

I used World Bank Open Data associated with Turkey. I was wondering about the relationship between the female labor force and having children at an early age. My hypothesis is that in Turkey the percentage of the female labor force is negatively correlated with adolescent fertility rate (births per 1000 women ages 15-19) because when increasing in the female labor force, women will be more engaged in work life. First, I conducted a linear regression between these two factors and determine adolescent fertility rate as the dependent variable. The results are as follows.

	coef	std_err	t_stat	p_value	[0.025	0.975]
const	107.97	31.51	3.43	0.0	46.2104	169.7296
female_labor_force	-2.21	1.07	2.07	0.02	-4.3072	-0.11280

It seems that the relationship is negative and significant ($p < 0.05$). Before making a quick judgment, I decided to add a causally prior control variable. I chose gender parity index (GPI) in school enrolment as a control variable because it may affect both the female labor force and adolescent fertility. Then, I conducted a linear regression by adding GPI in school enrollment as an independent variable in addition to the female labor force. The results are as follows.

	coef	std_err	t_stat	p_value	[0.025	0.975]
const	371.58	23.06	16.11	0.0	326.3824	416.7776
female_labor_force	-0.07	0.41	0.16	0.44	-0.8736	0.7336
School_enrollment_GPI	-343.65	26.03	13.2	0.0	-394.6688	-292.6312

The results show that while GPI in school enrollment GPI is negatively correlated with adolescent fertility rate ($p < 0.05$), the female labor force is not ($p = 0.44$). We may infer that the female labor force is not directly related to the adolescent fertility rate.