DIVORCE ANALYSIS

2025/12

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Report:

1. Introduction

This report presents an exploratory data analysis of divorce trends in South Africa using official administrative records. The objective of the study is to identify key patterns in divorce cases over time, determine which provinces contribute most to divorce rates, and examine the most common grounds for divorce.

2. Data Source

Source: https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/933/study-description

The dataset consists of successful divorce cases that were granted a decree of divorce by the Department of Justice and Constitutional Development (DoJCD). The data include divorces from marriages registered in different years, as well as cases filed in earlier years but finalized in the year of data collection.

3. Research Objectives

The main objectives of this analysis are:

- To identify long-term trends in divorce cases in South Africa

- To determine which provinces contribute the most to divorce rates

- To analyse the most common grounds for divorce

4. Data Cleaning and Preparation

The dataset contained 24 variables, each of which was reviewed for inconsistencies, missing values, and noisy data. To preserve the integrity of the dataset, the original data were retained unchanged, and all cleaning procedures were applied to a copied version.

4.1 Handling Missing and Unspecified Values

Several categorical variables contained values labelled as **"Unspecified"**. To address this, a probability-based imputation method was applied using a custom function (impute_unspecified_all). This method replaces unspecified values by randomly sampling from existing categories based on their observed proportions.

This approach was selected because it:

- Preserves the original distribution of the data

- Avoids bias introduced by single-value imputation

- Prevents loss of data through row deletion

After cleaning:

- No duplicate records remained

- Missing and unspecified values were addressed consistently

example below

```
MaleRace
Black African    9440
White            3787
Coloured         3367
Indian/Asian     1028
Unspecified       538
Other              48
Name: count, dtype: int64
```

```
Updated distribution:
MaleRace
Black African    9744
White            3901
Coloured         3463
Indian/Asian     1051
Other              49
Name: count, dtype: int64
```

5 Data visualization
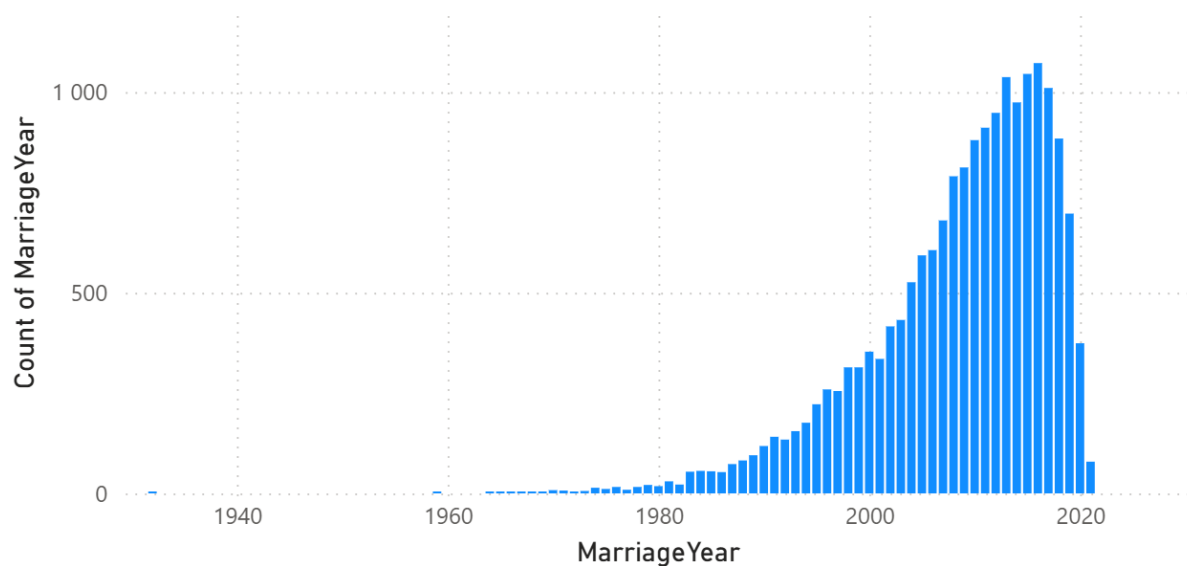

Count of MarriageYear by MarriageYear

Figure1: Shows the year in each people who are getting divorced are getting married.

