THE INFLUENCE OF EDUCATION ON HEALTH:

AN EMPIRICAL ASSESSMENT OF OECD COUNTRIES FOR THE YEARS 1995-2015

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& SUSTAINABLE DEVELOPMENT

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INTRODUCTION & BACKGROUND

➢ Is education generally associated with health?

➢ Research shows that adults with lower educational attainment suffer from poor health when compared to other populations

➢ Research has shown that education brings about health disparities even in developed nations (Zajacova & Lawrence, 2018).

➢ However, there are challenges to research in this area…….

Some Challenges in the Research Area

Research has not been able to offer definitive answers to some critical questions because of:

➢Distribution & content of education changes over time

➢Education & health are interlinked through life spans within and across generations of populations – thereby involving a larger *social* context within which the association is embedded (Lynch, 2003).

➢Three sets of *mediators*: *economic* (income, occupation), *social/psychological* (factors that influence access to resources and coping strategies, childhood health), *behavioral* (healthy behaviors) (Folkman & Lazarus, 1980; Harper & Lambert, 1994; Wheaton, 1983)

➢There is therefore a growing need for new directions in education–health research.

Research Objective:

➤ To get a clear understanding of the education-health equation and *empirically* study how education can be key to reducing health disparities & improving the well being of future populations.

Research Question:

➤ *What are some key influencers/drivers in the education-health relationship at a country level?*

RESEARCH METHODOLOGY

➢ *Source***:** Country level data from OECD & World Bank (1995-2015)

➢ *Education Variables*:

    ➢ Adult education level (below secondary, upper secondary, tertiary);

    ➢ Enrollment rates (Primary, secondary, tertiary);

    ➢ NEET rate (Not in Employment, Education or Training);

    ➢ Tertiary school life expectancy (# of years of tertiary schooling a child can expect to receive)

➢ *Health Variables*:

    ➢ Compulsory health expenditure;

    ➢ Infant mortality; Child vaccination rates;

    ➢ Deaths from cancer; Life expectancy at birth;

    ➢ Potential years of life lost (premature mortality); Smoking rates

➢ *Tools***:** Tableau for visualization; SAS for correlation & descriptive statistics (VISUAL ANALYTICS)

ANALYSIS & RESULTS

➢ *Do countries with higher GDP per capita have better health status?*

➢ GDP had a negative assoc w/ Infant mortality rate & potential years of life lost

(Countries with higher GDP have lower infant mortality & potential years of life lost)

➢ GDP showed no assoc w/ Life expectancy at birth & deaths from cancer.

