The Refugee Center Website Traffic

Huafeng Zhang

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NPO

An organization to help refugees from all over the world to start their lives in the U.S.
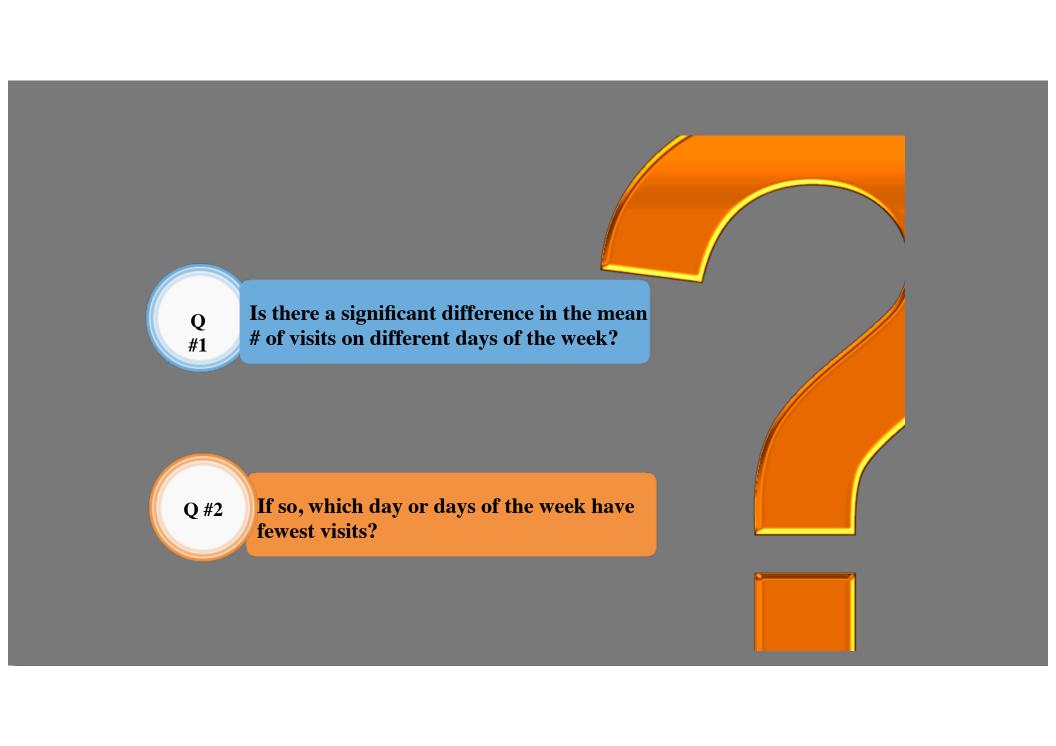
R

Education, health, career, rights & law, culture, community

MWC
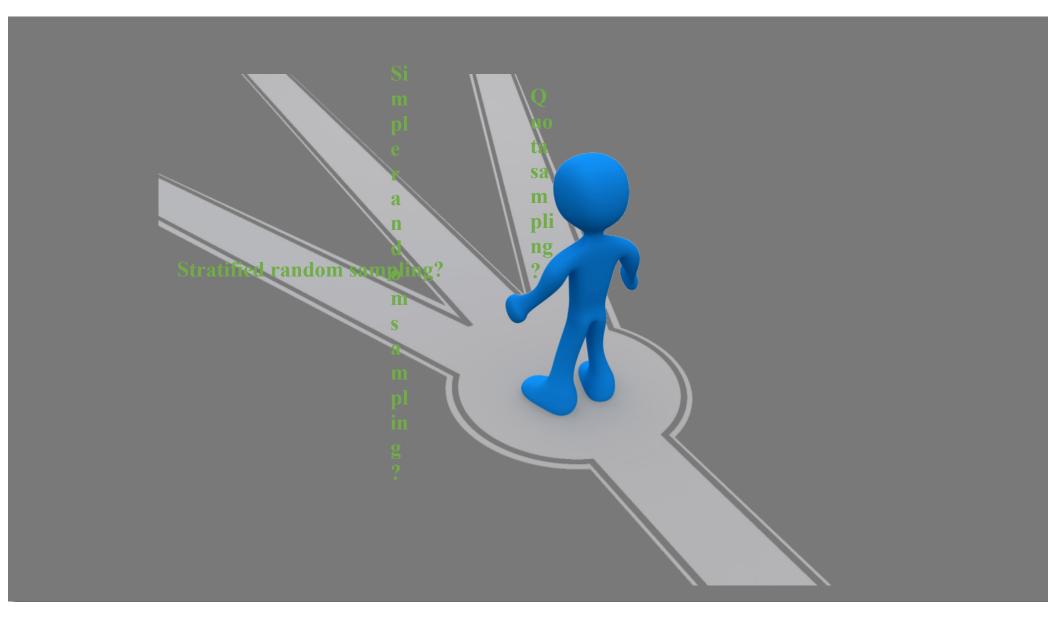
needs maintenances (offline).
Set a day or days without conflicting too many of their users

Q #1 Is there a significant difference in the mean # of visits on different days of the week?

Q #2 If so, which day or days of the week have fewest visits?

Stratified Random Sampling:
1. Focus on Important Subpopulations;

2. Ensures that the estimates can be made with equal accuracy and statistical power in different groups;

3. More manageable because I can use different techniques for different subpopulations.

SRS:
Doesn't provide Subsamples of the population.