From 1980 – 2018, we observe an exponential growth in marriages, and from 2018- 2020 we observe a rapid reduction in marriages. This is lucky caused by influence from social media as it is during the influencer era.
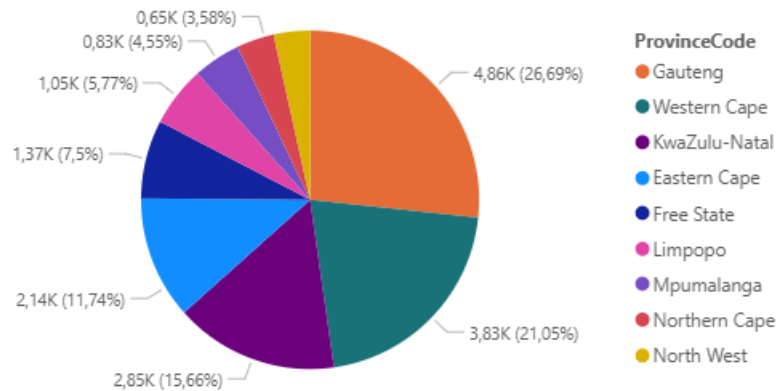
Count of ProvinceCode by ProvinceCode

Figure 2. Shows the distribution of divorce cases across South Africa's nine provinces, with Gauteng having the highest frequency

Gauteng accounts for approximately 26.69% of all divorce cases, likely due to its higher population density and urbanization. Western cape secondly, with an approximate of 21.05%.
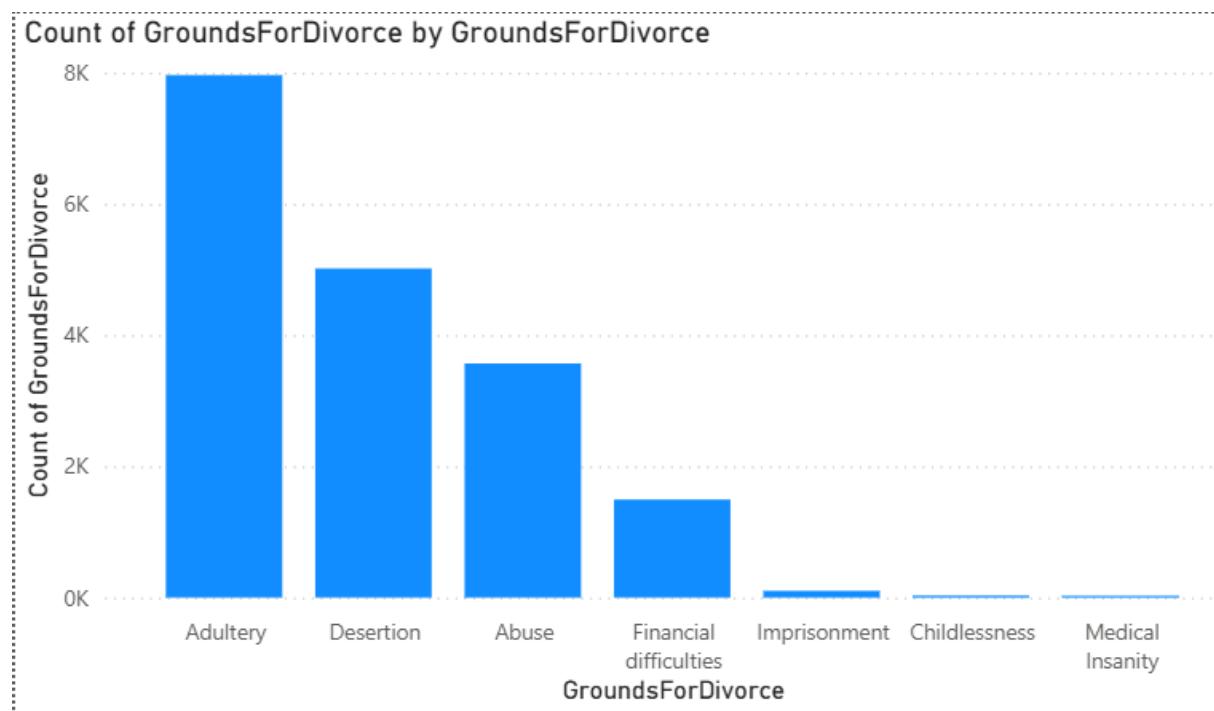

Figure 3: Shows ground for divorce

We observed most marriages end because their partner commits adulteries this is lucky caused by not being able to communicate your feelings to your partner. The last thing that ends marriages is the issue of medical insanity is lucky that your partner can end the marriage.

6 Conclusion.

This analysis revealed long-term growth in divorce cases from 1980 to 2018, followed by a decline after 2019. Divorce cases were disproportionately concentrated in highly urbanised provinces such as Gauteng and the Western Cape. Adultery and relationship breakdown were the most commonly reported grounds for divorce. These findings highlight the influence of demographic concentration and social dynamics on marital stability in South Africa.

7 Recommendation

Public awareness programmes focusing on communication, conflict resolution, and mental health support may contribute to improving marital stability. Further research is recommended to explore the socio-economic and cultural factors influencing divorce trends across provinces.

8 Limitation

This analysis is limited to divorce cases that resulted in a granted decree and therefore excludes informal separations or unresolved cases. Additionally, the imputation process assumes that unspecified values follow the same distribution as observed data, which may not fully capture underlying reporting biases.