LOVE AND PRESTIGE:

A Predictive Model of Marital Happiness

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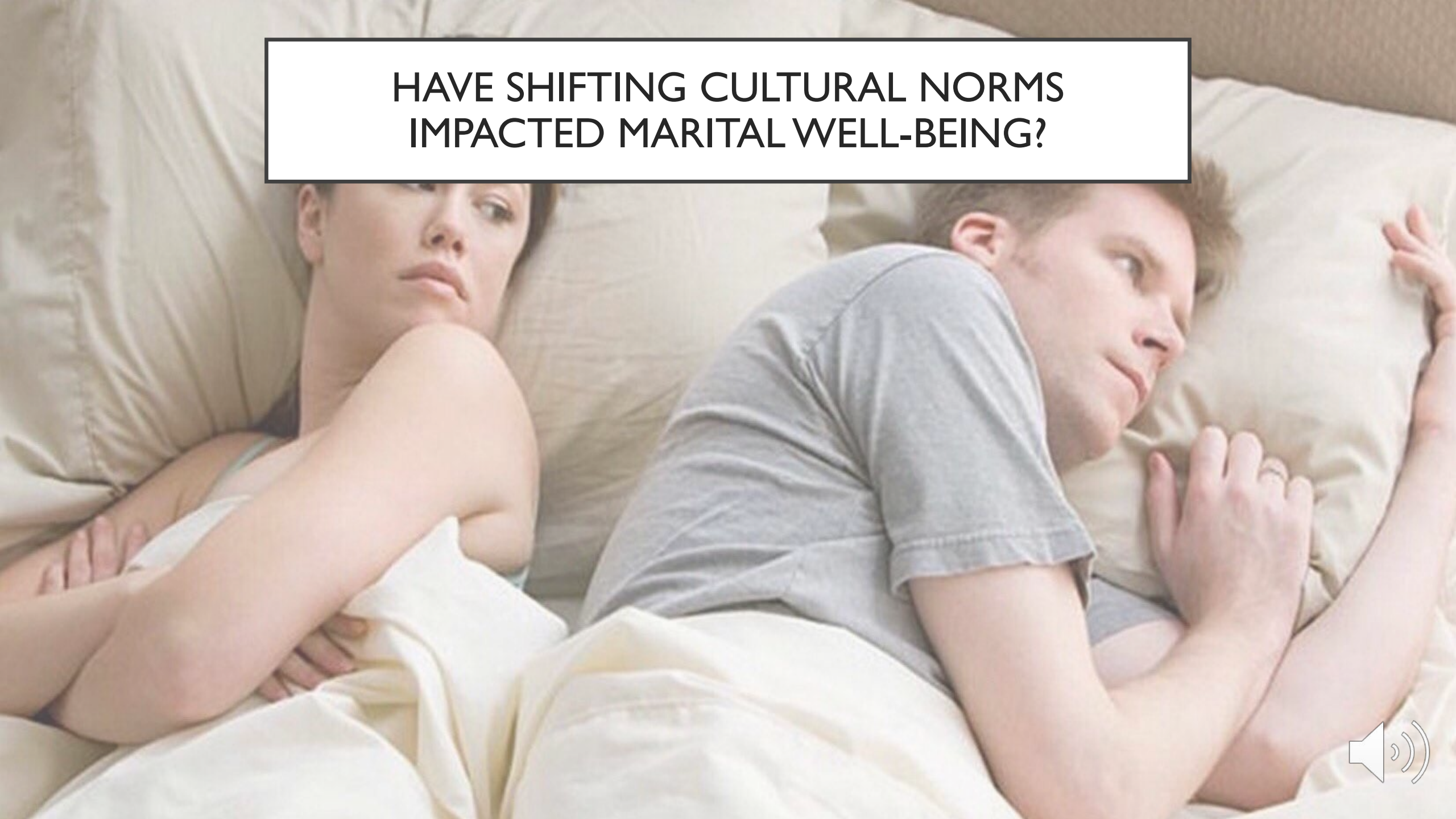
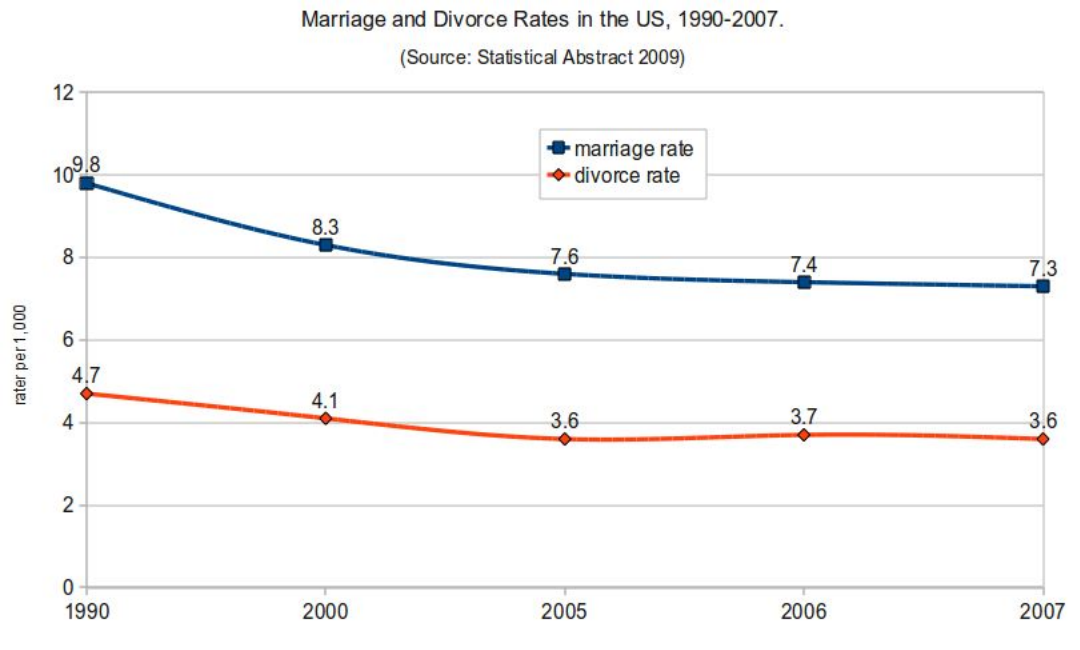
HAVE SHIFTING CULTURAL NORMS IMPACTED MARITAL WELL-BEING?

