Statistical Symbols

	Population - parameter	Sample - statistic
size:	N	n
center:		
mean	μ "mu"	$\bar{x}$ "x bar"
median	n/a	*M* or $\tilde{x}$ "x tilde"
proportion	π "pi"	*p*
	(*p* in some texts)	($\hat{p}$ in some texts)
spread:		
variance	σ^2 "sigma squared"	s^2 "s squared" = $\Sigma(x - \bar{x})^2/(n - 1)$
standard deviation	σ "sigma"	s
range	n/a	n/a
interquartile range	n/a	IQR = $Q_3 - Q_1$
relative standing:		
z score = (x - mean)/sd	Z	z
the # of sd's from the mean		
for bivariate data:		
correlation coefficient	ρ "rho"	r
slope	β "beta"	b
intercept	α "alpha"	a

These are fixed numbers, usually unknown.

These vary from sample to sample. We use them to estimate the population parameters.

Standard Normal Distribution Notation: Z, a random variable, is distributed normally with mean, $\mu = 0$, variance, $\sigma^2 = 1^2$, and standard deviation, $\sigma = 1$.

Non-Standard Normal Distribution: X , a random variable, is distributed normally with mean, μ, variance, σ^2, and standard deviation, σ.

Sampling Distribution of the Sample Mean from a Normal Population: a random variable calculated from a sample of size *n*, is distributed normally with mean, $\mu_{\bar{X}} = \mu_x$ (the mean of the parent population), variance, $\sigma_{\bar{X}}^2 = \sigma_x^2/n$ and standard deviation, $\sigma_{\bar{X}} = \sigma_x/\sqrt{n}$.

Sampling Distribution of the Sample Proportion: a random variable, is distributed normally with mean, $\mu_p = \pi$, variance, $\sigma_p^2 = \frac{\pi(1-\pi)}{n}$ and standard deviation, $\sigma_p = \sqrt{\frac{\pi(1-\pi)}{n}}$.