



How Online Dating is Changing Human Behaviours

Exploring the impact of technology in romantic relationships



Background

The use of technology as a means of social interaction has increased greatly over the years. There are many ways for people to meet professionally, socially, and romantically. Once a stigma, social media and dating websites are now an increasingly mainstream and accepted practice. The pandemic of 2020 has likely catapulted online dating into commonplace. To make online dating a more successful venue for meeting partners, it is important to explore the ideas and preferences of those using technology to find romantic relationships.



Problem Statement

To build a linear regression model that predicts the years of a relationship based on online usage and answer the following:

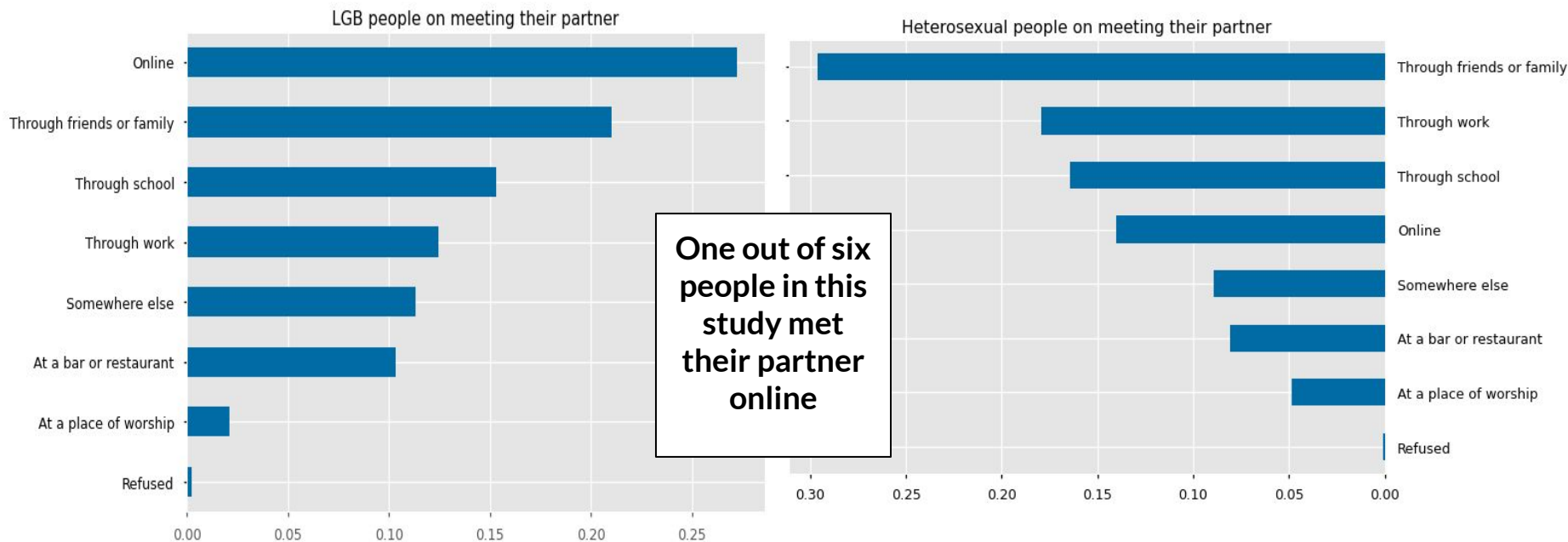
- Does location impact the online dating experience for someone?
- How safe is online dating in comparison to meeting someone in person?
- Does meeting online have anything to do with success of a relationship?
- How does age impact views and experiences on online dating?
- Through what online platforms are people meeting?
- Why is it both easier and more difficult to date now than it was 10 years ago?
- How has technology influenced ending a relationship?



Data Collection and Cleaning

- The data analyzed was from two studies:
- PEW Research Center's American Trends Panel Wave 56 October 2019
 - Total of 4,860 U.S adults, representative of entire population
 - 61 questions on dating preferences, privacy, harassment, challenges, benefits, and experiences with online dating
- Pew Research Center's Internet & American Life Project Spring Tracking 2013
 - Total of 2,250 U.S. adults, representative of entire population
- Dropped rows with the 'Refused/Don't Know' responses from both data sets

EDA - How common is online dating nowadays?



