

## EXP 10. Education Data Report

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<b>Dataset</b>	Education
<b>Experiment no.</b>	10

### Dataset link-

<https://www.kaggle.com/datasets/nelgiriyeewithana/world-educational-data>

### Dataset Description-

This meticulously curated dataset offers a panoramic view of education on a global scale , delivering profound insights into the dynamic landscape of education across diverse countries and regions. Spanning a rich tapestry of educational aspects, it encapsulates crucial metrics including out-of-school rates, completion rates, proficiency levels, literacy rates, birth rates, and primary and tertiary education enrollment statistics. A treasure trove of knowledge, this dataset is an indispensable asset for discerning researchers, dedicated educators, and forward-thinking policymakers, enabling them to embark on a transformative journey of assessing, enhancing, and reshaping education systems worldwide.

### Content

Countries and Areas: Name of the countries and areas.

Latitude: Latitude coordinates of the geographical location.

Longitude: Longitude coordinates of the geographical location.

OOSR\_Pre0Primary\_Age\_Male: Out-of-school rate for pre-primary age males.

OOSR\_Pre0Primary\_Age\_Female: Out-of-school rate for pre-primary age females.

OOSR\_Primary\_Age\_Male: Out-of-school rate for primary age males.

OOSR\_Primary\_Age\_Female: Out-of-school rate for primary age females.

OOSR\_Lower\_Secondary\_Age\_Male: Out-of-school rate for lower secondary age males.

OOSR\_Lower\_Secondary\_Age\_Female: Out-of-school rate for lower secondary age females.

OOSR\_Upper\_Secondary\_Age\_Male: Out-of-school rate for upper secondary age males.

OOSR\_Upper\_Secondary\_Age\_Female: Out-of-school rate for upper secondary age females.

Completion\_Rate\_Primary\_Male: Completion rate for primary education among males.

Completion\_Rate\_Primary\_Female: Completion rate for primary education among females.

Completion\_Rate\_Lower\_Secondary\_Male: Completion rate for lower secondary education among males.

Completion\_Rate\_Lower\_Secondary\_Female: Completion rate for lower secondary education among females.

Completion\_Rate\_Upper\_Secondary\_Male: Completion rate for upper secondary education among males.

Completion\_Rate\_Upper\_Secondary\_Female: Completion rate for upper secondary education among females.

Grade\_2\_3\_Proficiency\_Reading: Proficiency in reading for grade 2-3 students.

Grade\_2\_3\_Proficiency\_Math: Proficiency in math for grade 2-3 students.

Primary\_End\_Proficiency\_Reading: Proficiency in reading at the end of primary education.

Primary\_End\_Proficiency\_Math: Proficiency in math at the end of primary education.

Lower\_Secondary\_End\_Proficiency\_Reading: Proficiency in reading at the end of lower secondary education.

Lower\_Secondary\_End\_Proficiency\_Math: Proficiency in math at the end of lower secondary education.

Youth\_15\_24\_Literacy\_Rate\_Male: Literacy rate among male youths aged 15-24.

Youth\_15\_24\_Literacy\_Rate\_Female: Literacy rate among female youths aged 15-24.