➢ *Are* education outcomes (*adult education level-tertiary, tertiary school life expectancy, NEET*) associated w/ *life expectancy at birth?* FIGURE 3
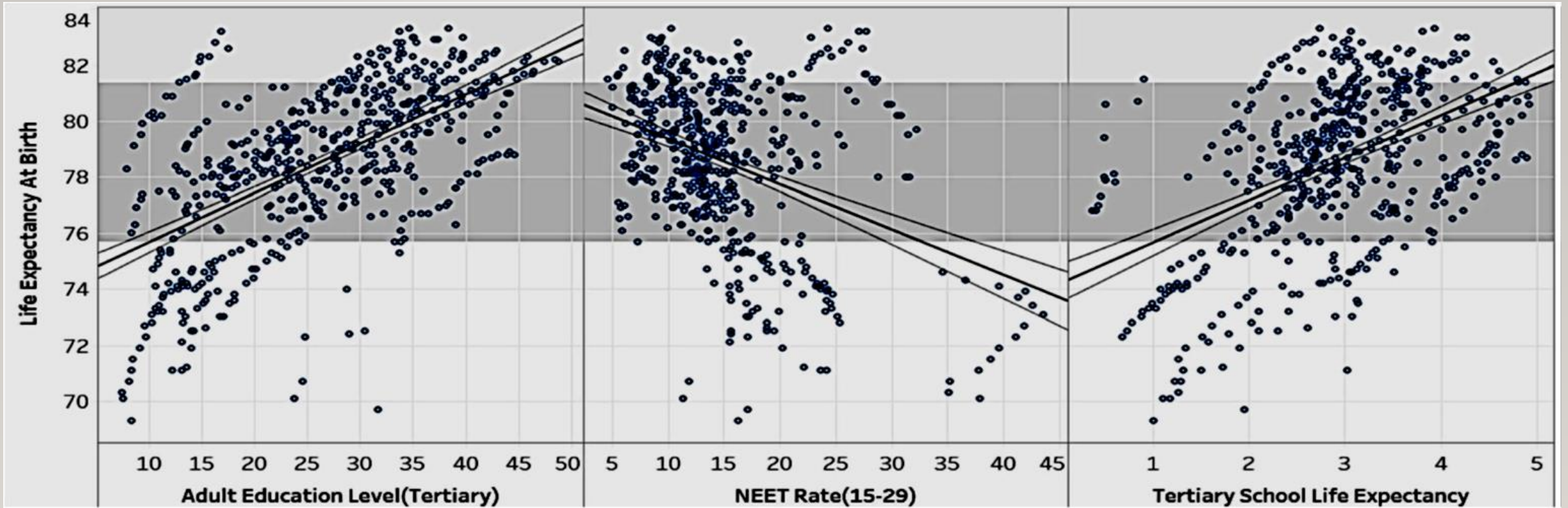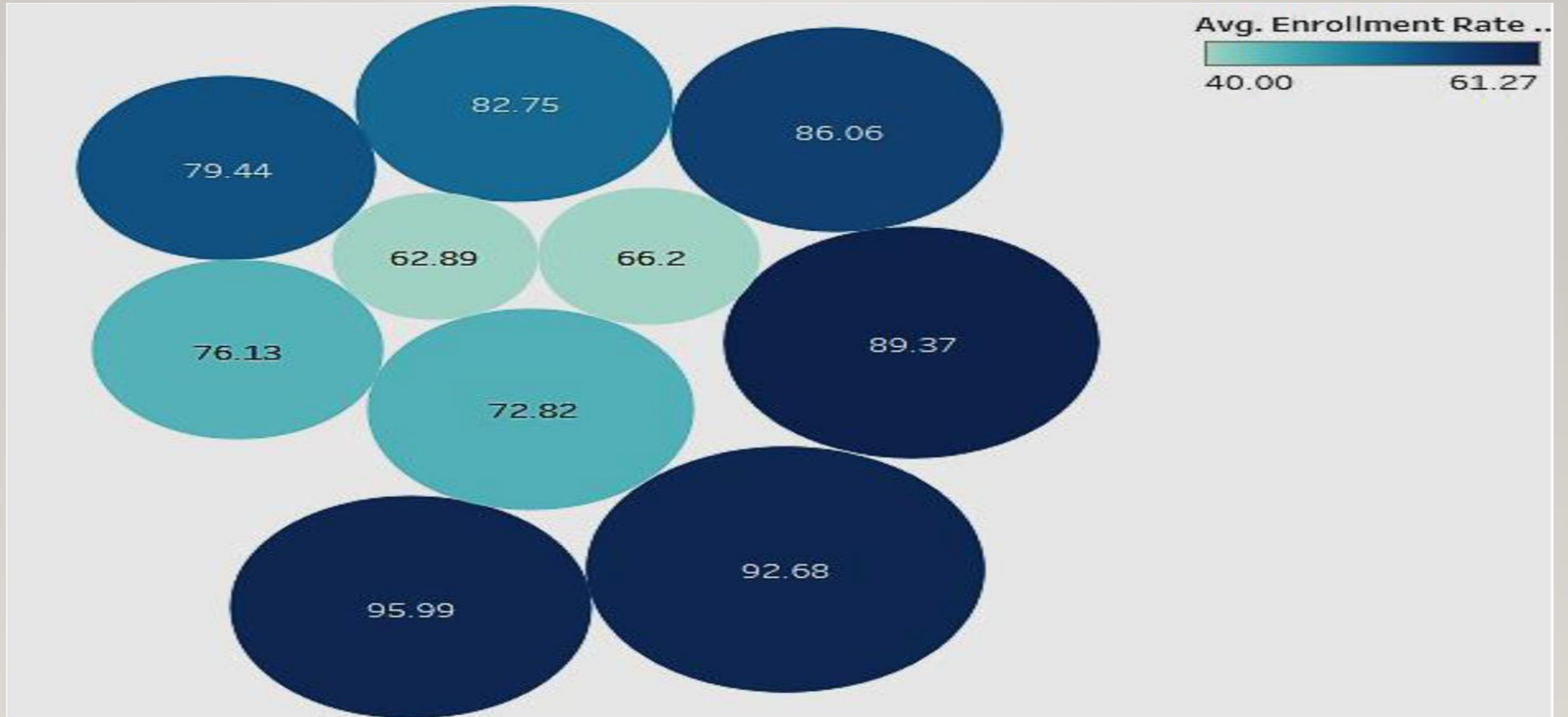