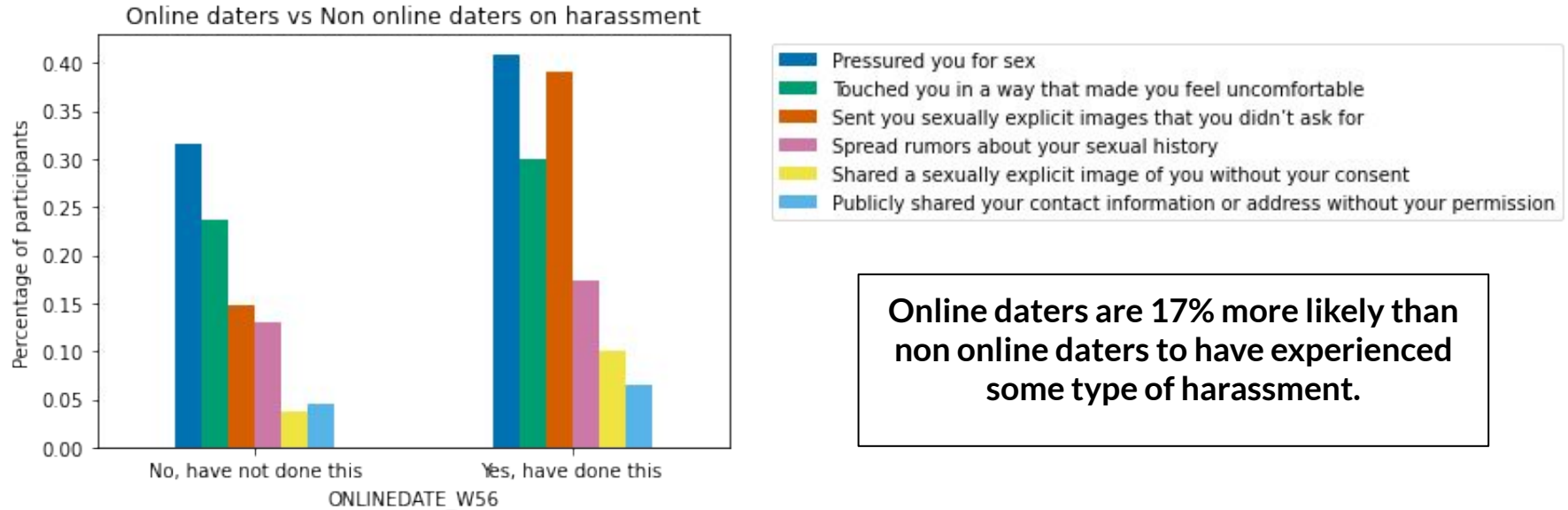
EDA - How location impacts the online dating experience



Image: <https://www.eharmony.com/online-dating-statistics/>

- Online daters in less populous places:
 - Privacy violations, such as data breaches or identity theft. Rural 22% vs Suburban/Urban 16%
 - People setting up fake accounts in order to scam others 55% vs Suburban/Urban 43%
- Online daters in the Midwest reported being at least 7% more hopeful and 10% less frustrated than the number of people who said this in other regions of the country.
- 64% of online daters in non-metropolitan vs. 36% in metropolitan areas reported that dating is harder because of limited number of people around them to date.

EDA - Safety of Online dating vs Non-Online dating



EDA- Female vs Male on Harassment



Women online daters experienced harassment 62.7% and men online daters 52.4%



How Does Relationship Status Affect User's Sentiment Towards Technology in Relationships?