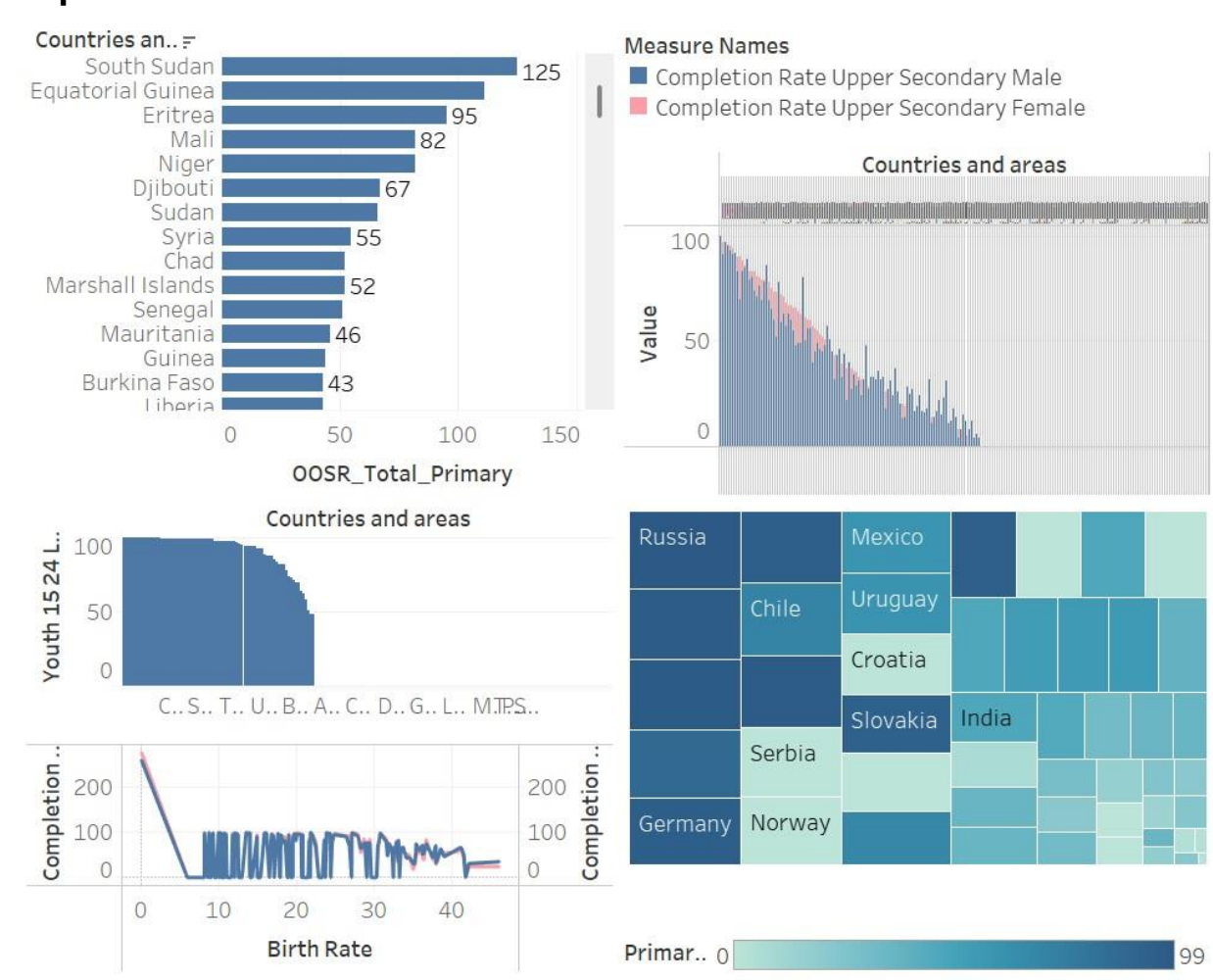
Birth\_Rate: Birth rate in the respective countries/areas.

Gross\_Primary\_Education\_Enrollment: Gross enrollment in primary education.