Tertiary education level - positive association
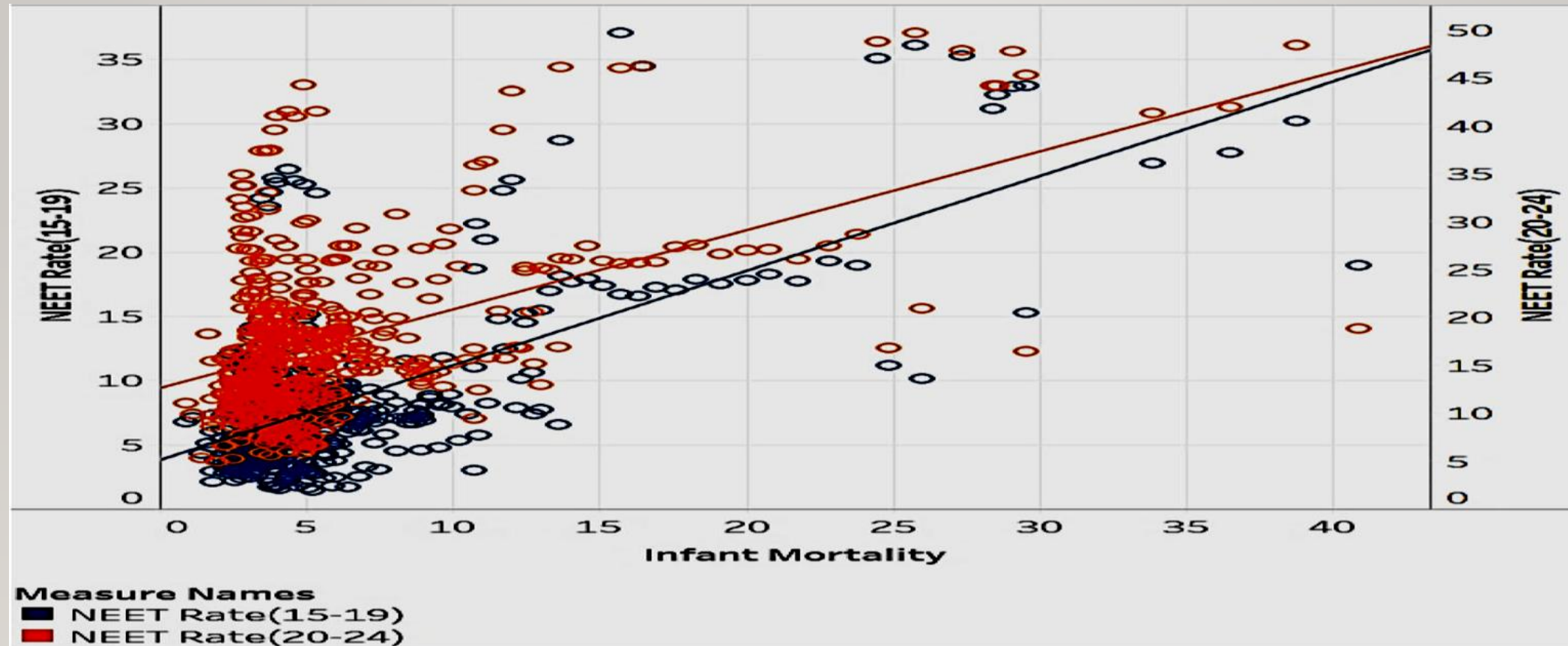NEET – negative association
Tertiary school life expectancy – positive association

