

W12 Submission

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Week 9

What is the topic that you have finalized?

This project aims to assess gender inequality in India by comparing female and male labor force participation rates and education levels, shedding light on disparities in economic and educational opportunities.

What are the data sources that you have curated so far?

I have attached the data set I curated in the csv file below.

```
# Read data from CSV file

data <- read.csv("/Users/jaren/Desktop/NM2207 Updated Data.csv")

head(data) # View the first few rows
```

```
##      X Male.Employment.To.Population.Ratio
## 1 1990                                NA
## 2 1991                                73.61
## 3 1992                                73.44
## 4 1993                                73.34
## 5 1994                                73.19
## 6 1995                                73.65
##   Female.Employment.To.Population.Ratio
## 1                                NA
## 2                                25.93
## 3                                25.99
## 4                                26.09
## 5                                26.22
## 6                                26.52
##   Vulnerable.Employment..Male....of.Male.Employment
## 1                                NA
## 2                                80.25
## 3                                80.28
## 4                                80.31
## 5                                80.32
## 6                                80.62
##   Vulnerable.Employment..Female....of.Female.Employment
## 1                                NA
```

## 2	90.57
## 3	90.65
## 4	90.74
## 5	90.83
## 6	90.85
## Share.of.Female.Employment.in.Senior.and.Middle.Management	
## 1	NA
## 2	NA
## 3	NA
## 4	NA
## 5	NA
## 6	NA
## Male.Unemployment....of.Male.Labour.Force	
## 1	NA
## 2	6.73
## 3	6.82
## 4	6.82
## 5	6.87
## 6	7.04
## Female.Unemployment....of.Female.Labour.Force	
## 1	NA
## 2	6.76
## 3	6.79
## 4	6.73
## 5	6.72
## 6	6.94
## Share.of.Youth.Not.in.Education..Employment.or.Training..Male....of.Male.Youth.Population	
## 1	NA
## 2	NA
## 3	NA
## 4	NA
## 5	16.31
## 6	NA
## Share.of.Youth.Not.in.Education..Employment.or.Training..Female....of.Female.Youth.Population	
## 1	NA
## 2	NA
## 3	NA
## 4	NA
## 5	62.54
## 6	NA
## Female.LFPR Male.LFPR Female.Headed.Households	
## 1	27.78 79.03 NA
## 2	27.82 78.92 NA
## 3	27.88 78.81 NA
## 4	27.97 78.71 9.2
## 5	28.11 78.59 NA
## 6	28.49 79.23 NA
## Women.Who.were.First.Married.by.Age.15....of.Women.Aged.20.24	
## 1	NA
## 2	NA
## 3	NA
## 4	17.6
## 5	NA
## 6	NA

##	Women.Who.were.First.Married.by.Age.18...of.Women.Aged.20.24	
## 1		NA
## 2		NA
## 3		NA
## 4		50.2
## 5		NA
## 6		NA
##	Labour.Force..Female....of.Total.Labour.Force	
## 1		24.82
## 2		24.88
## 3		24.96
## 4		25.06
## 5		25.19
## 6		25.29
##	Labour.Force.With.Advanced.Education..Female....of.Female.Working.age.Population	
## 1		NA
## 2		NA
## 3		NA
## 4		NA
## 5		36.24
## 6		NA
##	Labour.Force.With.Intermediate.Education..Female....of.Female.Working.age.Population	
## 1		NA
## 2		NA
## 3		NA
## 4		NA
## 5		18.13
## 6		NA
##	Labour.Force.With.Basic.Education..Female....of.Female.Working.age.Population	
## 1		NA
## 2		NA
## 3		NA
## 4		NA
## 5		18.01
## 6		NA
##	Labour.Force.With.Advanced.Education..Male....of.Male.Working.age.Population	
## 1		NA
## 2		NA
## 3		NA
## 4		NA
## 5		85.99
## 6		NA
##	Labour.Force.With.Intermediate.Education..Male....of.Male.Working.age.Population	
## 1		NA
## 2		NA
## 3		NA
## 4		NA
## 5		65.96
## 6		NA
##	Labour.Force.With.Basic.Education..Male....of.Male.Working.age.Population	
## 1		NA
## 2		NA
## 3		NA
## 4		NA