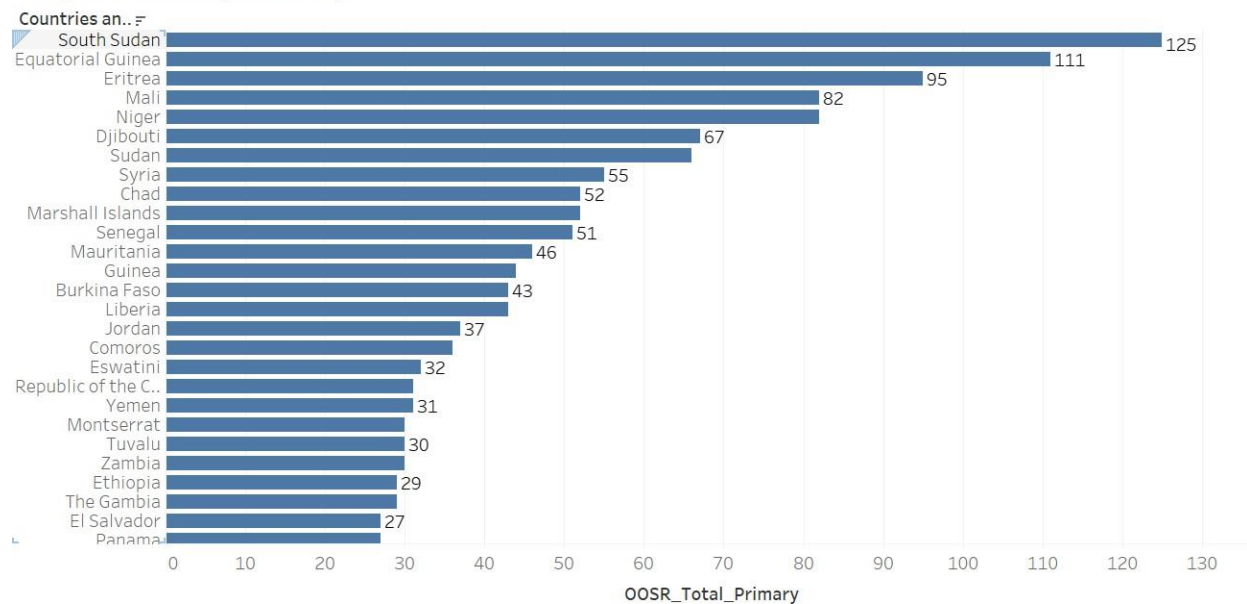
Gross\_Tertiary\_Education\_Enrollment: Gross enrollment in tertiary education.

Unemployment\_Rate: Unemployment rate in the respective countries/areas

## Report-



## Dropout Rate by Country

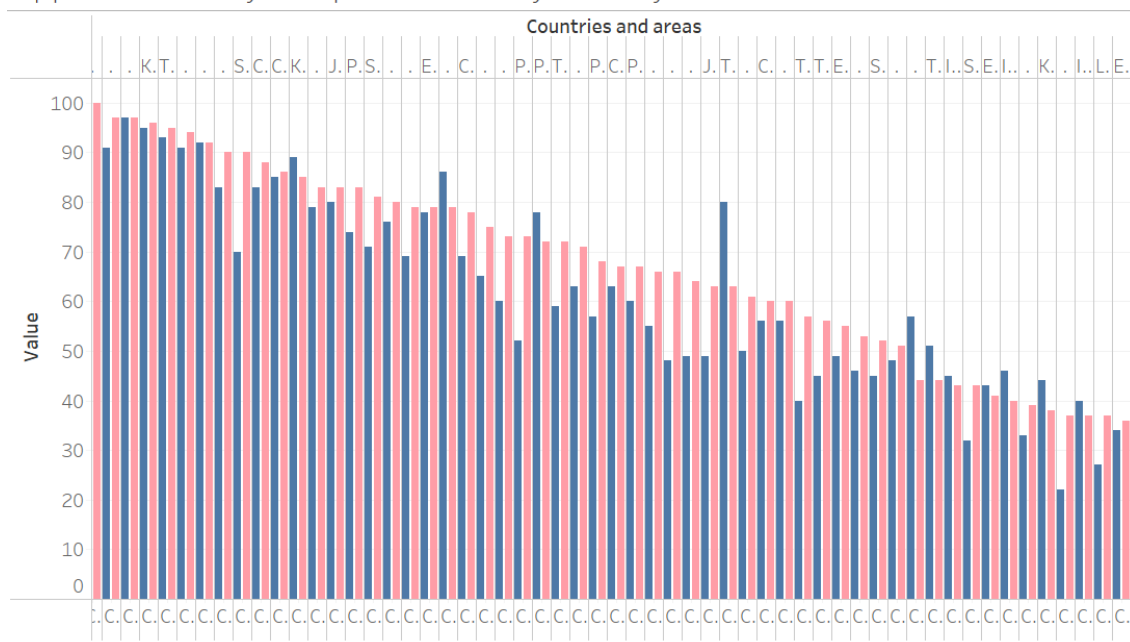


### Question:

Which countries have the highest primary school dropout rates, and what might this suggest about educational access?