Quota Sampling:
The samples are biased because not all of the observations have a chance of selection.

d = 0.02*yu = 5.62

The refugee center staff told me that their desired precision is that the point estimate of mean sessions of a day in a week is within 2% of the mean sessions in a day.

Variance: S2 = 4756.77

Since I can request the population data, $S^2 = \frac{1}{N-1} \sum_{i=1}^{N} (\bar{y} - y_u)^2$

Other Info

Population size N=183, Population mean yu =281.2, alpha=0.05.

Sample size n = 139.97   (140)

$n = \frac{n0}{1+(n0/N)}$ where $n_0 = (Z_{\alpha/2} S/d)^2$

Sample Size

Sampling Process

Mon
N1=20

Sun
N7=20

Tue
N2=20

Sample
n=140

Sat
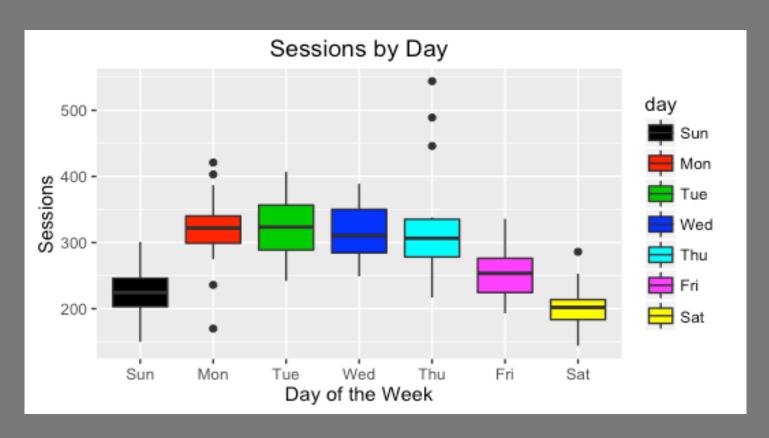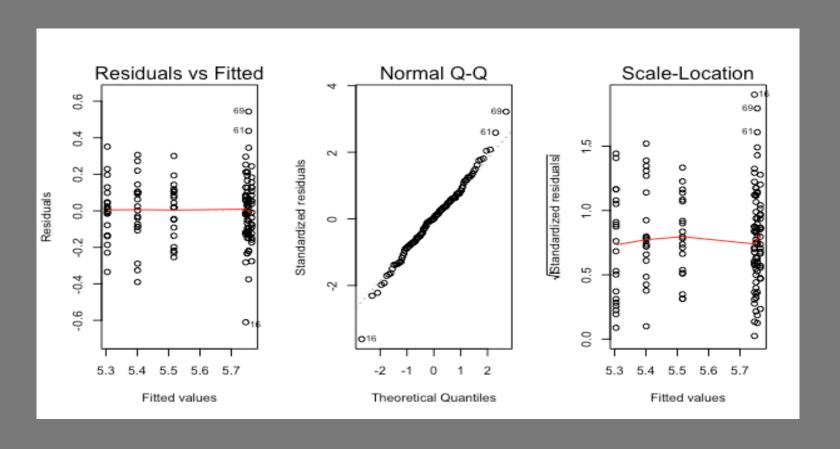N6=20

Wed
N3=20

Fri
N5=20

Thu
N4=20
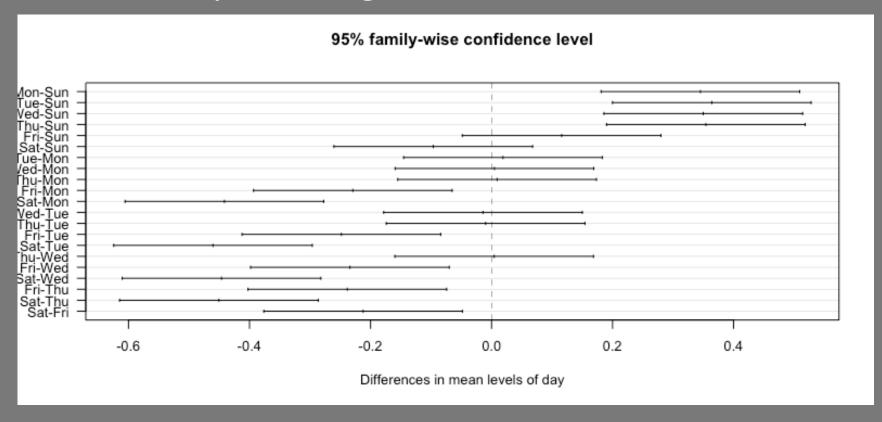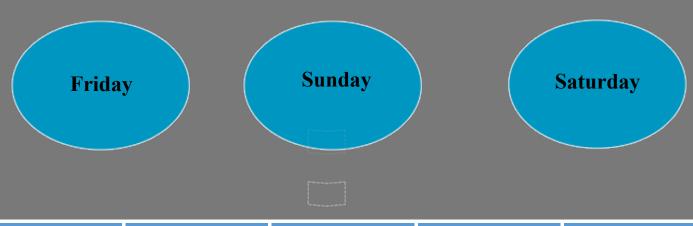
Boxplots for the Raw Sample Data

Diagnostic Plots for the One-way ANOVA Test

Tukey Honest Significant Difference Test

95% family-wise confidence level

Differences in mean levels of day

Day	Diff	Lwr	Upr	P value
Sat/Fri	0.81	0.69	0.95	0.003
Sat/Sun	0.91	0.77	1.07	0.58
Fri/Sun	1.12	0.95	1.32	0.35

Sat Sun

Thank you!