➢ Are **Enrollment rate** (tertiary) and **Education level** (Tertiary) assoc w/ **Child vaccination rates** – Figure 5
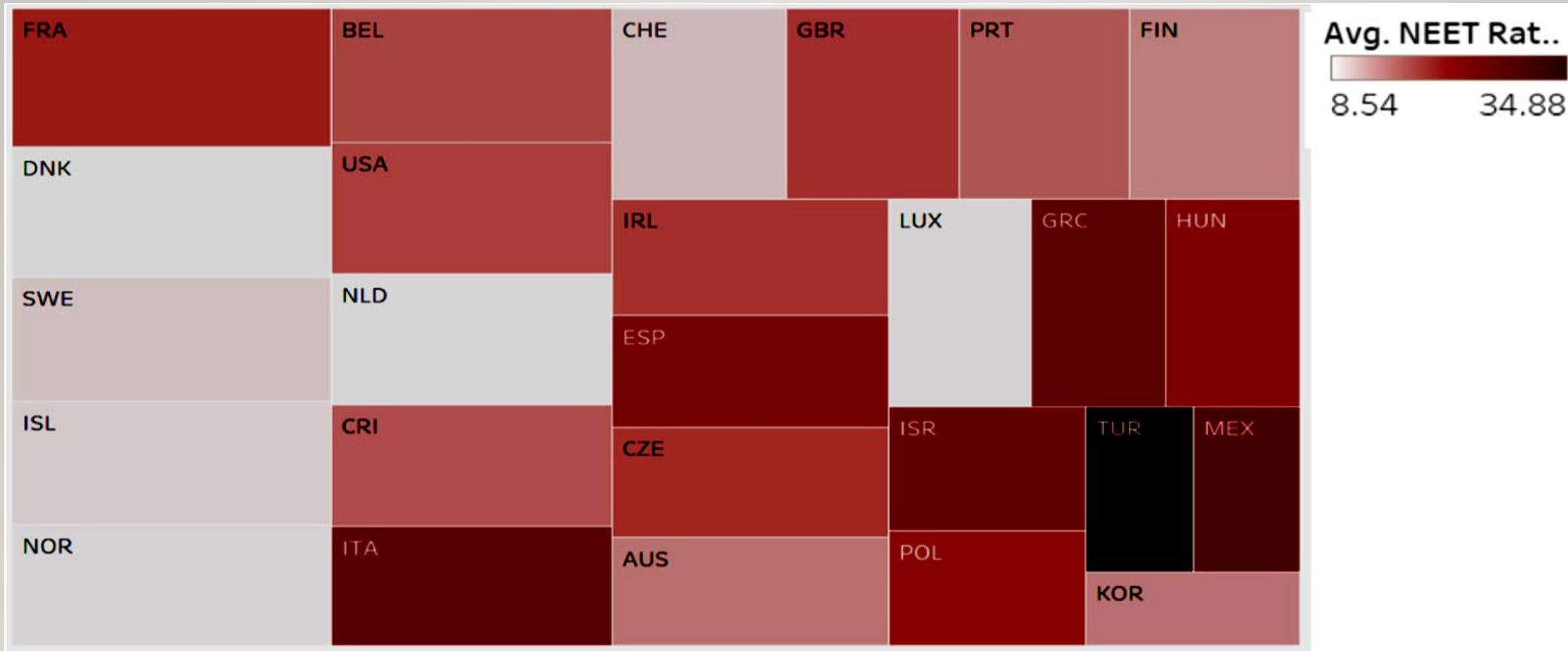

Color = enrollment rate (tertiary); Size = education level (tertiary)
label=child vac rate;   Positive assoc of both education & enrollment with child vac rate

