ACCSCIENCE PUBLISHING

Global Health Economics and Sustainability

ORIGINAL RESEARCH ARTICLE

Exploring the association between gender inequality and healthcare: A visualization study

Supplementary File

Table S1. Independent variables of gender inequality

Variable	Definition	Scale	Type	Example	Control
Country name	Name of the country	Nominal	Text/string	Afghanistan	No
Region	Region that the country belongs to (Asia, Africa, etc.)	Nominal	Text/string	Asia	Yes
Year	Year	Interval	Numeric (floating-point number)	2009	No
Gross domestic product (GDP) per capita purchasing power parity (PPP)	Per capita values for GDP expressed in current international dollars based on the PPP conversion factor	Nominal	Numeric (floating-point number)	1575.31	No
Population (female and male)	Based on the de facto definition of population, accounting for all female and male residents, regardless of legal status or citizenship	Nominal	Numeric (floating-point number)	13557331	No
School enrollment at primary and secondary levels (gross); gender parity index (GPI)	The ratio of girls to boys enrolled at primary and secondary levels in public and private schools	Ratio	Numeric (floating-point number)	0.60961	Yes
Proportion of seats held by women in national parliaments (%)	The percentage of parliamentary seats in a single or lower chamber held by women	Ratio	Numeric (floating-point number)	27.30923	No
Self-employed (% of employment; modeled International Labor Organization [ILO] estimate; female and male)	Workers who work independently, with partners, or within cooperatives in roles defined as "self-employment jobs"	Ratio	Numeric (floating-point number)	98.16897	No
Unemployment (% of labor force; modeled ILO estimate; female and male)	Part of the labor force that is without work but available for and seeking employment	Ratio	Numeric (floating-point number)	10.66	No
Immunization for measles (% of children, aged 12 – 23 months)	The percentage of children (aged 12 – 23 months) who received the measles vaccination before 12 months or at any time before the survey	Ratio	Numeric (floating-point number)	60	No
Access to anti-retroviral drugs (%; female and male)	The percentage of adults living with human immunodeficiency virus (HIV) who are receiving anti-retroviral therapy	Ratio	Numeric (floating-point number)	1	No
Income level ($)	Income level of the country (low, middle, or high) based on United Nations (UN) data	Ratio	Numeric (floating-point number)	Low income	Yes

Note: Adapted from the World Bank's World Development Indicators (WDI) database (https://databank.worldbank.org/reports.aspx?source=2&series=IT.CEL.SETS.P2&country=WLD).

Table S2. Dependent variables of health

Variable name	Definition	Scale	Example	Type
Fertility rate, total (births per woman)	The number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year	Ratio	6.235	Numeric (floating-point number)
Incidence of human immunodeficiency virus (HIV) (per 1000 uninfected population; female and male, aged 15 – 49)	Number of new HIV infections among uninfected populations (aged 15 – 49), expressed per 1000 uninfected population in the year before the period	Ratio	0.03	Numeric (floating-point number)
Life expectancy at birth (years) (female and male)	The number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life	Ratio	61.892	Numeric (floating-point number)
Mortality rate (%) from cardiovascular disease (CVD), cancer, diabetes, or chronic respiratory disease (CRD) (female and male, aged 30 – 70)	The percentage of 30 year olds expected to die before their 70th birthday from any of CVD, cancer, diabetes, or CRD, assuming they experience current age-specific mortality rates and do not succumb to other causes (e.g., injuries or HIV/AIDS).	Ratio	37.8	Numeric (floating-point number)

Note: Adapted from the World Bank's World Development Indicators (WDI) database (https://databank.worldbank.org/reports.aspx?source=2&series=IT.CEL.SETS.P2&country=WLD).

Table S3. Summary of the hypothesis, research question, analytical type, variables, graph/chart type, and conclusion of each figure