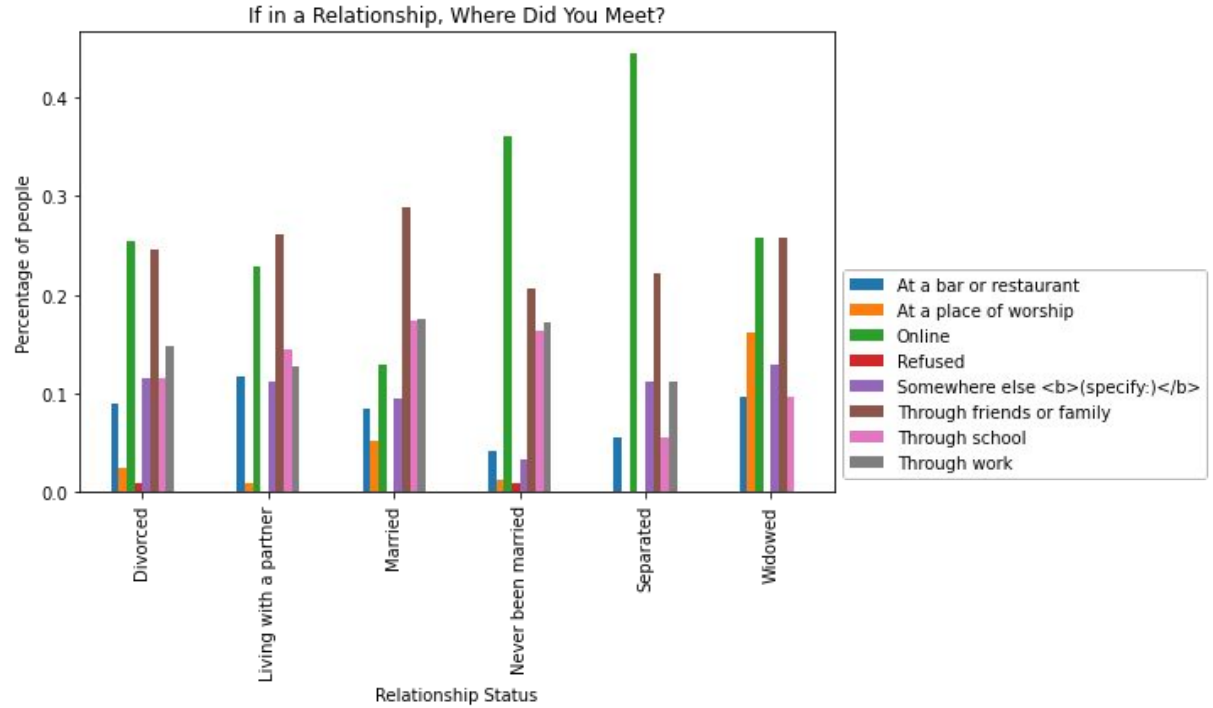


For findings related to relationship status

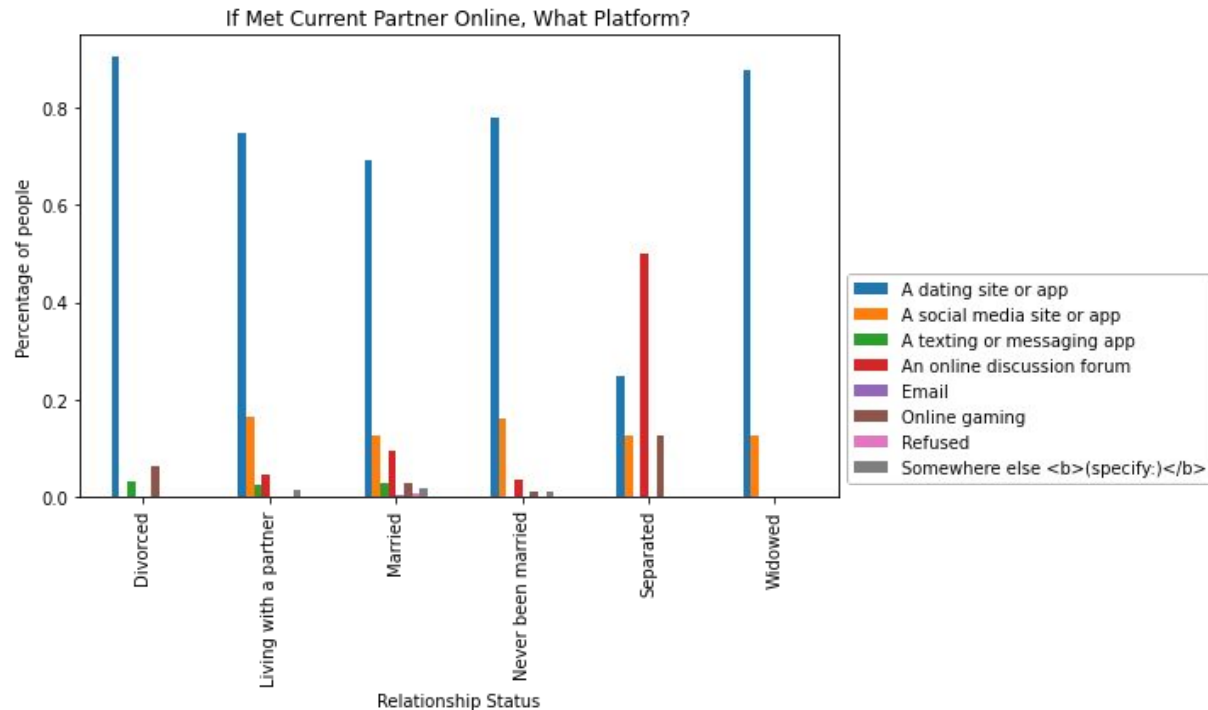
Dropped columns: Interview Start Time, Interview End Time, Device Type, Form Type, Partner Sex, Orientation, Metro, Region, Population Demographic, Age Category, Sex, Education Levels, Race, Country Born, Citizen of US, Marital Status, Religion, Born-Again Christian, Attend Church, Political Party Affiliation, Income, Party Registered to Vote, Political Ideology, How Internet Accessed

Dropped Rows: Answers to 'Marital' Questions that were 'Refused to Answer'. Number of rows to drop 12/4860.