➢ Is **NEET** rate (15–19; 20–24) assoc w/ *infant mortality rates?* Figure 6

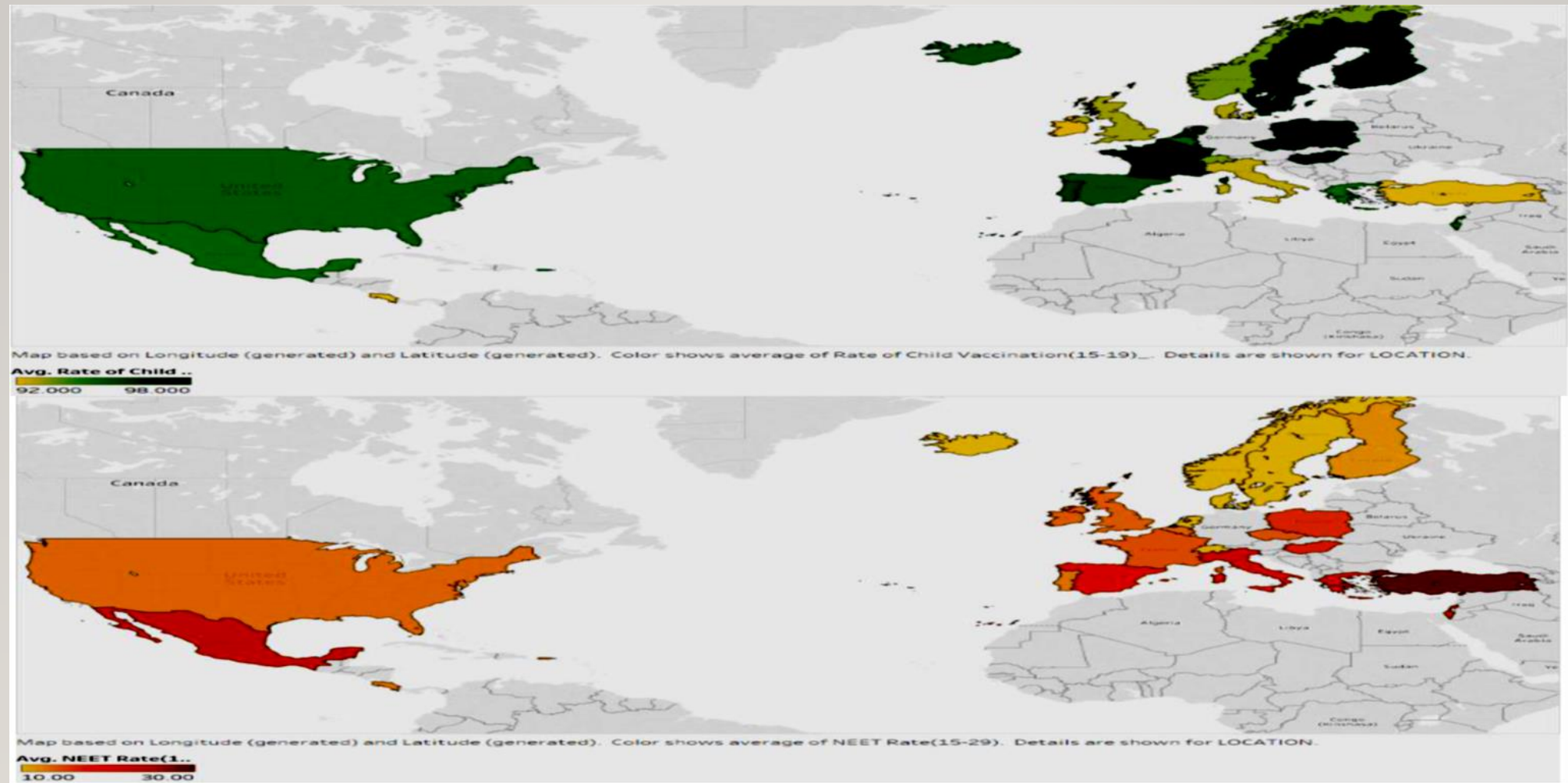NEET (20-24) age group shows a higher positive assoc than NEET (15-10) age group

➢Is *NEET rate* assoc w/ *Compulsory Health Expenditure* (Figure 9)


TUR has the highest NEET;
While SWE,DEN have high exp & low NEET, USA high high exp & high NEET– inconsistent to see any pattern of association

➢Is *NEET rate* assoc w/ *Child Vaccination Rate* rates – Figure 13 (positive)

Map based on Longitude (generated) and Latitude (generated). Color shows average of Rate of Child Vaccination(15-19). Details are shown for LOCATION.

Avg. Rate of Child ..
92.000   98.000

Map based on Longitude (generated) and Latitude (generated). Color shows average of NEET Rate(15-29). Details are shown for LOCATION.

