Homework 4 Key (Problem 3)

Table 1: Linear Regression of Moral Integration for U.S Cities, 1950

	Estimate	Std. Error	t value	Pr(>|t|)
Ethnic Heterogeneity	-0.108	0.017	-6.39	0.000
Geographic Mobility	-0.193	0.035	-5.46	0.000
Constant	19.940	1.192	16.72	0.000
N	43			
R^2	0.624			
Residual Standard Error	2.243			

Moral integration is a composite score that combines crime rates and welfare expenditures for 43 U.S. cities. A linear regression model was estimated to examine the influence of ethnic heterogeneity and geographic mobility on moral integration. The results are reported in Table 1.

Holding other variables constant, as the percentage of non-white and foreign-born white residents in a city increases 1%, moral integration falls an average of 0.108 points. This relationship is statistically significant at a 95% confidence level, with the t-score of -6.39 falling outside of ± 1.96 and the p-value of 0.000 falling below 0.05. As the percentage of residents moving into a city increases 1%, moral integration falls an average of -0.193, ceteris paribus. This relationship is also statistically significant, with the t-score of -5.46 falling outside of ± 1.96 and the p-value of 0.000 falling below 0.05.

Of markedly less interest, when ethnic heterogeneity and geographic mobility are both 0, moral integration is predicted to be 19.940. This prediction is statistically distinct from 0 at the 95% confidence-level (t-score of 16.72 falls outside of ± 1.96 and the p-value of 0.000 falls below 0.05).

The linear regression model explains 62.44% of the variance in moral integration. Predicted values of moral integration fall an average of 2.243 units away from the observed values.