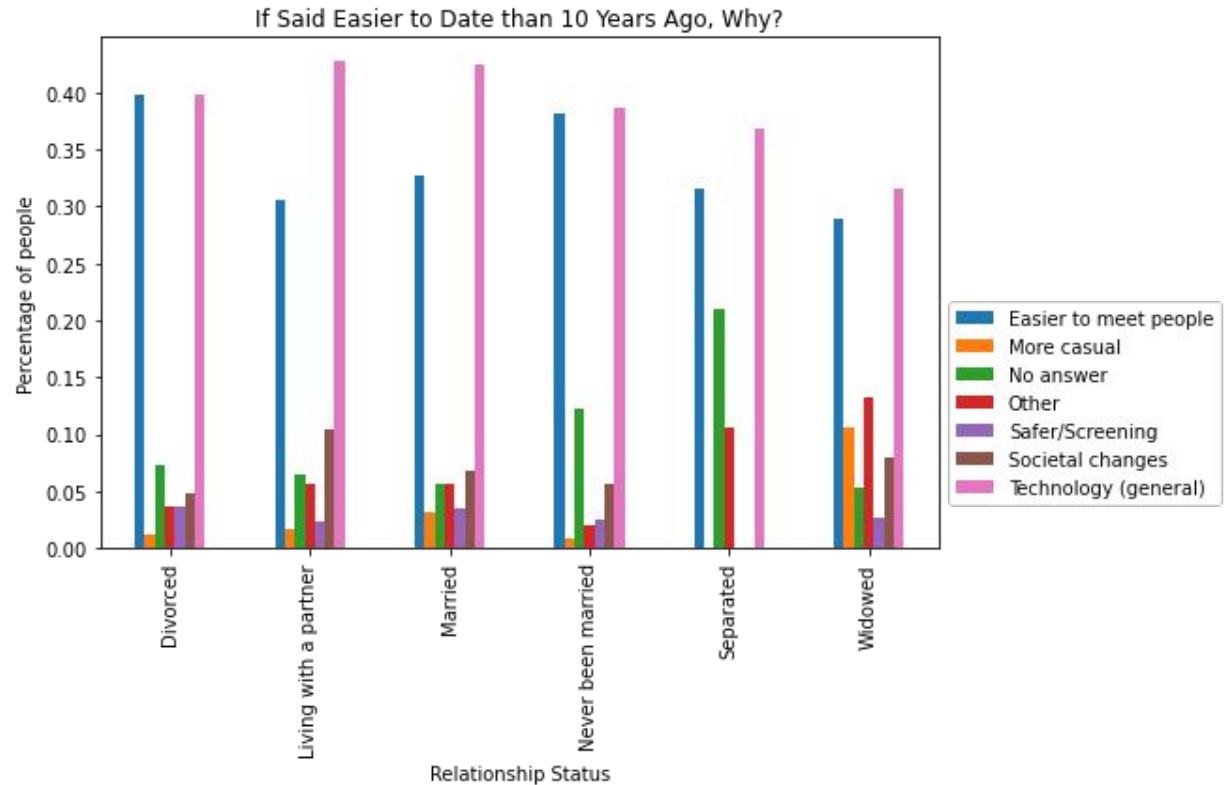
EDA - Answers with Respect to Relationship Status



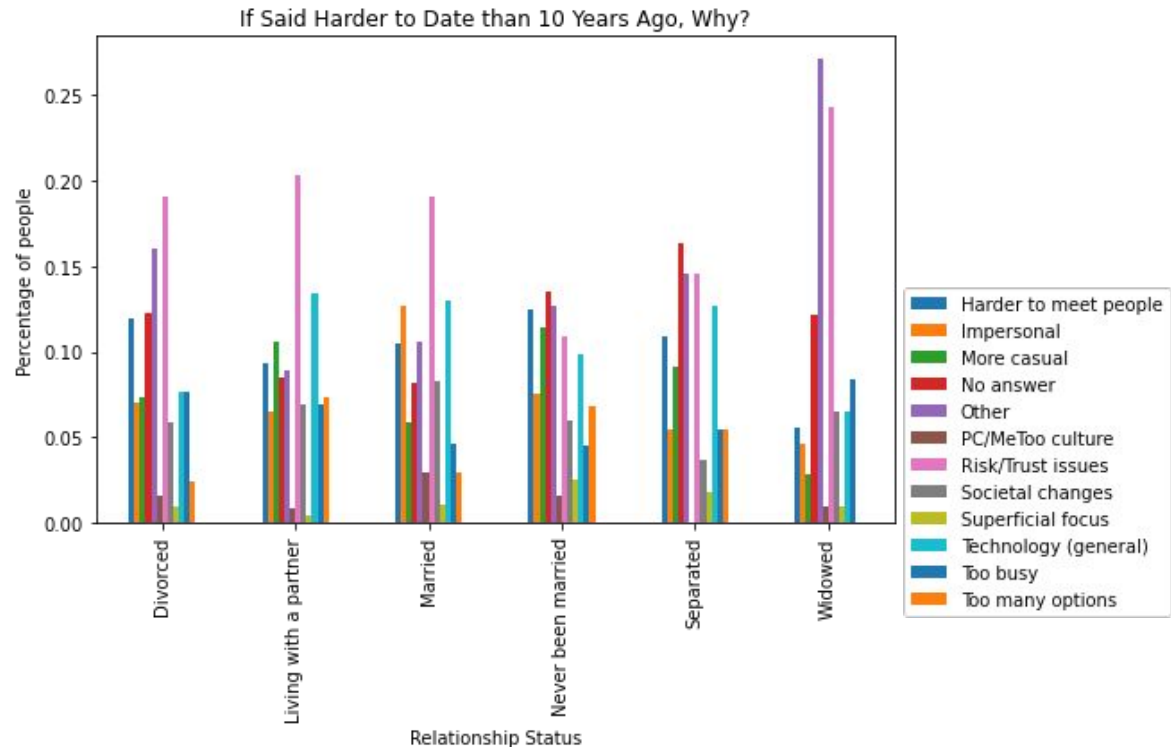
EDA - Answers with Respect to Relationship Status