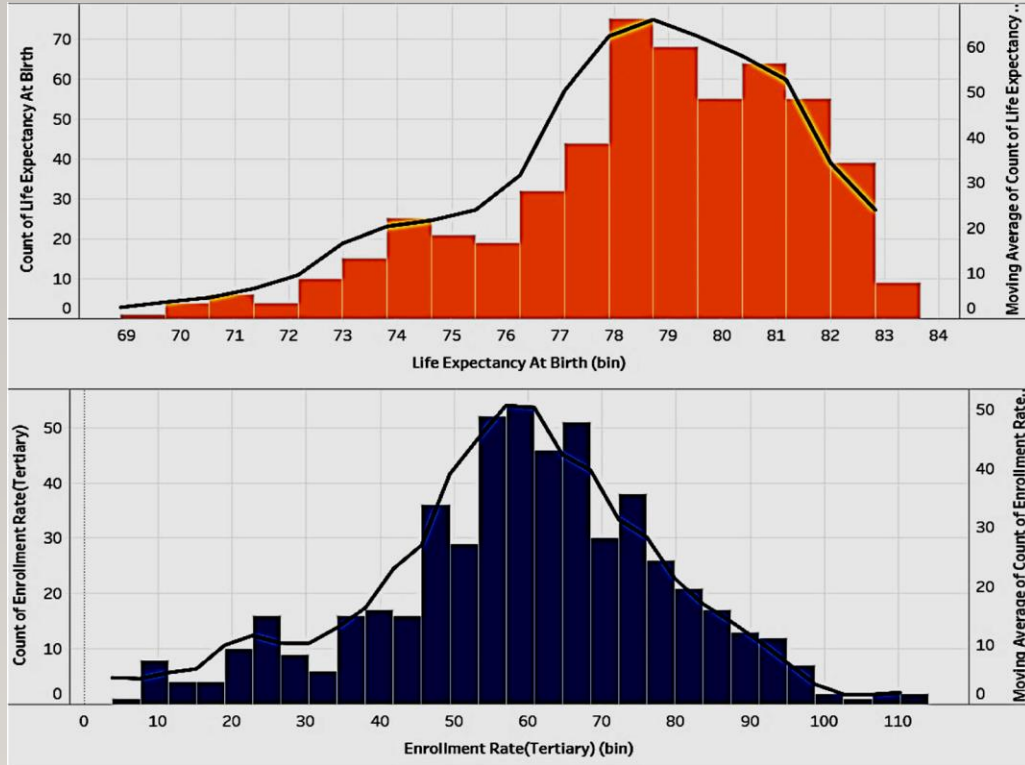Avg. NEET Rate(1..
10.00   30.00

- Is *health expenditure* assoc w/ *adult education levels*? Figure 8
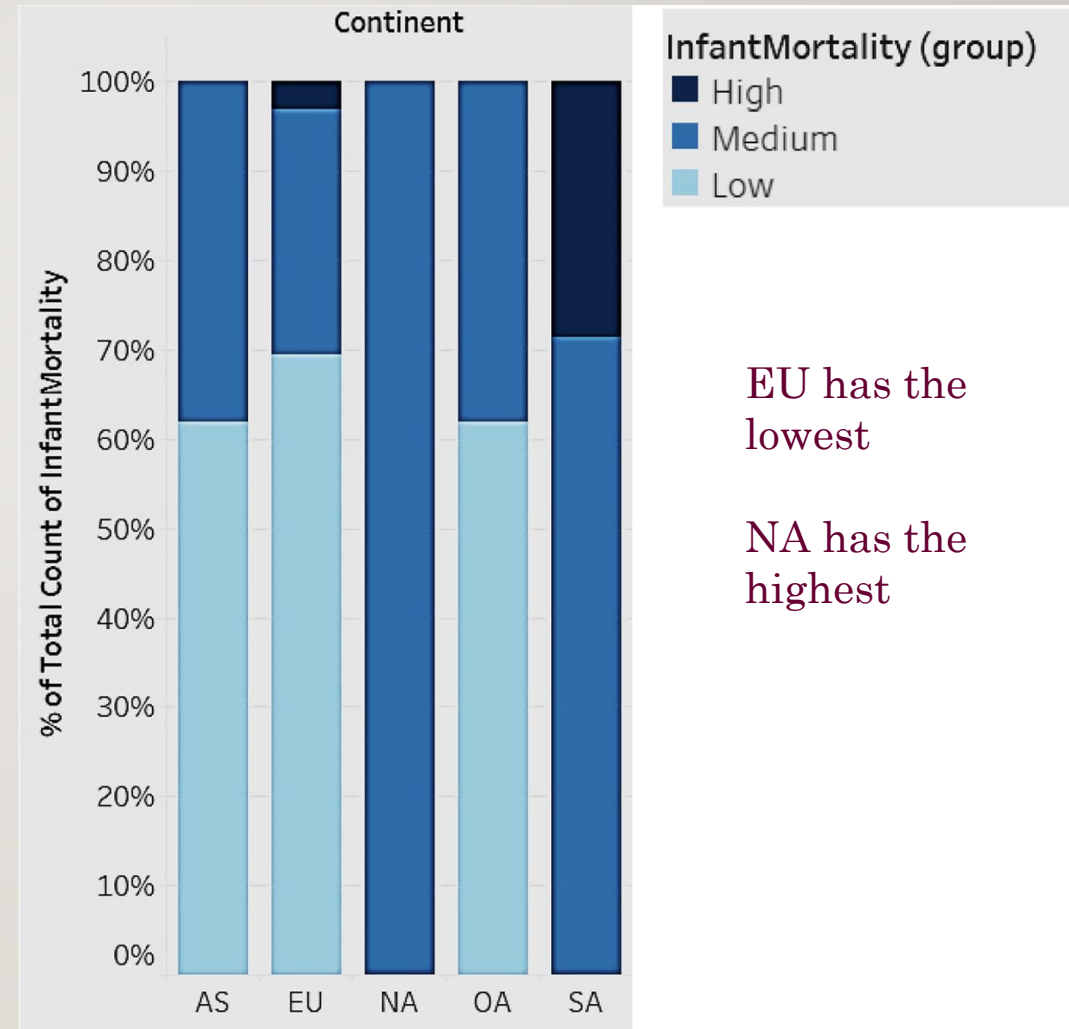 - Color = avg health exp;
  - size – education level
  - Positive association
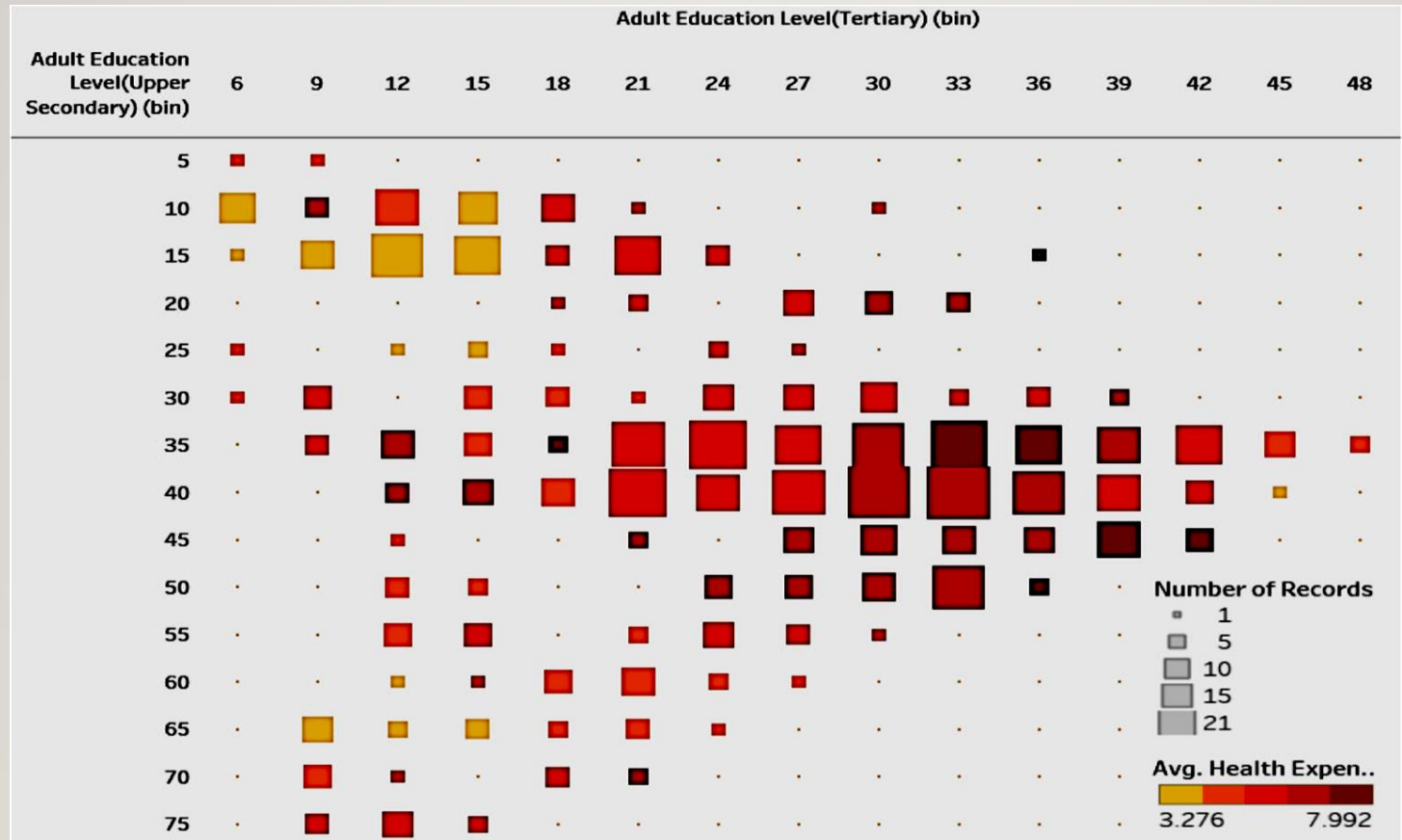
Distribution of all data by key Indicators

