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Answers to Exercise 3.7 (p. 103)

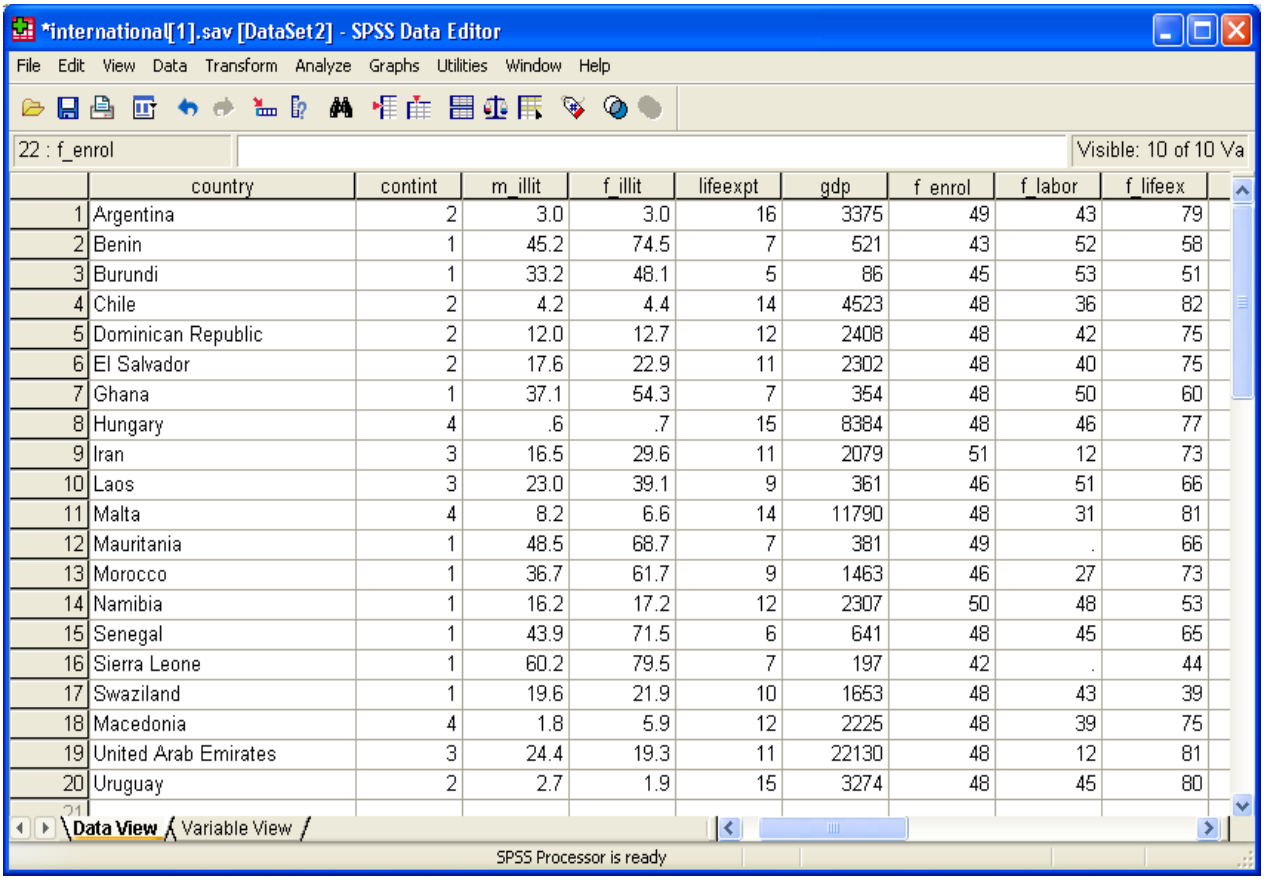
You can find a range of statistics and indicators on men and women at:

http://unstats.un.org/unsd/demographic/products/indwm/statistics.htm

Three of these indicators that have been used here are:

- Girls' share of primary school enrolments (%) ('f_enrol'): http://unstats.un.org/unsd/demographic/products/indwm/tab3a.htm
- Share of women in the adult labor force (%) ('f_labor') http://unstats.un.org/unsd/demographic/products/indwm/tab5a.htm
- Women's life expectancy at birth (years) ('f_lifeex') http://unstats.un.org/unsd/demographic/products/indwm/tab3a.htm

