From the description (and data file) we can see we have a chi-square test of independence here with the question being do different community types have kids that have different school priorities. The only real assumption we need at least 5 observations expected in each cell – given the sample size and assuming equal distribution (we don’t have reason to suspect otherwise) we meet this assumption. We are ready to proceed with our analysis (note you need to drop the row names then re add them if you use the regular import function).

**chisq.test(PrioritiesData)**

**X-squared = 21.627, df = 4, p-value = 0.0002377**

We find a significant effect – what does it mean? We need to look at the proportions

**table(PrioritiesData$Rural/(sum(PrioritiesData$Rural)))**

**0.28 0.34 0.38**

**table(PrioritiesData$Suburban/(sum(PrioritiesData$Suburban)))**

**0.14 0.28 0.58**

**table(PrioritiesData$Urban/(sum(PrioritiesData$Urban)))**

**0.14 0.17 0.69**

What we seem to find is that for those in a rural environment priority are fairly equally split across the priorities, lets check them explicitly.

**chisq.test(PrioritiesData$Rural)**

**X-squared = 1.52, df = 2, p-value = 0.4677**

**chisq.test(PrioritiesData$Suburban)**

**X-squared = 30.32, df = 2, p-value = 2.607e-07**

**chisq.test(PrioritiesData$Urban)**

**X-squared = 57.38, df = 2, p-value = 3.468e-13**

No difference in priorities over change for those in Rural areas, but suburban and urban differ (even if we did extreme p-value correction for our repeated testing). Lets see if suburban and urban differ.

**chisq.test(PrioritiesData[, 2:3])**

**X-squared = 3.6416, df = 2, p-value = 0.1619**

They do not. We could test further (is the difference between communities and pairings of priorities) but it’s clear a lot of the difference is driven by an increased preference for academic priorities (38%, 58%, 69%) the more densely populated the community. Lets summarize our findings.

We examined whether kids’ priorities for academics, athletics, or social interaction differed by the communities they lived in (rural, suburban, or urban). A Chi Square test of independence revealed a significant difference the proportion of kid’s priorities across communities, *χ*2(4) = 21.63, *p* < .001. Closer examination revealed that while kids in rural areas showed fairly equal priorities (38%, 28%, and 34%, respectively; *χ*2(2) = 1.52, *p* = .47), those in suburban (58%, 14%, and 28%, respectively; *χ*2(2) = 30.32, *p* < .001) and urban (69%, 14%, and 17%, respectively; *χ*2(2) = 57.38, *p* < .001) communities showed greater priorities for academics.