5
6

74.19
NA

summary(data)

```
##           X           Male.Employment.To.Population.Ratio
## Min.      :1990      Min.      :64.56
## 1st Qu.:1998      1st Qu.:70.45
## Median :2006      Median :72.30
## Mean     :2006      Mean      :71.81
## 3rd Qu.:2014      3rd Qu.:73.62
## Max.     :2022      Max.      :75.97
##                NA's      :1
## Female.Employment.To.Population.Ratio
## Min.      :18.95
## 1st Qu.:22.66
## Median :26.27
## Mean     :25.17
## 3rd Qu.:27.27
## Max.     :28.11
## NA's      :1
## Vulnerable.Employment..Male....of.Male.Employment
## Min.      :72.69
## 1st Qu.:76.95
## Median :80.62
## Mean     :78.91
## 3rd Qu.:80.96
## Max.     :81.39
## NA's      :2
## Vulnerable.Employment..Female....of.Female.Employment
## Min.      :74.88
## 1st Qu.:81.03
## Median :88.41
## Mean     :85.90
## 3rd Qu.:90.58
## Max.     :90.85
## NA's      :2
## Share.of.Female.Employment.in.Senior.and.Middle.Management
## Min.      :12.20
## 1st Qu.:14.40
## Median :17.00
## Mean     :15.58
## 3rd Qu.:17.00
## Max.     :17.30
## NA's      :28
## Male.Unemployment....of.Male.Labour.Force
## Min.      : 6.650
## 1st Qu.: 7.430
## Median : 7.895
## Mean     : 7.834
## 3rd Qu.: 8.262
## Max.     :10.650
## NA's      :1
## Female.Unemployment....of.Female.Labour.Force
```

```

## Min.      :6.070
## 1st Qu.:7.090
## Median :7.985
## Mean    :7.820
## 3rd Qu.:8.523
## Max.    :8.960
## NA's     :1
## Share.of.Youth.Not.in.Education..Employment.or.Training..Male....of.Male.Youth.Population
## Min.      : 7.580
## 1st Qu.: 9.975
## Median :14.510
## Mean    :13.189
## 3rd Qu.:16.240
## Max.    :17.650
## NA's     :23
## Share.of.Youth.Not.in.Education..Employment.or.Training..Female....of.Female.Youth.Population
## Min.      :43.53
## 1st Qu.:46.49
## Median :47.83
## Mean    :50.55
## 3rd Qu.:55.33
## Max.    :62.54
## NA's     :23
## Female.LFPR      Male.LFPR      Female.Headed.Households
## Min.      :20.54   Min.      :72.25   Min.      : 9.2
## 1st Qu.:24.77   1st Qu.:76.73   1st Qu.:10.3
## Median :28.11   Median :78.71   Median :14.4
## Mean    :27.33   Mean    :77.94   Mean    :13.2
## 3rd Qu.:29.69   3rd Qu.:79.29   3rd Qu.:14.6
## Max.    :30.52   Max.    :82.34   Max.    :17.5
##                                     NA's     :28
## Women.Who.were.First.Married.by.Age.15....of.Women.Aged.20.24
## Min.      : 4.0
## 1st Qu.: 5.4
## Median :13.1
## Mean    :12.7
## 3rd Qu.:17.6
## Max.    :23.4
## NA's     :28
## Women.Who.were.First.Married.by.Age.18....of.Women.Aged.20.24
## Min.      :22.30
## 1st Qu.:25.30
## Median :44.50
## Mean    :38.46
## 3rd Qu.:50.00
## Max.    :50.20
## NA's     :28
## Labour.Force..Female....of.Total.Labour.Force
## Min.      :20.99
## 1st Qu.:23.54
## Median :25.19
## Mean    :24.79
## 3rd Qu.:25.88
## Max.    :26.78

