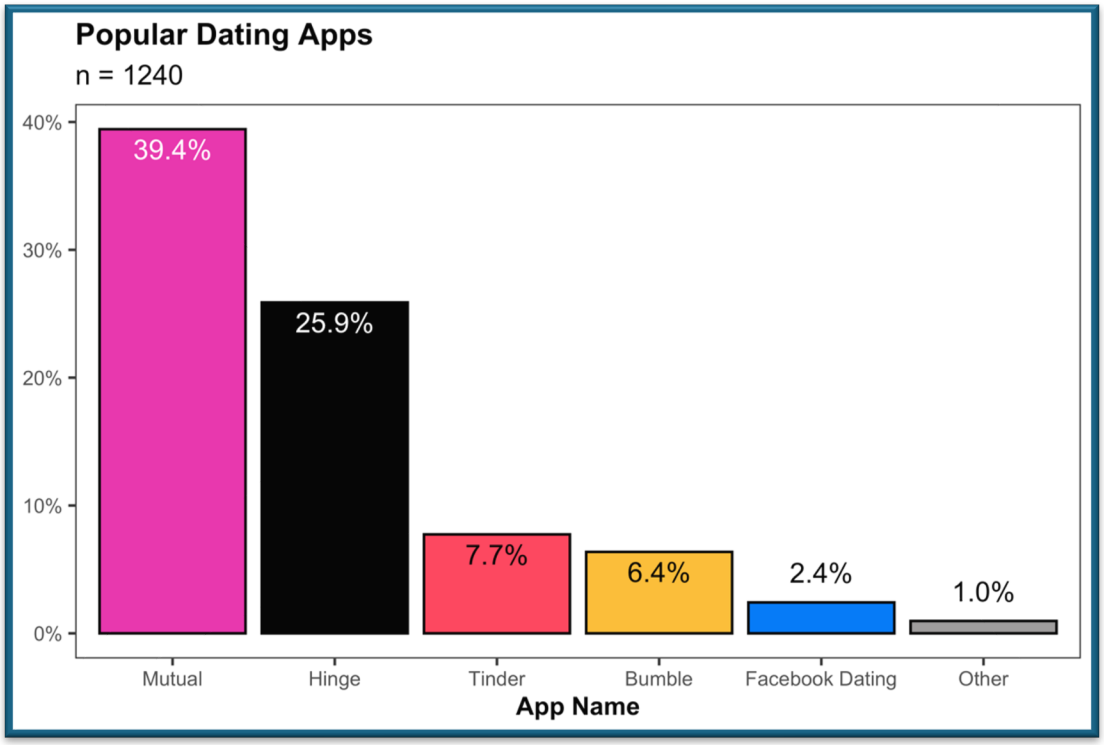


Figure 7.5: Mutual is the most popular dating app used among single people in the Provo/Orem area

We also found that males are three times more likely to purchase premium services on their dating apps (p = 0.0002). Explanations behind differences in premium services from **Figure 7.6** might be due to certain reasons, like men have stronger desires to control their matches than women, or women are less concerned about dating seriously nor how fast they can get matches.

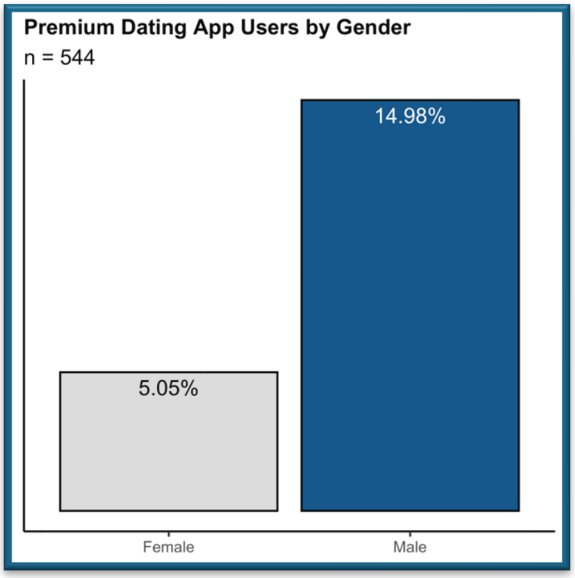


Figure 7.6: Males are three times more likely to pay for premium features on dating apps than females

Finally, **Figure 7.7** evaluates typical explanations behind why men and women would swipe left/down on a dating profile. As referenced thoroughly from **Figures 7.3** and **7.4**, women find height to be an important factor for swiping down on a man's dating profile (61%). This is followed closely by revealing a strong political statement

(59%) or is not physically active (58%). For men, the top reasons for swiping left/down on a women's dating profile are being perceived as too high maintenance (59%), not physically active (55%), or exposing strong political statements (54%).