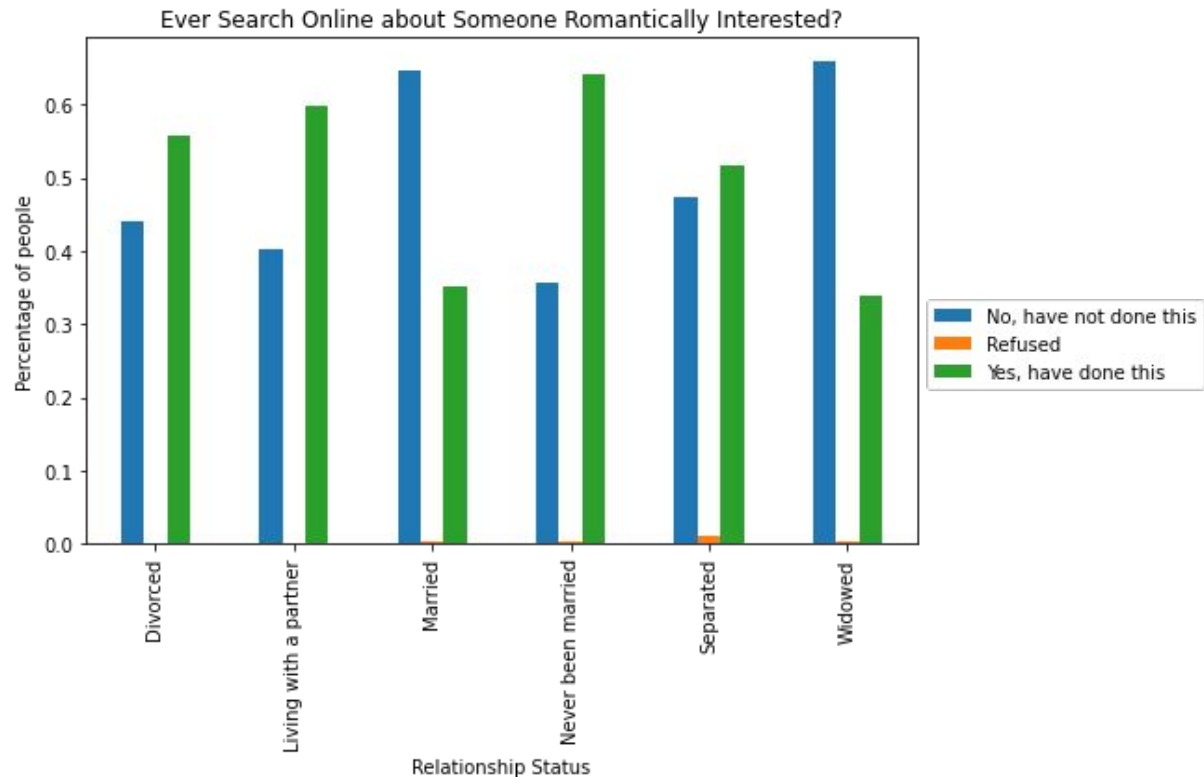
EDA - Answers with Respect to Relationship Status



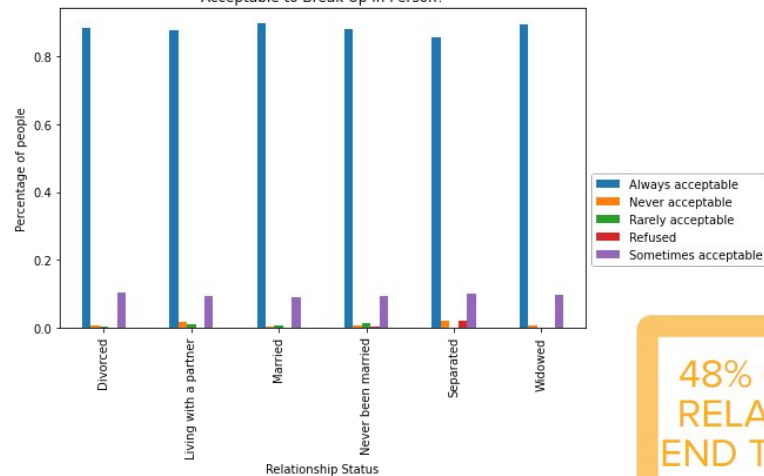
EDA - Answers with Respect to Relationship Status



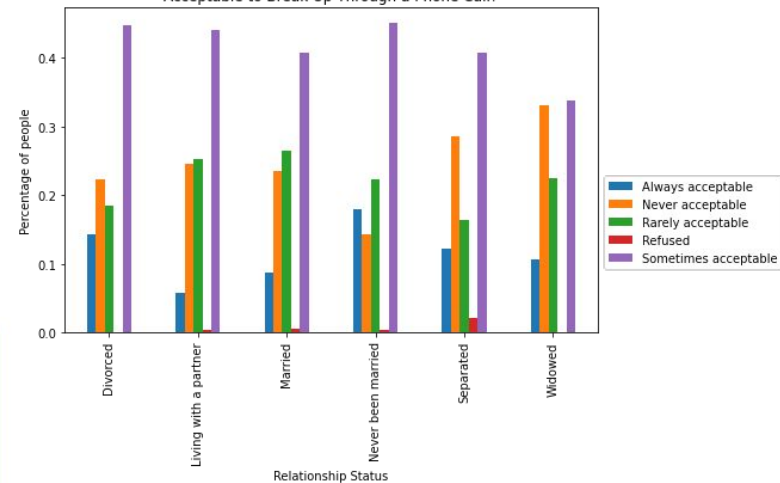
EDA - Answers with Respect to Relationship Status



Acceptable to Break Up In Person?



