

## Project 2 Proposal

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**GitHub Repository:** Project2\_Adhan\_Arroyo\_Yilmaz:

[https://github.com/UC-Berkeley-I-School/Project2\\_Adhan\\_Arroyo\\_Yilmaz](https://github.com/UC-Berkeley-I-School/Project2_Adhan_Arroyo_Yilmaz)

### Primary Dataset:

- We will be analyzing three different datasets to explore the relationship between women's happiness, overall happiness, and divorce/marriage rates across different countries and regions. The datasets are: [Datasets Folder](#)
  - **Divorce and Marriage Rates by Country:**
    - Source: <https://www.kaggle.com/datasets/johnny1994/divorce-rates-data-sould-you-get-married/data>
  - **Women's Happiness Rate by Country:**
    - Source: [https://ceoworld.biz/2024/04/15/revealed-worlds-best-countries-for-women-2024/#google\\_vignette](https://ceoworld.biz/2024/04/15/revealed-worlds-best-countries-for-women-2024/#google_vignette)
  - **Overall Happiness Rate by Country:**
    - Source: <https://ceoworld.biz/2024/01/05/revealed-happiest-countries-in-the-world-for-2024/>

### Initial Plots, Figures & Tables:

- Shape & Initial Look into each dataset:

```
print(divorce_df.shape)
print(womens_happiness_df.shape)
print(happiness_df.shape)
```

```
(105, 7)
(156, 3)
(145, 3)
```

```
[12] divorce_df.head()
```

	Country/region	Continent	Marriage	Divorce	Actual	Percent	Data Source	Year
0	Albania	Europe	8.1	1.7	4.76	20.99		(2018)
1	Algeria	Africa	10.1	1.6	6.31	15.84		(2013)
2	Armenia	Europe	6.0	1.0	6.00	16.67		(2011)
3	Australia	Oceania	4.6	2.0	2.30	43.48		(2017)
4	Austria	Europe	5.3	1.8	2.94	33.96		(2018)

Next steps: [Generate code with divorce\\_df](#) [View recommended plots](#) [New interactive sheet](#)

```
[13] womens_happiness_df.head()
```

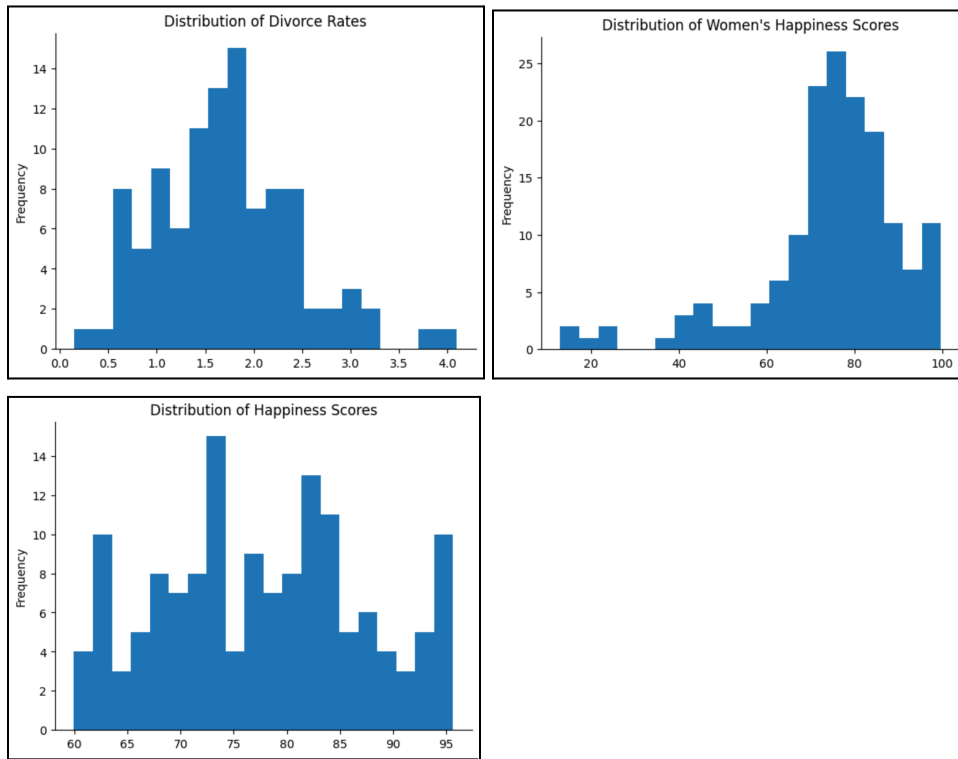
	Rank	Country	Score
0	1	Netherlands	99.7
1	2	Norway	99.4
2	3	Sweden	99.2
3	4	Denmark	98.7
4	5	Finland	98.3

Next steps: [Generate code with womens\\_happiness\\_df](#) [View recommended plots](#) [New interactive sheet](#)

```
happiness_df.head()
```

	Rank	Country	Happiness Score
0	1	Finland	95.67
1	2	Denmark	95.31
2	3	Iceland	95.29
3	4	Israel	95.20
4	5	Netherlands	95.07

- **Distribution Plots:**



### Variables to Explore:

- **Divorce Rate**
  - Insights: Investigate trends in divorce rates and see if higher divorce rates are associated with lower happiness scores, particularly focusing on women's happiness
- **Women's Happiness**
  - Insights: Look for countries where women's happiness scores are higher and correlate this with marriage/divorce rates to see if there is a pattern
- **Overall Happiness:**
  - Insights: Look for trends in what constitutes a country's overall happiness and how economic factors might impact women and their propensity to get married or divorced.
- **Country/Region and Continent Information**
  - Insights: Analyze the geographical distribution of the data and look for regional patterns in marriage/divorce rates and happiness scores

### Supplemental Datasets:

- In addition to the three datasets we have currently selected, we do not anticipate including another dataset.

**Data Merging and Cleaning:**

- We will merge the datasets on the Country column, ensuring that the data aligns across the three sources of data. We will handle missing data by excluding countries that have incomplete records across any of the datasets. In a preliminary analysis, we have noticed that there are three countries with missing values across the datasets, and we will also check for discrepancies in the country names to ensure a proper merge.

**Questions to Explore:**

- **Cross-Cultural Analysis**
  - Is there a relationship between women's happiness, overall happiness, and divorce/marriage rates across countries and/or continents?
  - How have divorce rates changed over time?
- **Trend Analysis:**
  - How have divorce rates changed over time in different regions?
  - Are higher happiness scores associated with lower divorce rates?
- **Regional Differences:**
  - Do some continents show more significant correlations between happiness and marriage/divorce rates than others?

**Final Report Outline:**

- Introduction
- Literature Review
- Data Preparation and Cleaning
- Exploratory Data Analysis (EDA)
  - Correlation Heatmap between Divorce Rates, Women's Happiness, and Overall Happiness
- Cross-Cultural Analysis
  - Breakdown by continent
  - Highlighting some countries with strong cultural trends
- Time Trend Analysis
- Conclusions
  - Connection back to Literature Review findings
  - Considerations
  - Synthesis
- Recommendations
- Future Research