The dataset with these three additional variables added is as below:



	country	contint	m_illit	f_illit	lifeexpt	gdp	f_enrol	f_labor	f_lifeex
1	Argentina	2	3.0	3.0	16	3375	49	43	79
2	Benin	1	45.2	74.5	7	521	43	52	58
3	Burundi	1	33.2	48.1	5	86	45	53	51
4	Chile	2	4.2	4.4	14	4523	48	36	82
5	Dominican Republic	2	12.0	12.7	12	2408	48	42	75
6	El Salvador	2	17.6	22.9	11	2302	48	40	75
7	Ghana	1	37.1	54.3	7	354	48	50	60
8	Hungary	4	.6	.7	15	8384	48	46	77
9	Iran	3	16.5	29.6	11	2079	51	12	73
10	Laos	3	23.0	39.1	9	361	46	51	66
11	Malta	4	8.2	6.6	14	11790	48	31	81
12	Mauritania	1	48.5	68.7	7	381	49	.	66
13	Morocco	1	36.7	61.7	9	1463	46	27	73
14	Namibia	1	16.2	17.2	12	2307	50	48	53
15	Senegal	1	43.9	71.5	6	641	48	45	65
16	Sierra Leone	1	60.2	79.5	7	197	42	.	44
17	Swaziland	1	19.6	21.9	10	1653	48	43	39
18	Macedonia	4	1.8	5.9	12	2225	48	39	75
19	United Arab Emirates	3	24.4	19.3	11	22130	48	12	81
20	Uruguay	2	2.7	1.9	15	3274	48	45	80

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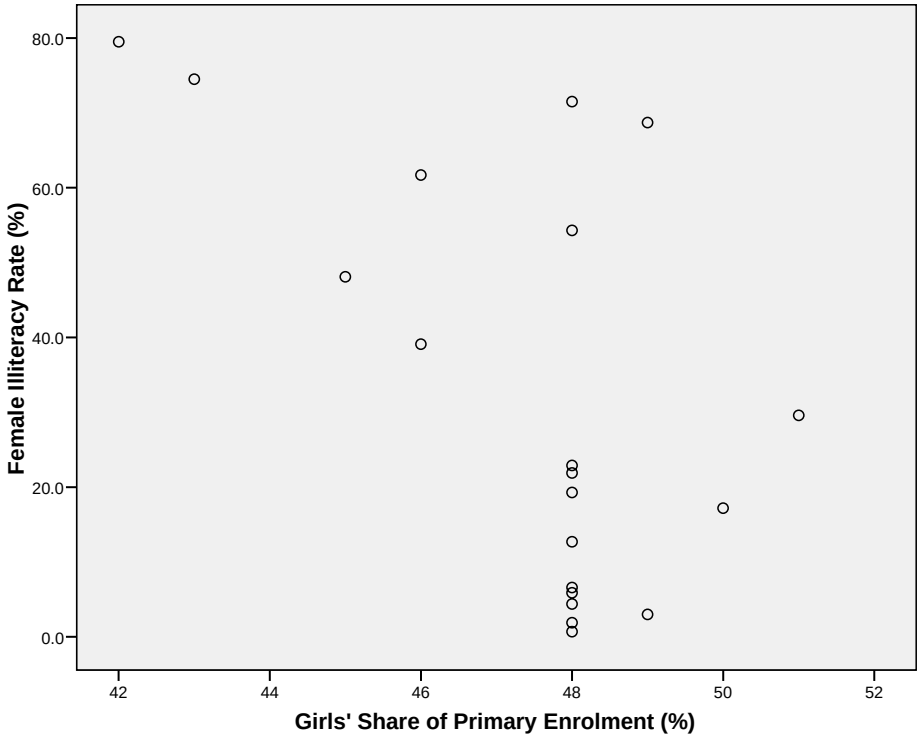
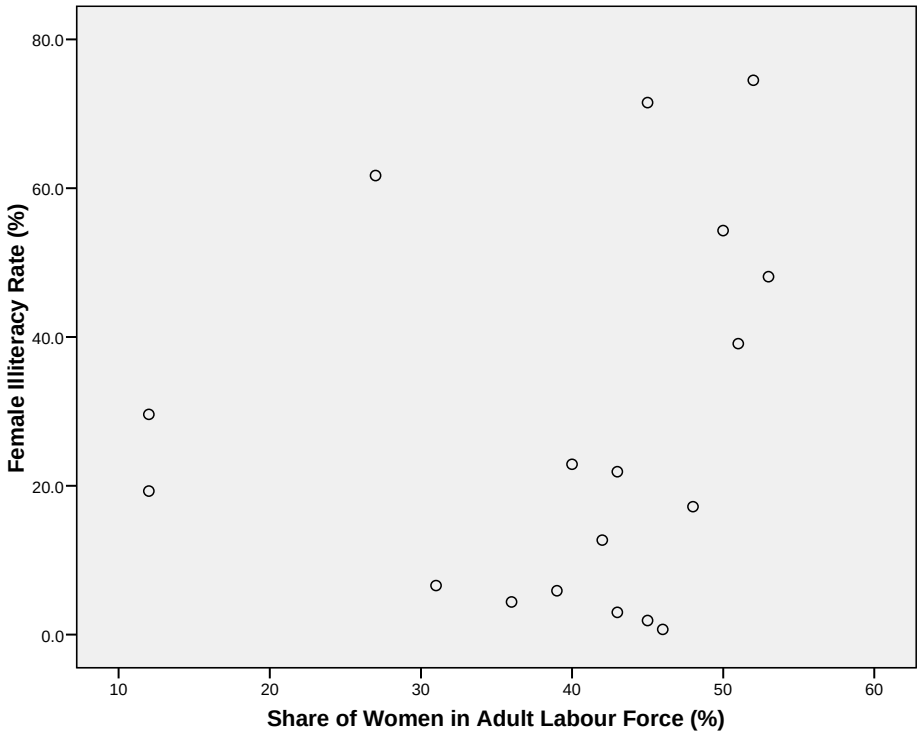
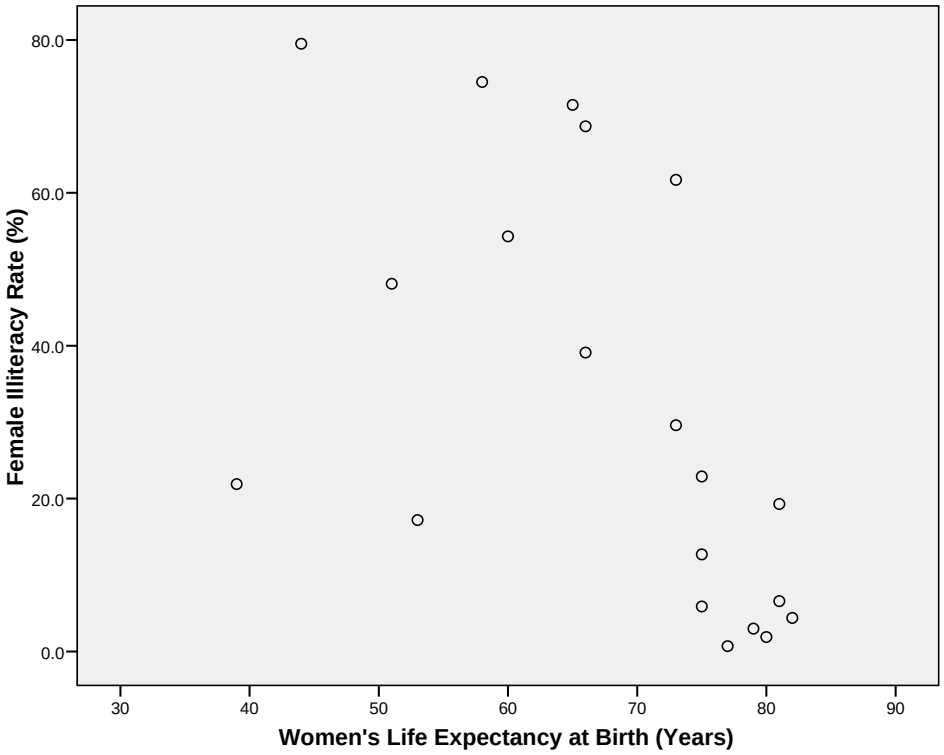
Using **Graphs → Legacy Dialogs → Scatter/Dot…** you can generate the following three scatterplots to illustrate the relationships between these three variables and female illiteracy rates ('f_illit'):