```

```

##
## Labour.Force.With.Advanced.Education..Female....of.Female.Working.age.Population
## Min.      :30.66
## 1st Qu.   :32.43
## Median    :32.90
## Mean      :33.27
## 3rd Qu.   :34.45
## Max.      :36.24
## NA's      :24
## Labour.Force.With.Intermediate.Education..Female....of.Female.Working.age.Population
## Min.      :14.11
## 1st Qu.   :15.68
## Median    :16.67
## Mean      :17.11
## 3rd Qu.   :17.62
## Max.      :23.27
## NA's      :24
## Labour.Force.With.Basic.Education..Female....of.Female.Working.age.Population
## Min.      :16.65
## 1st Qu.   :19.51
## Median    :22.02
## Mean      :20.76
## 3rd Qu.   :22.68
## Max.      :23.28
## NA's      :24
## Labour.Force.With.Advanced.Education..Male....of.Male.Working.age.Population
## Min.      :80.84
## 1st Qu.   :81.93
## Median    :83.30
## Mean      :83.50
## 3rd Qu.   :84.87
## Max.      :86.73
## NA's      :24
## Labour.Force.With.Intermediate.Education..Male....of.Male.Working.age.Population
## Min.      :60.36
## 1st Qu.   :62.24
## Median    :63.67
## Mean      :64.46
## 3rd Qu.   :65.96
## Max.      :69.77
## NA's      :24
## Labour.Force.With.Basic.Education..Male....of.Male.Working.age.Population
## Min.      :74.01
## 1st Qu.   :74.54
## Median    :75.65
## Mean      :75.74
## 3rd Qu.   :76.32
## Max.      :78.43
## NA's      :24

```

Week 10

What is the question that you are going to answer? (Answer: One sentence that ends with a question mark that could act like the title of your data story),

Is gender equality getting worse in India?

Why is this an important question? (Answer: 3 sentences, each of which has some evidence, e.g., “According to the United Nations...” to justify why the question you have chosen is important),

The question of whether gender equality is getting worse in India is significant due to several compelling reasons. According to the United Nations' Human Development Index, India's Gender Inequality Index (GII) ranks it as one of the countries with persistent gender disparities. India's GII, according to the 2020 Human Development Report, stood at 0.501, indicating substantial gender inequality. Furthermore, evidence from the National Family Health Survey-4 (NFHS-4) shows that despite improvements in some areas, India still grapples with gender-based issues like maternal mortality, child marriage, and violence against women, underscoring the need to assess whether the situation is improving or deteriorating. Lastly, tracking changes in gender equality in India is vital as it can inform policy and program development to address disparities and promote a more inclusive and equitable society.

Which rows and columns of the dataset will be used to answer this question? (Answer: Actual names of the variables in the dataset that you plan to use).

I currently intend to utilize all my variables to create a story on how gender inequality is evolving in India.

Week 11

1. List the visualizations that you are going to use in your project (Answer: What are the variables that you are going to plot? How will it answer your larger question?),

The main variables that I will likely focus on will be labor force participation rate for females and males.

2. How do you plan to make it interactive? (Answer: features of ggplot2/shiny/markdown do you plan to use to make the story interactive) ,

I used ggplot2 to create some visualizations on how female and male LFPR have altered over time.

I want to use Shiny, although I am not very sure how to do so.

3. What concepts incorporated in your project were taught in the course and which ones were self-learned? (Answer: Create a table with topics in one column and Weeks in the other to indicate which concept taught in which week is being used. Leave the entry of the Week column empty for self-learned concepts)

I will update this as my website develops.

Include the challenges and errors that you faced and how you overcame them.

I struggle to incorporate Shiny into my website.

Week 12

Include the challenges and errors that you faced and how you overcame them.

Over W12, I attempted to plot ggplot2 graphs but struggled to do so for some variables due to the presence of NA values. I was not confident in tidying data in R before plotting it out. I sought help from Prof NV which allowed me to make progress as I was able to plot the graphs I wanted to answer the questions I had in mind.

That being said, given that this is the first time I am creating a website, I remained unsure on how to design it in a way that looks aesthetic. I also struggled to come up with a coherent story which conveyed the main issue that my website is trying to address. I am still in the process of coming up with questions which would allow me to answer the issue of how gender inequality has evolved over time in India.