## hw08

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#### Contents

1.	Plot a single graph showing the overall trend	-
2.	Plot a single graph showing the trends by continents	-
3.	Plot multiple graphs showing the trends in different continents with different x scales	•

#### 1. Plot a single graph showing the overall trend

From Figure 1, we can see that the relationship between population density and life expectancy is overall positive. As population density increases, life expectancy increases.

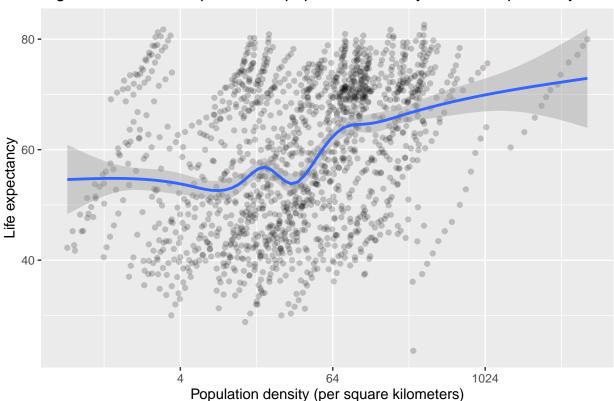


Figure 1: Relationship between population density and life expectancy

#### 2. Plot a single graph showing the trends by continents

From Figure 2, we can see that both Asia and Africa show an overall positive relationship betwee population density and life expectancy. Especially Asia presents a more robust positive relationship.

continent

Africa
Americas
Asia
Europe
Oceania

Population density (per square kilometers)

Figure 2: Relationship between population density and life expectancy

# 3. Plot multiple graphs showing the trends in different continents with different x scales

From Figure 3 we can see, only Africa and Asia show a positive relationship between population density and life expectancy. Notice that Africa experiences a negative relationship between the two before population density reaches 16/srkm, and after that point it starts to show a positive relationship between population density and life expectancy. Other continents like Americas, Europe, and Oceania do not have an obvious positive relationship between population density and life expectancy.

Africa Americas Asia 80 -60 -40 Life expectancy 512 16 128 8 64 1024 64 Europe Oceania 60 **-**40 -64 512 2 4 8 16
Population density (per square kilometers) 8

Figure 3: Relationship between population density and life expectancy (by co