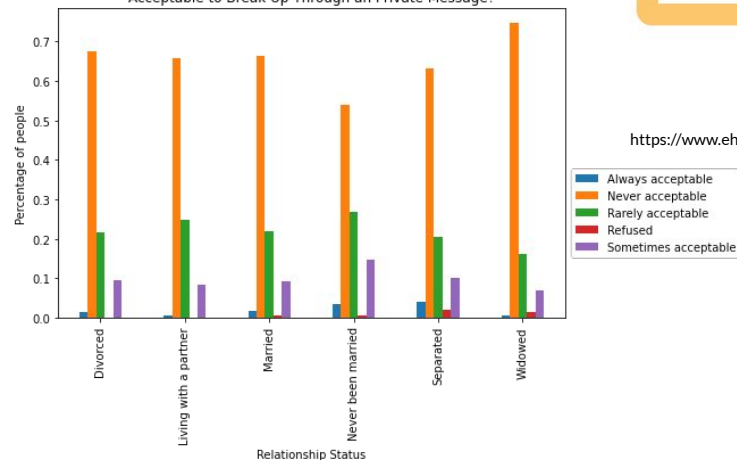
Acceptable to Break Up Through a Phone Call?



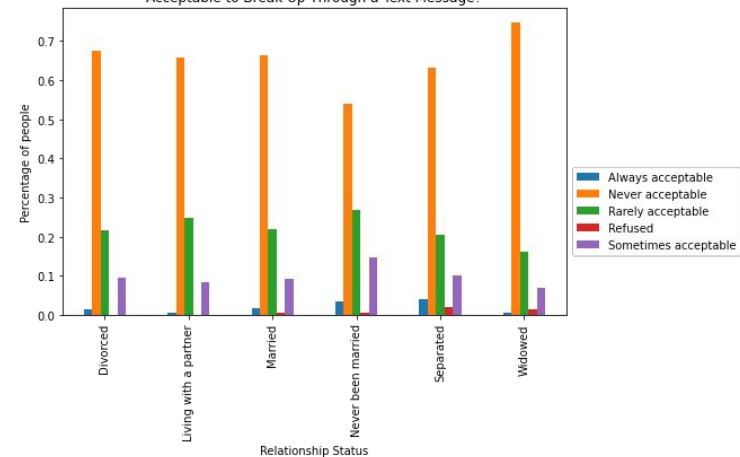
48% OF ONLINE
RELATIONSHIPS
END THROUGH E-
MAIL

<https://www.eharmony.com/online-dating-statistics/>

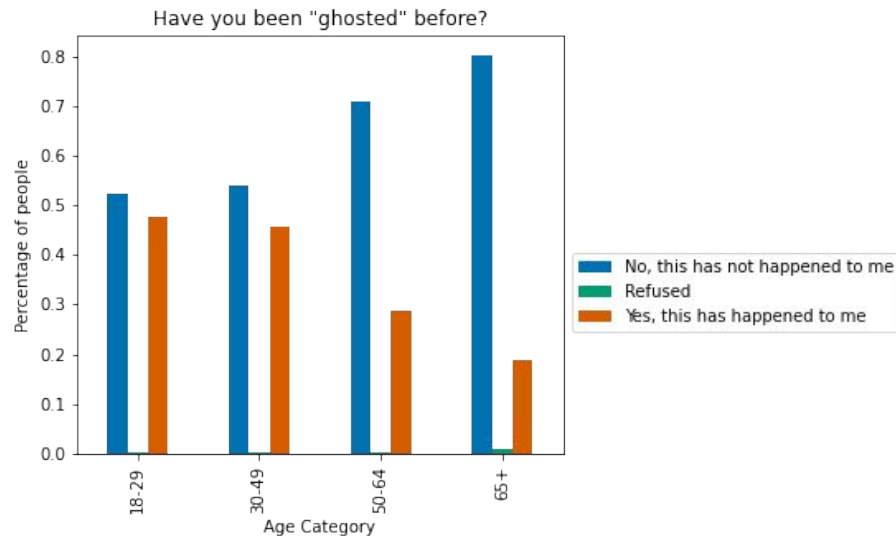
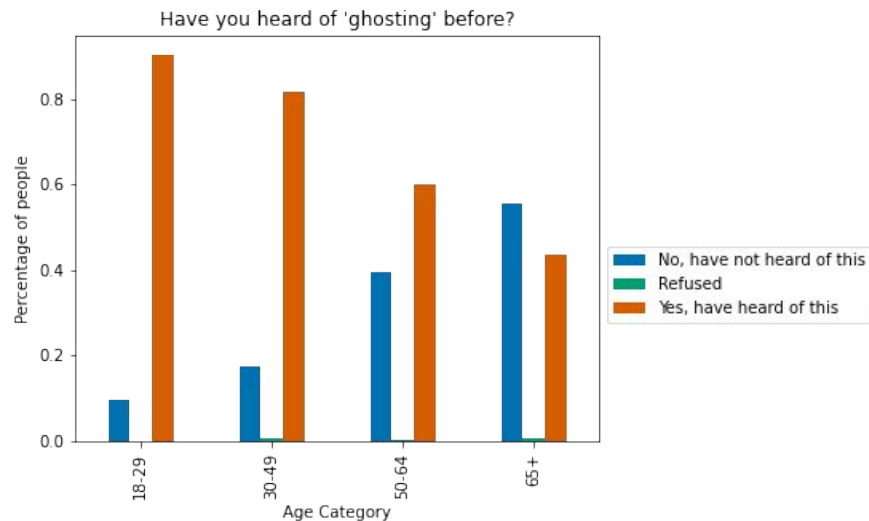
Acceptable to Break Up Through an Private Message?