As can be seen, there doesn't appear to be a very strong correlation in any of the three cases above. As some of the relationships may not be linear, it is safer to calculate the Spearman Correlation in each case. Using the **Analyze → Correlate → Bivariate…** procedure and putting all four variables into the 'Variables:' field in one go, you should get the following output. As can be seen, of the three variables women's life expectancy has the strongest relationship to female illiteracy (r_s=-0.705) followed by girls' share of primary enrolment (r_s=-0.436) and then women's share of the adult labour force (r_s=-0.248).

Correlations

			Female Illiteracy Rate (%)	Girls' Share of Primary Enrolment (%)	Share of Women in Adult Labour Force (%)	Women's Life Expectancy at Birth (Years)
Spearman's rho	Female Illiteracy Rate (%)	Correlation Coefficient	1.000	-.436	.248	-.705**
		Sig. (2-tailed)	.	.055	.321	.001
		N	20	20	18	20
	Girls' Share of Primary Enrolment (%)	Correlation Coefficient	-.436	1.000	-.395	.294
		Sig. (2-tailed)	.055	.	.104	.208
		N	20	20	18	20
	Share of Women in Adult Labour Force (%)	Correlation Coefficient	.248	-.395	1.000	-.598**
		Sig. (2-tailed)	.321	.104	.	.009
		N	18	18	18	18
	Women's Life Expectancy at Birth (Years)	Correlation Coefficient	-.705**	.294	-.598**	1.000
		Sig. (2-tailed)	.001	.208	.009	.
		N	20	20	18	20

**. Correlation is significant at the 0.01 level (2-tailed).