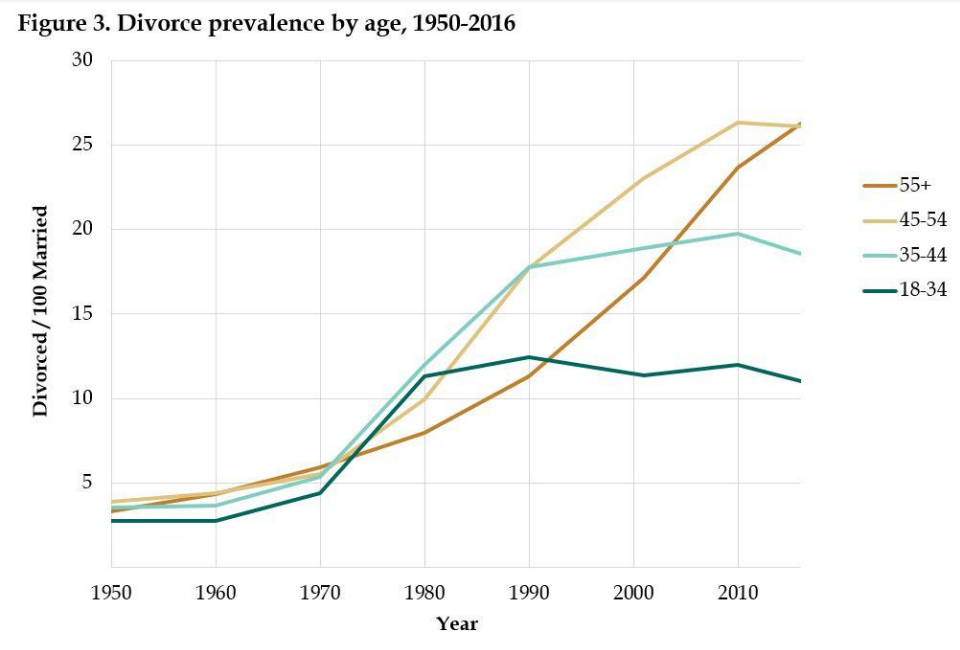


LONG STORY SHORT: NO…AND YES!

What factors are responsible for these discrepancies?



Source: Statistical Abstract, 2009



Source: Family Inequality

LAYING THE FOUNDATION

- Which questions are the *right* questions to ask?
  - Follow the trail of breadcrumbs:
    - 18-34 has remained stable
    - 35+ has increased (in varying degrees)
  - Considering social, cultural, political, and economic changes:
    - An unstable labor market
    - Heightened awareness of social position/value via social media platforms
    - Shifting landscape in gender norms

THE QUESTIONS

- 1) Is there a significant difference in average marital happiness between men and women *in general*
- 2) Can a ordinal logistic regression model be constructed that will be able to successfully discriminate marriages that are **happy** vs. **unhappy**?