South Sudan, Equatorial Guinea, and Eritrea have the highest dropout rates, with South Sudan reaching over 120%. These high dropout rates suggest significant challenges in educational retention, potentially due to socio-economic or political factors impacting access to consistent schooling.

## Upper Secondary Completion rate by country

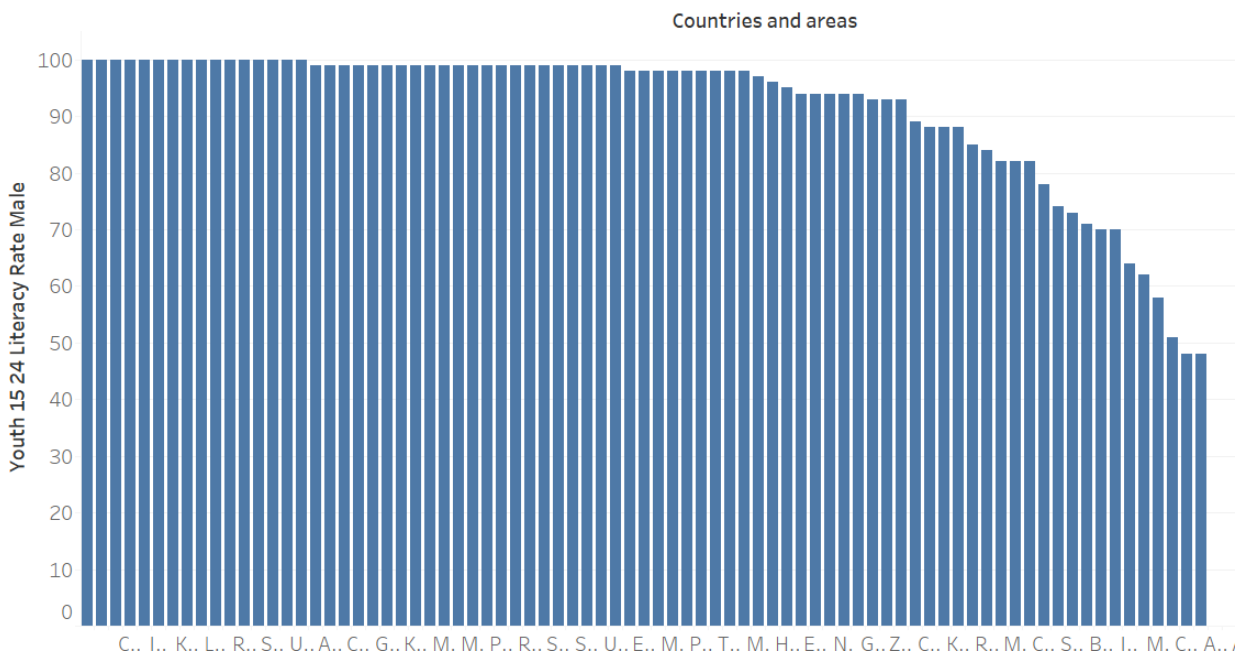


**Question:**

How does the upper secondary completion rate vary by country, and are there any notable trends?

The bar chart shows that upper secondary completion rates are high in some countries, exceeding 80-90%, but drop significantly in others. This variation suggests that while some countries are able to retain students through secondary education, others may face dropout issues before students reach this level, possibly due to economic or educational barriers.

