GLOSSARY OF MODULE 3 TERMS

Chapter 9: Normal Curve

Standard normal curve	a special example of the normal distribution in which the mean is 0 and the standard deviation is 1
Probability distribution	a way to conceptualize a distribution of scores, such that the scores within the distribution are associated with probabilities
Z score	deviation of a raw score from the mean in standard deviation units; also known as a *standard score*
Standard score	deviation of a raw score from the mean in standard deviation units; also known as a *z score*
Percentile rank	percentage of scores up to and including the one in which we are interested
Percent frequency	total number of scores occurring above/below/between a particular cutoff point (or points) within a distribution
Area distribution	a way to conceptualize a distribution of scores, such that the space above/below/between scores within a distribution is associated with a specific area
Percent distribution	a way to conceptualize a distribution of scores, such that scores within the distribution are associated with specific percentile ranks
Deviance	a term typically referring to the lowest and/or highest 1 to 5% of scores/areas within a distribution

Chapter 10: Hypothesis Testing

sampling distribution of means	distribution whose scores are means drawn from some population
central limit theorem	in simplified form, the idea that as sample size increases, the resulting sampling distribution of means more closely approximates the normal distribution
standard error of the mean	standard deviation of the sampling distribution of means

degrees of freedom	number of values free to vary after certain restrictions are placed on the data
estimated standard error of the mean	estimated standard deviation of the sampling distribution of means
t distribution	probability distribution of *t* scores, which are estimated *z* scores
confidence interval	range of values within which *m*almost certainly lies
critical values of t	values of *t* cutting off deviant portions of the *t* distribution; tells us how high our computed t must be in order to conclude a difference between groups
interval estimate	estimating a range of values rather than a specific value for a population parameter; the confidence interval is an example of an interval estimate
null hypothesis	in hypothesis testing, the hypothesis that assumes a particular value for a population parameter
alternative hypothesis	in hypothesis testing, the hypothesis that the value of a population parameter is a value other than we have assumed it to be in the null hypothesis
nondirectional hypothesis	an alternative to the null hypothesis that states that the population parameter is not equal to the value specified by the null hypothesis; prediction of a difference with no indication as to which group average is higher or lower; also known as *two-tailed*
directional hypothesis	alternative hypothesis that states the direction of the difference between a population parameter and the value assumed by the null hypothesis; one group average predicted to be higher; also known as *one-tailed*
significant	in statistics, a term indicating rejection of the null hypothesis; should always be expressed as "statistically significant"
alpha level	the probability level at which the null hypothesis is tested
rejection rule	the rule that states the conditions under which the null hypothesis will be rejected or will fail to be rejected (e.g., *reject Ho if computed t is equal to or greater than critical t*)
Type I error	rejecting a true null hypothesis; always equal to alpha level
Type II error	failing to reject a false null hypothesis; always hypothetical since we can never draw conclusions with 100% cerrtainty; also referred to as *beta error*
power	the probability that a test will correctly reject a false null hypothesis; calculated as 1- β

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Content adapted from various sources including:

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Thorne, M.B. and Giesen, J.M. (2002). Statistics For The Behavioral Science (4th ed.). New York: McGraw-Hill.

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