

Online Supplementary Materials for “A Common Spatial Factor
Analysis Model for Measured Neighborhood-Level Characteristics:
The Multi-Ethnic Study of Atherosclerosis”

Table 1: Deviance Information Criterion for Each Factor and Spatial Covariance Combination Model Fit.

Covariance	Factor		
	1	2	3
Exponential	-82.15	263.26	273.12
Gaussian	714.49	647.01	701.88
Non-Spatial	1031.72	1023.48	1014.41

Table 2: Posterior Summaries for the Spatial Correlation Parameter ϕ for Each Factor Fit Using the Exponential Covariance Structure.

Factor	Mean	SD	Quantile		
			0.025	0.50	0.975
1	0.28	0.08	0.14	0.29	0.44
2	0.35	0.09	0.20	0.35	0.53
3	0.34	0.08	0.18	0.33	0.51

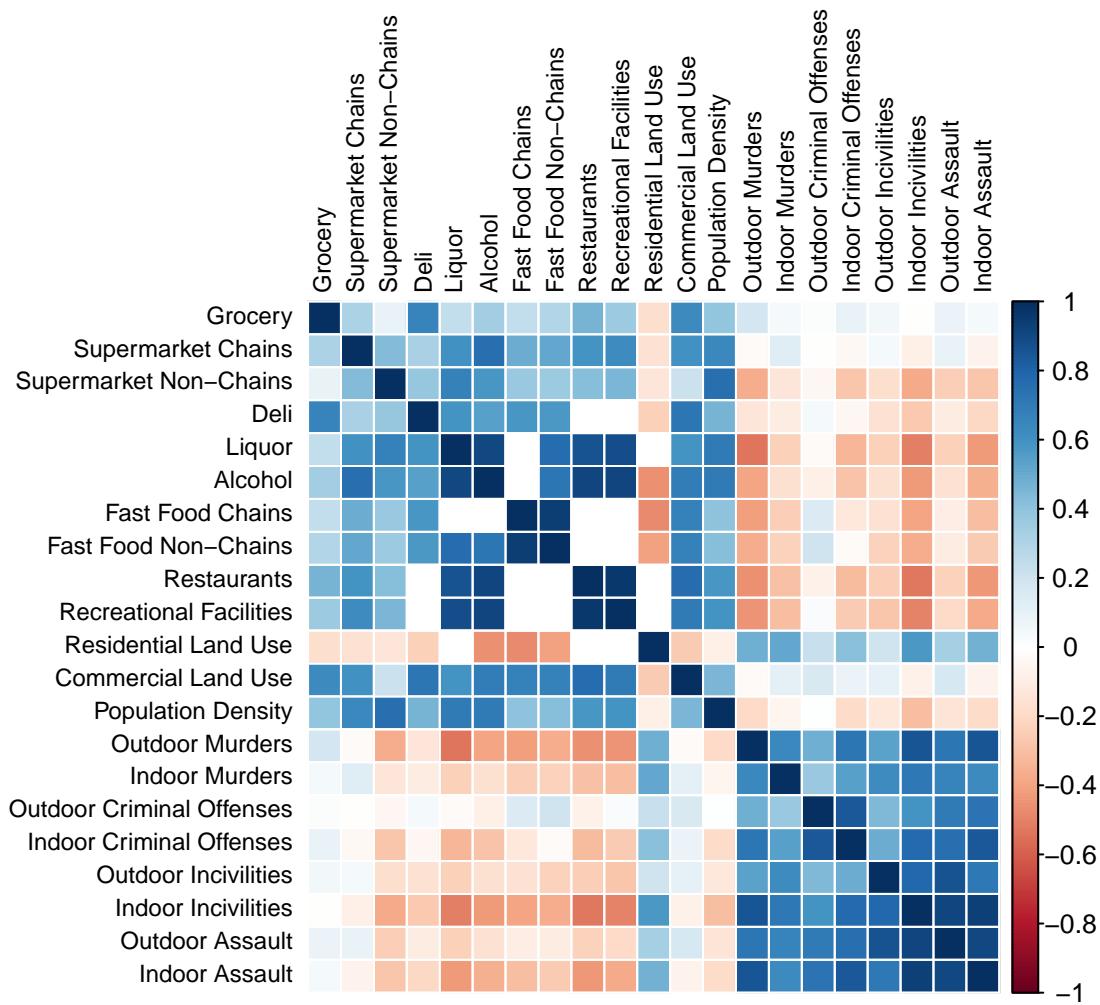


Figure 1: Correlation Heat Map for the 21 Mutually Exclusive Neighborhood-Level MESA Analysis Variables.

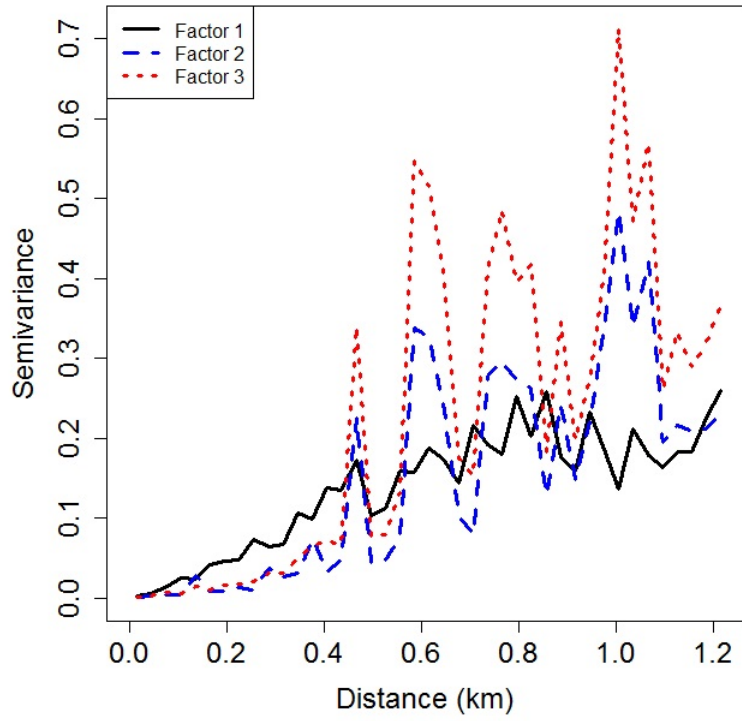


Figure 2: Empirical Semivariogram Plot for Each Factor Showing a Common Spatial Structure and Lack of Nugget Effect.