Figure	Hypothesis	Research question	Analytical type	Variables	Graph/ chart type	Conclusion
1	There is a negative association between access to anti-retroviral drugs and the incidence of human immunodeficiency virus (HIV) among females and males over time	Does access to anti-retroviral drugs affect the incidence of HIV among females and males?	Predictive	Access to anti-retroviral drugs, female (%) and male (%); incidence of HIV, female and male (per 1000 uninfected population, aged 15 – 49)	Bar and line charts	Higher access to anti-retroviral drugs is correlated with lower incidence of HIV among females and males
2	There is a positive association between access to anti-retroviral drugs and life expectancy among both genders	Does access to anti-retroviral drugs positively correlate with life expectancy among both genders?	Descriptive	Access to anti-retroviral drugs, female (%) and male (%); life expectancy at birth, female (years) and male (years)	Tree maps	Lower access to anti-retroviral drugs is correlated with lower life expectancy for both genders
3	There is a positive association between immunization against measles and life expectancy among females and males	How does immunization against measles affect life expectancy among females and males?	Predictive	Immunization against measles (% of children, aged 12 – 23 months); life expectancy at birth, female (years) and male (years)	Multiple line chart	Life expectancy for females is lower than for males; immunization contributes to higher life expectancy
4	There is a relationship between a country's economic situation and incidence of HIV among females and males	Is there a relationship between a country's economic situation and the incidence of HIV among females and males?	Descriptive	Gross domestic product (GDP) per capita, purchasing power parity (PPP) (current international $); incidence of HIV, female and male (per 1000 uninfected population, aged 15 – 49)	Pie charts	A higher income level does not necessarily translate into a lower incidence of HIV but prevalence in females is lower than in males
5	There is a relationship between a country's economic situation and mortality from cardiovascular diseases (CVDs), cancer, diabetes, or chronic respiratory diseases (CRDs) among females and males	Is there a relationship between a country's economic situation and mortality from CVD, cancer, diabetes, or CRD among females and males?	Predictive	Income and mortality from CVD, cancer, diabetes or CRD, female (%) and male (%) (aged 30 – 70)	Dual line charts	Higher-income countries are more likely to have lower mortality from CVD, cancer, diabetes, or CRD for both genders
6	There is a negative association between unemployment and mortality from CVD, cancer, diabetes, or CRD among females and males	How does the unemployment rate affect mortality from CVD, cancer, diabetes, or CRD for both genders?	Predictive	Unemployed, female (% of female employment) (modeled International Labor Organization [ILO] estimate) and male (% of male employment); mortality from CVD, cancer, diabetes, or CRD female (%) and male (%) (aged 30 – 70)	Bubble charts	Higher rates of unemployment correlate with higher mortality from CVD, cancer, diabetes, or CRD for both genders, but more pronounced for females
7	There is a positive association between the unemployment rate among females and the fertility rate over time	Is the unemployment rate among females affecting the fertility rate over time?	Descriptive	Unemployment, female (% of female labor force) (modeled ILO estimate); fertility rate, total (births per woman)	Dual combination chart	Reduced unemployment results in declining fertility rates for females, possibly due to increasing standard of living

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Table S3. ***(Continued)***

Figure	Hypothesis	Research question	Analytical type	Variables	Graph/ chart type	Conclusion
8	There is a positive association between unemployment rates and incidence of HIV among females and males	Are unemployment rates correlated with the incidence of HIV among females and males?	Descriptive	Unemployment, female (% of the female labor force) (modeled ILO estimate) and male (% of the male labor force) (modeled ILO estimate); incidence of HIV, female (per 1000 uninfected female population, aged 15 – 49) and male (per 1000 uninfected male population, aged 15 – 49); year	Side-by-side bar charts	Higher unemployment correlates to lower HIV prevalence in females compared to males
9	There is a positive association between self-employment and life expectancy among females and males	How does self-employment correlate with life expectancy among both genders?	Predictive	Self-employed, female (% of female employment) (modeled ILO estimate); life expectancy at birth, female (years)	Area charts	No association between self-employment and life expectancy
10	There is a positive association between the proportion of women in national parliaments and life expectancy among females	How does the proportion of women in national parliaments correlate with life expectancy among females?	Descriptive	Proportion of seats held by women in national parliaments (%); life expectancy at birth, female (years)	Dual combination chart	Representation of women in national parliaments is positively correlated with life expectancy among females
11	There is an association between the proportion of women in national parliaments and reduced fertility rate over time	How does the proportion of women in national parliaments correlate with the fertility rate?	Descriptive	Proportion of seats held by women in national parliaments (%); fertility rate, total (births per woman)	Tree map	Higher representation of women in national parliaments is correlated with lower fertility rate
12	There is a negative association between the proportion of seats held by women in national parliaments and the incidence of HIV among females	How does the proportion of seats held by women in national parliaments correlate with the incidence of HIV in females?	Descriptive	Proportion of seats held by women in national parliaments (%); incidence of HIV, females	Area charts	There is an inverse relationship between women in national parliaments and HIV incidence in females
13	There is an association between gender parity in school enrollment and life expectancy among females and males	Is gender parity in school enrollment affecting life expectancy among females and males?	Descriptive	School enrollment, primary and secondary levels (gross), gender parity index (GPI); life expectancy at birth, female (years) and male (years)	Scatter plot with regression lines	Higher GPI in primary and secondary school enrollment is correlated with higher life expectancy for both genders, but higher for females
14	There is an association between gender parity in school enrollment and fertility rate over time	Is gender parity in school enrollment at primary and secondary levels associated with fertility rate?	Predictive	School enrollment, primary and secondary levels (gross), GPI; fertility rate, total (births per woman)	Bubble chart	Lower female enrollment in Africa is associated with a higher fertility rate
15	There is an association between regions with high gender parity indexes and mortality from CVD, cancer, diabetes, or CRD among females and males	Is there an association between regions with higher gender parity index and mortality rate from CVD, cancer, diabetes, or CRD among males?	Descriptive	Population, male; mortality from CVD, cancer, diabetes or CRD, male (%) (aged 30 – 70); region; school enrollment	Line charts	Higher GPI in school enrollment is correlated with a reduced mortality rate from CVD, cancer, diabetes, or CRD among females and males