Acceptable to Break Up Through a Text Message?

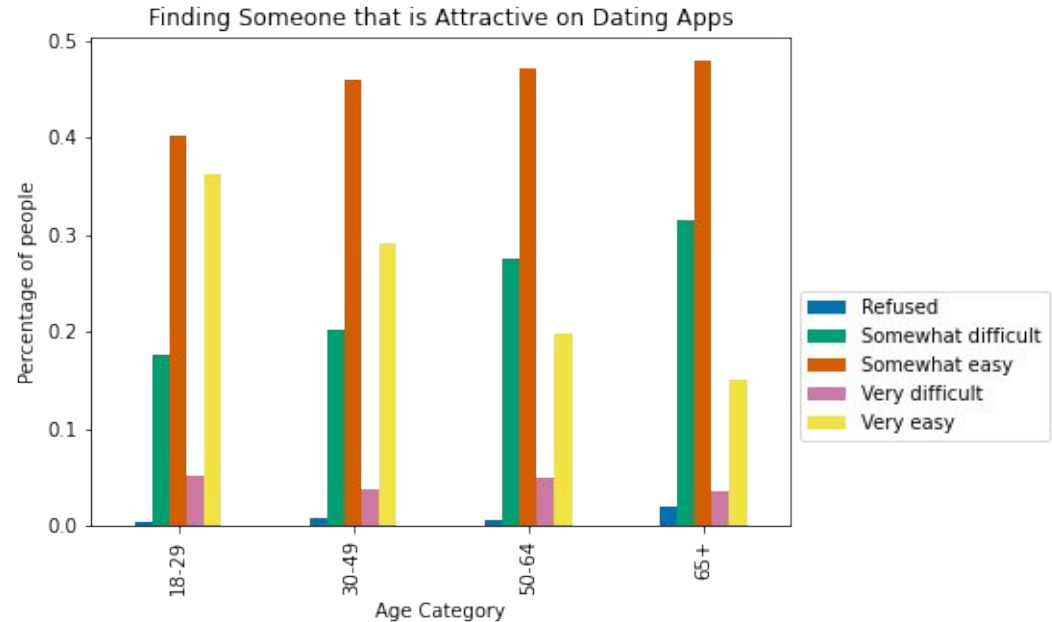


EDA - "Ghosting" by Age



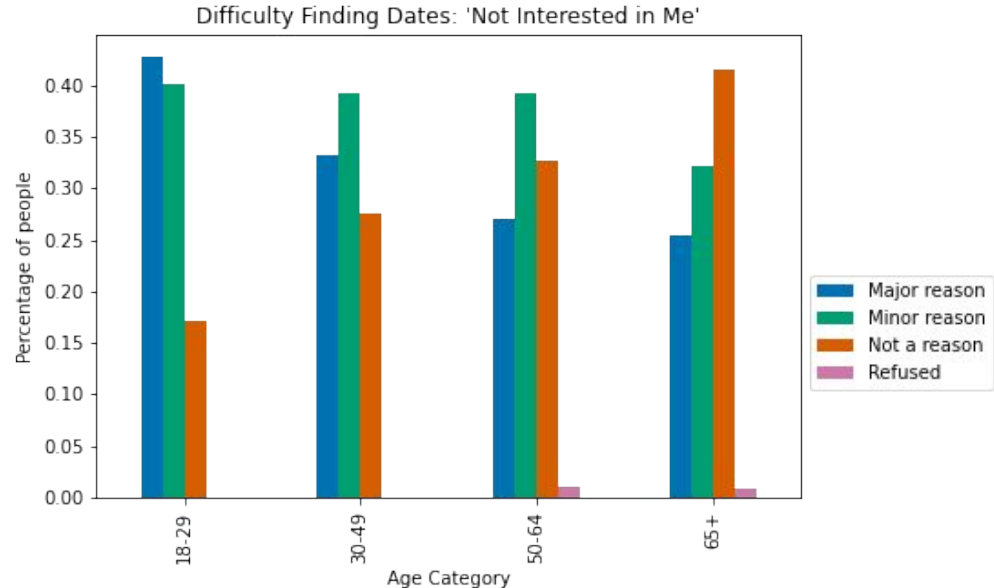
EDA - Attractiveness by Age

- How hard is it to find someone attractive using dating apps?
- Difference in answers for different ages