COLLECTING THE DATA

- General Social Survey (GSS)
  - Large-scale surveys on:
    - Attitudes, political views, social views, etc.
- Too much data?
  - Impossible to **have** too much data
  - Possible to be overwhelmed by data
    - Unfocused analysis
    - Analysis paralysis

- Trimming the ”fat,” i.e. making decisions about variables that were:
  - Not relevant
  - Were redundant
  - Were otherwise unusable
  - From 30+ variables to 12

VARIABLES

- Independent variables (Features)
  - Participant Characteristics:
    - Sex & Race
    - Political Affiliation assessed on 7-point scale (1=Strong Democrat…7=Strong Republican)
    - Ideological Affiliation assessed on 7-point scale (1=Strongly Liberal…7=Strongly Conservative)
  - Prestige Scores (of self, spouse, mother, and father)
    - Numerical representations of career prestige
      - 0=Lowest career prestige, 100=Highest career prestige
  - Happiness (Self-reported)
  - Opinion of family income

- Dependent Variable (Target)
  - Self-reported marital happiness
    - Three levels:
      - Not Happy
      - Pretty Happy
      - Very Happy

1) IS THERE A SIGNIFICANT DIFFERENCE IN AVERAGE MARITAL HAPPINESS BETWEEN MEN AND WOMEN *IN GENERAL?*

- 2x3 Chi-Square Test of Independence
  - "Sex" and "Marital Happiness"
- Contingency Table:

	Happymar			
	1	2	3	All
Sex				
0	62.11	54.57	51.04	52.63
1	37.89	45.43	48.96	47.37
All	100.00	100.00	100.00	100.00

Results:

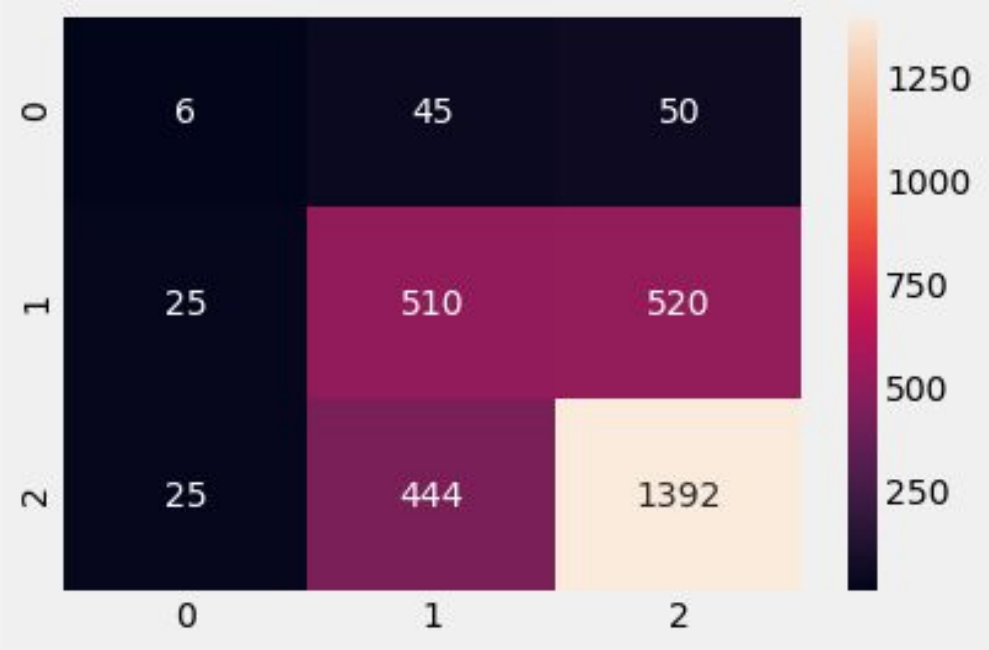
	Chi-square test	results
0	Pearson Chi-square (2.0) =	23.2416
1	p-value =	0.0000
2	Cramer's V =	0.0481