Distribution of *life expectancy at birth*

& enrollment rate (tertiary)

Distribution of *infant mortality* by continent

Life expectancy is skewed to the right (most countries have high); Enrollment rate follows a normal distribution

EU has the lowest

NA has the highest

Summary of analysis in slides:

➢ Do countries with higher *GDP per capita* have better health status?

    ➢ negative assoc w/ Infant mortality rate & potential years of life lost

    ➢ no assoc w/ Life expectancy at birth & deaths from cancer

➢ Are *education outcomes* (adult education level-tertiary, tertiary school life expectancy, NEET) associated w/ *life expectancy at birth?* Positive, Positive & negative

➢ Are *Enrollment rate* (tertiary) and *Education level* (Tertiary) assoc w/ *Child vaccination rate*s? Figure 5 - Positive

➢ Is NEET rate (15–19; 20–24) assoc w/ infant mortality rates? Figure 6 - Positive

➢ Is NEET rate assoc w/ Compulsory Health Expenditure (Figure 9) – No association

➢ Is NEET rate assoc w/ Child Vaccination Rate rates – Figure 13 - Positive

DISCUSSION

➢ Our empirical analysis shows how interlinked education and health can be

➢ Among the adult education levels, *tertiary education* is the most critical indicator influencing healthcare in terms of *infant mortality*, *life expectancy*, *child vaccination rates* and *enrollment rates*.

➢ In addition to mortality rate, an economy needs to consider *potential years of life lost*, as a measure of health quality

➢ We also bring to light the health disparities across countries and suggest implications for governments to target educational interventions that can reduce inequalities and improve health, at a macro level

SCOPE & LIMITATIONS

➢ For one, the number of countries is limited, and being that the data are primarily drawn from OECD, they pertain to the continent of Europe

➢ We considered a limited set of variables.

➢ The variable potential years of life lost is affected by premature deaths that may be caused by non-health related factors too.

➢ Lastly, while our study explores associations between variables it does not explore the causality.

CONCLUSIONS

➢ Both education and health are at the *center* of individual as well as population health and well-being.

➢ In order to extend people's life expectancy, governments should try to improve *tertiary education*, and control the number of youths dropping out of school and ending up unemployed (the *NEET rate*).

➢ NEET rates can be reduced through *promotional programs* that include training and certifications [7]. Additionally, they can offer *financial aid to public schools* and companies to offer more resources to raise general health awareness in people.

➢ Governments can frame *educational policies* to improve the overall national education level, which then produces more health awareness, contributing to national healthcare.

➢ Since health expenditure does not show a consistent association with NEET rates for different regions across the world, our suggestion is for *governments* to improve the *social education* for the youth (through free training programs) to effectively improve the public health, while they attempt to simultaneously raise the compulsory expenditure.

FUTURE RESEARCH & POLICY IMPLICATIONS FNS

➢ Conceptualizations of both phenomena should go beyond the individual focus to incorporate and consider the *social context* and *structure* within which the education–health relationship is embedded.

➢ In developing interventions and policies, governments would do well to keep in mind the *dual role* played by education—as a *driver of opportunity* as well as a *reproducer of inequality* (Zajacova & Lawrence, 2018).

➢ Reducing these macro-level inequalities requires interventions directed at a *macro level.*

➢ In terms of investment in education, we make a call for governments to focus on education in the *early stages of life course* to prevent the reproduction of social inequalities and change upcoming educational trajectories.

➢ There is a also need to look at circumstances that can *modify the postsecondary experience* of youth so as to improve their health (& reduce NEET).

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