Model: $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \varepsilon$

$LIFEEXP = a + b_1FERTILITY + b_2LITERACY + b_3CALORIES + \varepsilon$

	Mean	Range
LIFEEXP = Average male life expectancy (years)	64.92	76 - 41
FERTILITY = Average number of children	3.56	8.2 - 1.3
LITERACY = Percentage of people who can read	78.34	100 - 18
CALORIES = Daily Calorie intake	2753.8	3825 - 1667

Multiple Regression of Male Life Expectancy for 74 Countries
Data from a 1995 World Survey

Variable	Estimated Coefficient (b_i)	Standard Error (s.e.)	t score = b/s.e.
CONSTANT	37.33	6.76	5.52
FERTILITY	-1.096	0.600	-1.83
LITERACY	0.189	0.050	3.79
CALORIES	.00597	0.001	4.17

N=74 $R^2 = .783$ F=84.19

Critical t (one-tailed), df = n - k - 1 = 70: $t^* = 1.671$; Critical t (two-tailed), $t^* = 2.000$

Substantive Interpretation of Regression Parameters

A one-unit increase in X leads to a _____(b_i) increase/decrease in Y.

1) Fertility: A one-unit increase in fertility leads to a 1.096 decrease in male life expectancy. In other words, an additional child in average family size decreases male life expectancy by just over 1 year.

2) Literacy: A one-unit increase in literacy leads to a 0.189 increase in male life expectancy. In other words, a one percent increase in the % of people who read in a country increases male life expectancy by .189 years. It would take a 6% increase in literacy to increase male life expectancy by over 1 year (6*0.189 = 1.13).

3) Calories: A one-unit increase in daily caloric intake will increase male life expectancy by .00597 years. An increase of 500 average daily calories consumed per day would increase male life expectancy by close to 3 years (.00597*500 = 2.985).