MODEL DEVELOPMENT: RANDOM FOREST CLASSIFICATION

Number of Features: 10

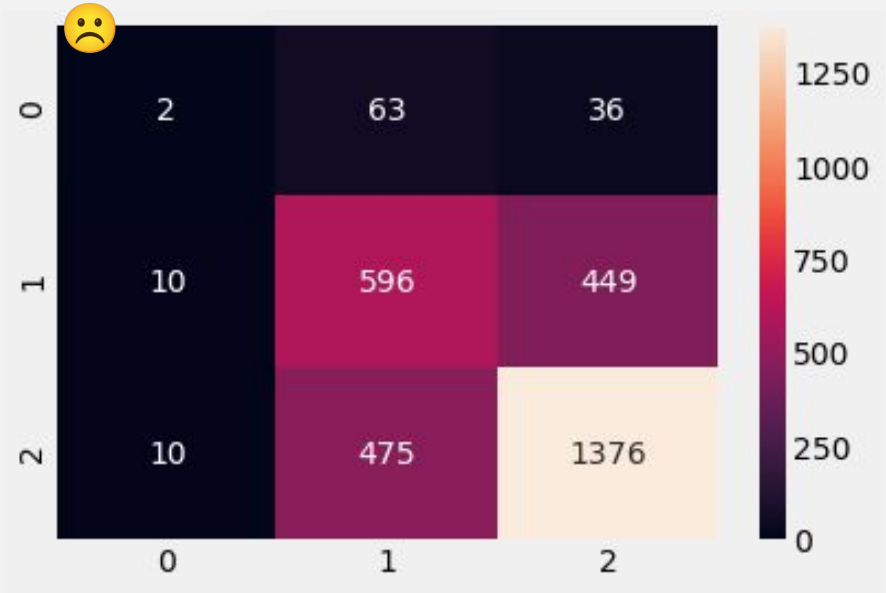
Accuracy: .6324

…Can we do better?....



RECURSIVE FEATURE ELIMINATION (RFE)

…Only slightly Accuracy=0.6542 ☹

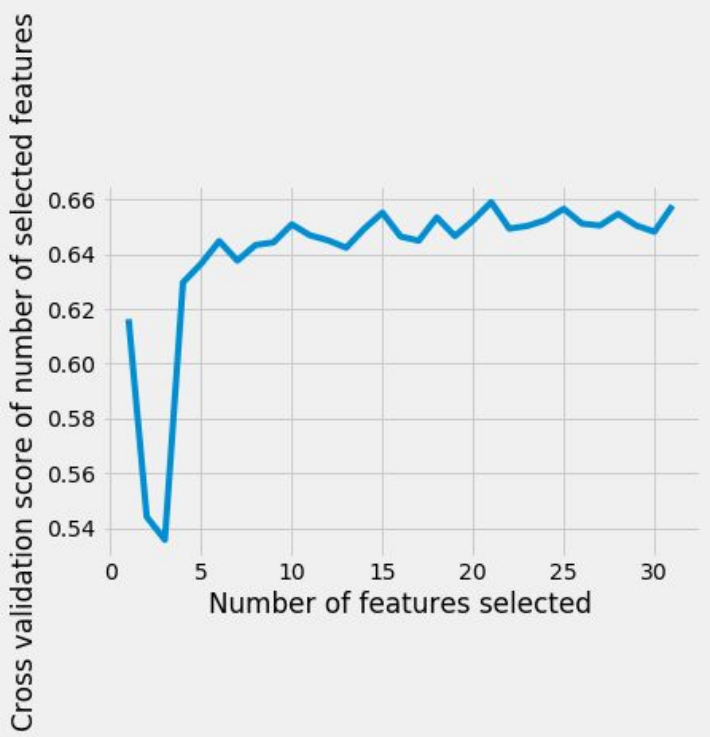


- Using random forest classification
- Assigns weights to each feature
- Features with smallest absolute weights are removed from the set
- Recursively repeated on set until *k* requested features

