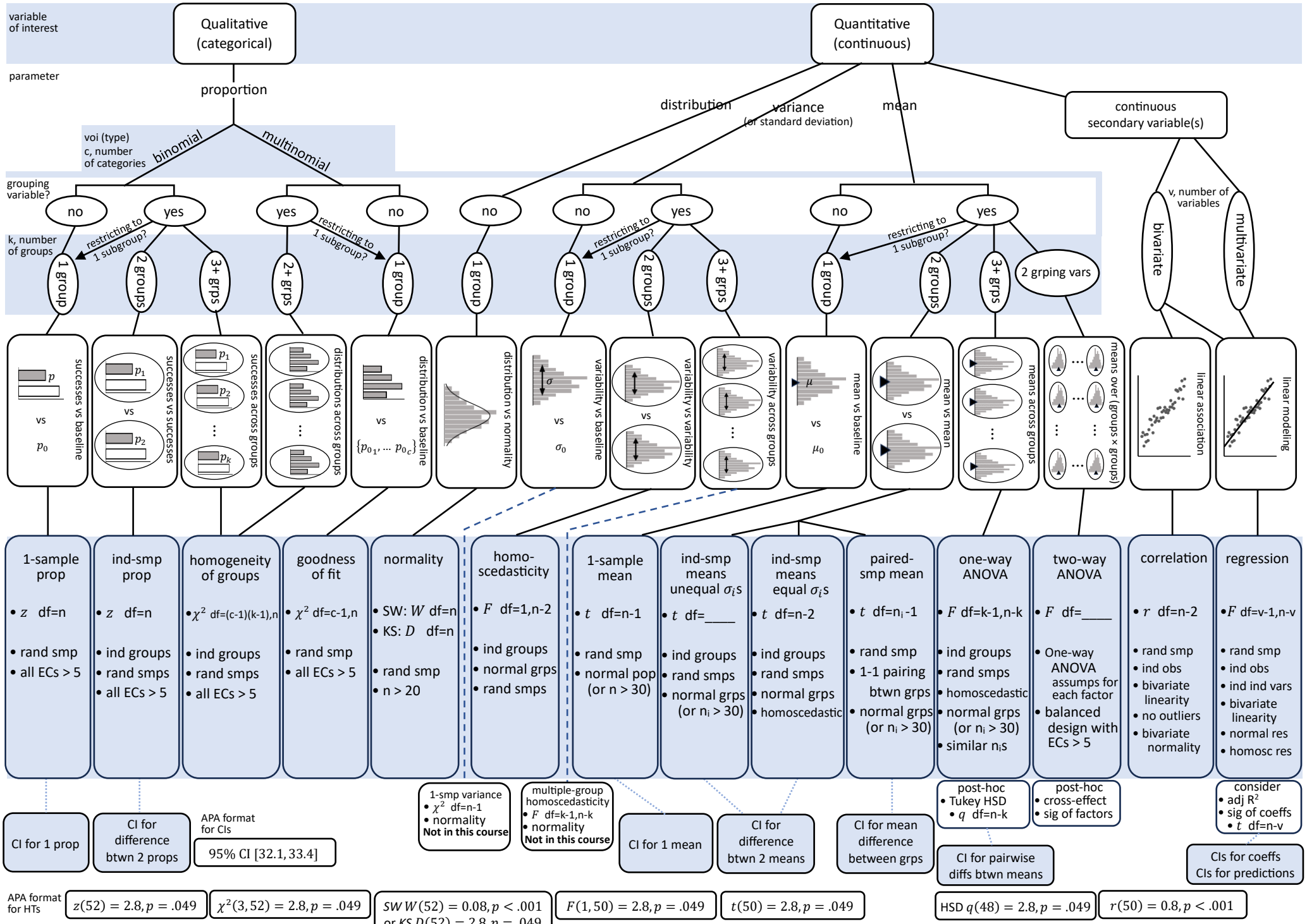
variable of interest
Qualitative (categorical)
Quantitative (continuous)
parameter
proportion
distribution
variance (or standard deviation)
mean
continuous secondary variable(s)
voi (type) c, number of categories
binomial
multinomial
grouping variable?
no
yes
restricting to 1 subgroup?
k, number of groups
1 group
2 groups
3+ grps
2+ grps
2 grping vars
v, number of variables
bivariate
multivariate
successes vs baseline
successes vs successes
successes across groups
distributions across groups
distribution vs baseline
distribution vs normality
variability vs baseline
variability vs variability
variability across groups
mean vs baseline
mean vs mean
means across groups
means over (groups x groups)
linear association
linear modeling
1-sample prop
• z df=n
• rand smp
• all ECs > 5
ind-smp prop
• z df=n
• ind groups
• rand smps
• all ECs > 5
homogeneity of groups
• χ² df=(c-1)(k-1),n
• ind groups
• rand smps
• all ECs > 5
goodness of fit
• χ² df=c-1,n
• rand smp
• all ECs > 5
normality
• SW: W df=n
• KS: D df=n
• rand smp
• n > 20
homo-scedasticity
• F df=1,n-2
• ind groups
• normal grps
• rand smps
1-sample mean
• t df=n-1
• rand smp
• normal pop (or n > 30)
ind-smp means unequal σi s
• t df=____
• ind groups
• rand smps
• normal grps (or ni > 30)
ind-smp means equal σi s
• t df=n-2
• ind groups
• rand smps
• normal grps
• homoscedastic
paired-smp mean
• t df=ni -1
• rand smp
• 1-1 pairing btwn grps
• normal grps (or ni > 30)
one-way ANOVA
• F df=k-1,n-k
• ind groups
• rand smps
• homoscedastic
• normal grps (or ni > 30)
• similar ni s
two-way ANOVA
• F df=____
• One-way ANOVA assumps for each factor
• balanced design with ECs > 5
correlation
• r df=n-2
• rand smp
• ind obs
• bivariate linearity
• no outliers
• bivariate normality
regression
• F df=v-1,n-v
• rand smp
• ind obs
• ind ind vars
• bivariate linearity
• normal res
• homosc res
CI for 1 prop
CI for difference btwn 2 props
APA format for CIs
95% CI [32.1, 33.4]
1-smp variance
• χ² df=n-1
• normality
Not in this course
multiple-group homoscedasticity
• F df=k-1,n-k
• normality
Not in this course
CI for 1 mean
CI for difference btwn 2 means
CI for mean difference between grps
post-hoc
• Tukey HSD
• q df=n-k
CI for pairwise diffs btwn means
post-hoc
• cross-effect
• sig of factors
consider
• adj R²
• sig of coeffs
• t df=n-v
CIs for coeffs
CIs for predictions
APA format for HTs
z(52) = 2.8, p = .049
χ²(3, 52) = 2.8, p = .049
SW W(52) = 0.08, p < .001 or KS D(52) = 2.8, p = .049
F(1, 50) = 2.8, p = .049
t(50) = 2.8, p = .049
HSD q(48) = 2.8, p = .049
r(50) = 0.8, p < .001
This flowchart was developed for use in Applied Statistics at BJU. ©Carpenter/Lacey 2023