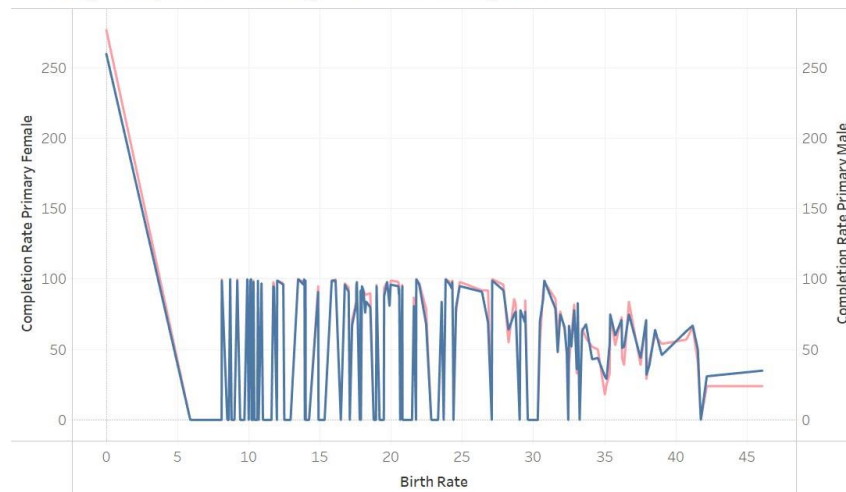
Youth Male Literacy Rate by country

**Question:**

What does the distribution of male youth literacy rates indicate about literacy across different countries?

The chart shows that literacy rates vary widely across countries, with many countries achieving over 90% literacy, while others fall below 50%. This suggests disparities in educational quality or access, with some countries likely struggling with resources or literacy-focused programs.

Primary Completion Rate by Birth rate and gender

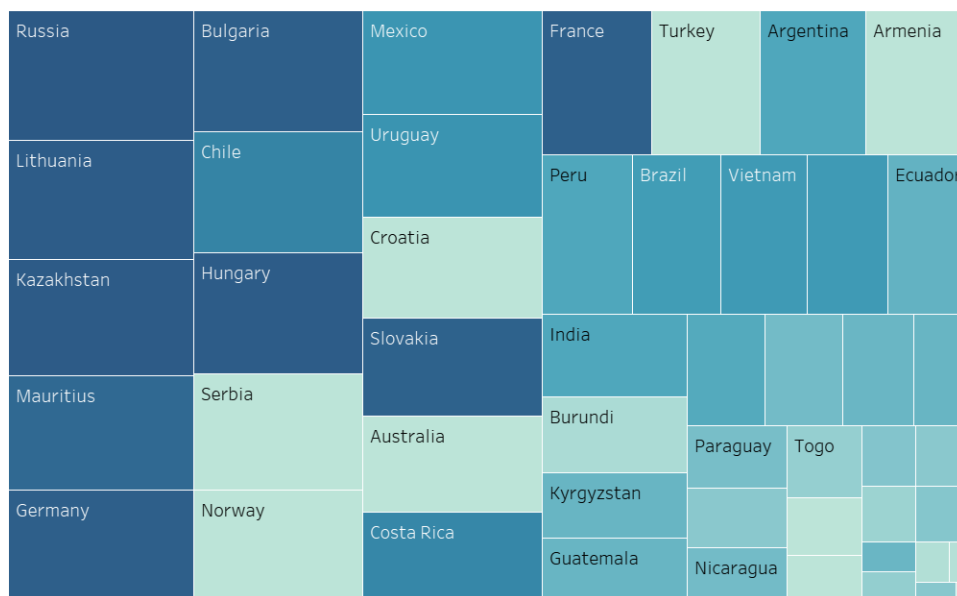


**Question:**

Is there a relationship between birth rates and primary school completion rates, and does it differ by gender?

The line plot shows that higher birth rates generally correlate with lower primary completion rates for both genders, suggesting that countries with higher birth rates may face challenges in educational infrastructure or access. However, there is no strong visible difference between genders in completion rates related to birth rate.

Math and Reading Proficiency by country (size-math,color-reading)



**Question:**

What does the treemap reveal about math and reading proficiency levels across different countries?

The treemap shows variation in proficiency levels, with countries like Russia, France, and Argentina performing relatively well in both math and reading, while other countries such as Kyrgyzstan and Nicaragua have lower proficiency levels. This indicates disparities in educational outcomes, possibly related to the resources and emphasis placed on these subjects in different countries.