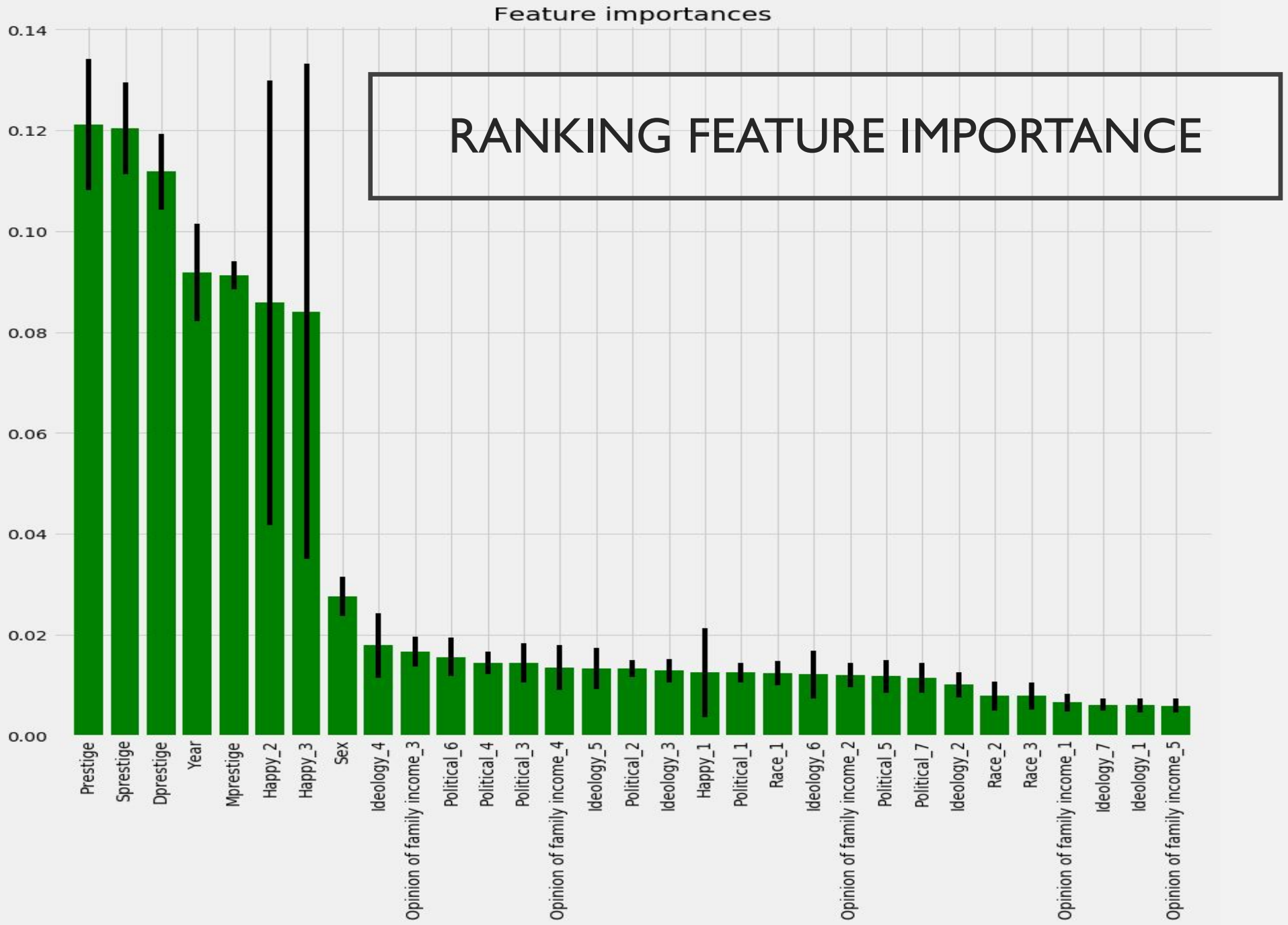
- Top 5 Features: 1) Prestige Score, 2) Spouse Prestige Score, 3) Mother Prestige Score, 4) Father Prestige Score, 5) Happy_3
  - Happy_3 is the dummy coding for the "Very Happy" response of the self-reported personal happiness variable.

PICKING OPTIMUM NUMBER OF FEATURES: RECURSIVE FEATURE ELIMINATION WITH CROSS VALIDATION

- Seeking both the *best* features available in the dataset and the *ideal number* of features for optimum accuracy
- Optimal number of features: **23**



RANKING FEATURE IMPORTANCE



CONCLUSIONS

- Based on the accuracy scores, more consideration should be given to selecting potential factors for the model
- The dominance of prestige scores indicates that there may be further information to glean
  - Note that opinion of income status was not an important feature
    - Could be due to humility
    - Yet, prior research indicates that wealth does not necessarily imply happiness
      - Considering the relationship between happiness and marital happiness, it seems unlikely that income measured numerically would have yielded different results
- Personal interpretation:
  - Considering that the quartet of prestige scores took four out of five ”top slots,” yet the measure of income ranked much lower, an explanation for the role of mother prestige score and father prestige score should not be assumed to be family wealth.
  - It is possible that higher individual prestige scores yield higher satisfaction in marriage due to 1) higher self-esteem and 2) higher level of education.
- Avenue for future research: Investigating interactions between prestige scores, spouse prestige scores, and the prestige scores of parents. Do men with low prestige scores married to women with high prestige scores have lower marital happiness scores if their father’s have high prestige scores and their mother’s have low prestige scores (and conversely, would such an effect be mitigated by having a mother with a high prestige score)?