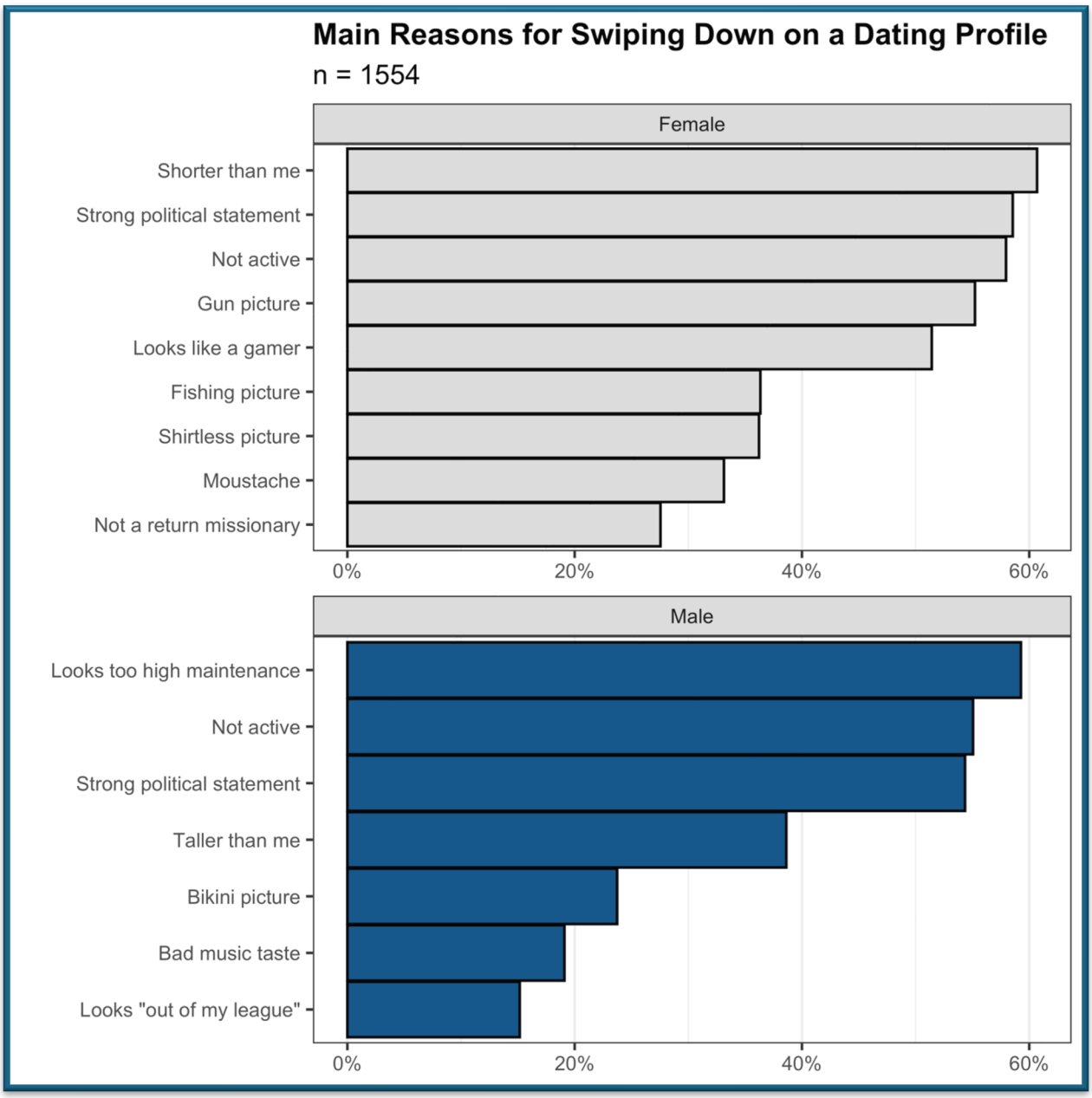


Figure 7.7: There are certain qualities of dating profiles that influence up to 60% of app users to swipe left/down

Conclusion

Discovering a foreign culture through travel or missionary service is a fascinating experience. But learning one's own culture—especially through data analysis—can be just as interesting and rewarding, even when researching the *weird* statistics like NCMOs.

Throughout this survey, we evaluated and synthesized the demographics of young adults in relation to many genres, such as college life, LDS missions, church activity, social activity, lifestyle amenities, politics, relationships, and dating. We also characterized and connected distinct topics, finding interesting correlations between car ownership and parental income, mission obedience and dating, politics and church activity, and declared major to dating preferences.

Overall, this research and the ensuing data contribute to a better understanding of and appreciation for the unique cultural trends of young adults in the Provo and Orem areas.