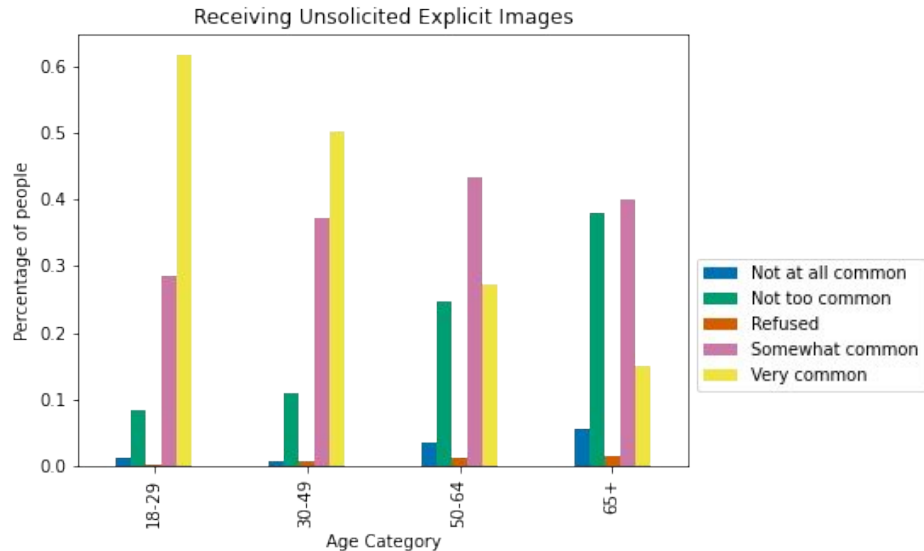
EDA - Self Confidence by Age

- Asked why they have not found a partner yet
- One of the main responses was “people are not interested in me”
 - Decreases the older someone is



EDA - Explicit Images Received by Age

- How common is it to receive unsolicited explicit images during online dating?
- More common with younger people
- How safe is online dating?





Can We Build a Model that Predicts the Length of a Relationship Based on Internet and Phone Usage?

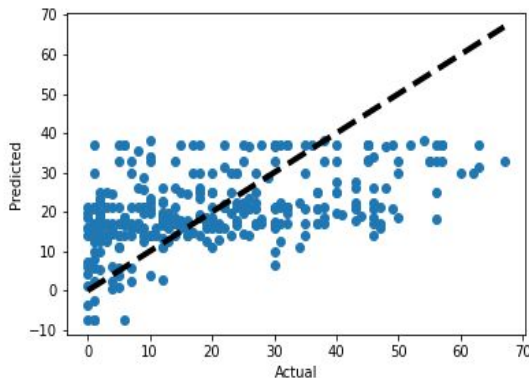
14 features were used in this Linear Regression Model which included:

- Internet access on a mobile device
- Owning a cell phone and/or a tablet
- Downloading apps, participate in a video chat, and/or send and receive text messages
- If the person met their significant other online or offline.
- If the person met their significant other on an online dating site or not
- If the person ever used an online dating site and if they ever used a dating app on their phone

Model Evaluation

- Training score: 0.28,
Test score: 0.26

These low R^2 scores indicate that the model did not perform well in predicting years in a relationship. However, it can explain our features correlate to years in a relationship.



Interesting Coefficients

Holding all else constant:

- For people who do not send or receive text messages, we expect the years of the relationship to increase by 11.9 years.
- For people have not used an online dating site, we expect the years of the relationship to increase by 11.5 years.
- For people who did not meet their partner through an online dating site, we expect the years of the relationship to decrease by 4.9 years.



Conclusion and Recommendations

- Online dating has become very popular that it may be replacing the traditional ways of meeting people like through friends and family.
- Location can impact the dating online experience
- Online daters have experienced more types of harassment than non online daters.
- Age greatly impacts if a person has been exposed to certain challenges of online dating
- Relationship status can affect how a person uses technology to enter into, interact within, and end a relationship
- Based on the model, it seems that when we don't use the internet or phones as much, the years in a relationship tend to increase.
- However, according to the model, for couples who do not meet their partner through an online dating site, the years in a relationship tend to decrease.



Sources

1. First Evidence That Online Dating is Changing the Nature of Society
2. 10 Online Dating Statistics You Should Know <<https://www.eharmony.com/online-dating-statistics/>>