



## SPSS Tip 12.1

### One and two-tailed tests in ANOVA

A question I get asked a lot is 'is the significance of the ANOVA one- or two-tailed, and if it's two-tailed can I divide by 2 to get the one-tailed value?' Obviously I told you earlier not to do that sort of thing (see Section 2.9.5), but it's particularly daft in this context because to do a one-tailed test you have to be making a directional hypothesis (e.g., the mean for cats is greater than for dogs). When comparing more than two means (as you do with ANOVA) you can't make a directional hypothesis: you can predict only that the means will differ somehow. Therefore, it's invalid to halve the significance value of an  $F$ .